Final Report on the Implementation and Early Outcomes of the Chicago Cook Workforce Partnership’s Career Connect Project

An Outcomes and Implementation Study

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REPORT INFORMATION

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Final Report on the Implementation and Early Outcomes of Chicago Cook Workforce Partnership’s Career Connect Project

Executive Summary

In July 2012, the Chicago Cook Workforce Partnership (The Partnership) was awarded a three-year Workforce Innovation Fund (WIF) grant from the U.S. Department of Labor Employment and Training Administration. The purpose of The Partnership’s WIF project was to design, implement, and test an integrated workforce management information system (MIS), later named Career Connect, that:

- Contains comprehensive and useful program- and customer-specific measures across funding streams
- Supports varied reporting capabilities; and
- Provides the information necessary to adequately serve the needs of the workforce system’s customers.

The functional goal for the project is to have all Cook County workforce providers that receive Workforce Investment and Opportunity Act (WIOA) Title I funds (delegate agencies) using Career Connect as their data system of record. This included 49 delegate agencies when the project began and 53 by the time Career Connect was fully implemented in June 2017. Additionally, the goal is to invite non-WIOA workforce providers to also use the system, though The Partnership cannot mandate its use for non-WIOA providers.

The long-term goal of the Career Connect project is three-fold:

1. Workforce customers, both jobseekers and employers, have better economic outcomes.
2. Cook County, Illinois realizes broader economic gains.
3. The workforce development field becomes better coordinated and less siloed.

The Career Connect project rests on the theory that this long-term vision can be realized only if Cook County workforce providers experience greater efficiencies, minimal administrative burden, high levels of satisfaction, and the ability to make data-informed customer-level and program-level decisions with an integrated data system—all characteristics that would not accurately describe the state of workforce information systems at the project’s inception. When the project began, workforce providers had no comprehensive, cross-funder system of record. This means that their client data were spread over multiple databases, Excel files, and paper files, none of which contained a complete account of any given client. Similarly, delegate agencies did not use a standard intake and assessment process and therefore did not collect directly comparable data, limiting system-wide data aggregation and analysis.

In the following study, we:

- Assess whether Career Connect achieved its desired outcomes;
• Document the context and operations of Career Connect’s design;
• Assess the degree to which it was implemented as designed; and
• Evaluate stakeholder participation.

We begin with a discussion of the report’s methodology, and then document the basics of Career Connect’s implementation—its approach, key stakeholders, timeline and scope, audiences, and more. We then delve more deeply into how Career Connect was implemented through a systems requirement process, development process, and project staffing. The experiences of stakeholders involved with the Career Connect project are then assessed, looking at communication, change management, training, and perceptions of project success. We take a look at how contextual factors affected the project, from the fragmented nature of the workforce field in Cook County to political realities and changes. The study then assesses how closely Career Connect resembles its intended design. Shifting from the implementation study to the outcomes study, we analyze whether Career Connect has improved the workforce provider experience.

SUMMARY OF FINDINGS

As of this writing, Career Connect is a workforce data system that is used for tracking WIOA Title I jobseeker customers and The Partnership’s non-WIOA program customers. It interfaces with the State of Illinois’s WIOA Title I system of record, Illinois Workforce Development System (IWDS), which is administered by the Illinois Department of Commerce and Economic Opportunity (DCEO). It is also used for tracking job orders and employer services by WIOA Title I providers. In addition to its client management and compliance functions, Career Connect contains an assortment of workflow management and reporting tools, though not all of them were actively rolled out to users.

Career Connect is, ultimately, a powerful system with lots of potential. The Partnership successfully implemented the majority of necessary and even desirable functionality to create a strong case management tool. Over three-quarters of the functions listed in their systems requirement document ended up in the final product. It is, however, a data system that has fewer interfaces with outside data systems—and is therefore less of a system of record across funding streams—than originally intended. At the time of outcomes data collection, its full potential had not been unleashed to provider staff. As one Partnership staff put it, it’s like having a race car but keeping it in first gear. As such, this study should be interpreted as an evaluation of the implementation and early outcomes of Career Connect. Outcomes will likely change as the full breadth of Career Connect’s features is rolled out.

At the project’s inception, there were about 130 providers (delegates and non-delegates) in Cook County, Illinois, braiding together funding to provide workforce services. Even The Partnership’s delegate agencies had a diverse range of needs and capacities. Rolling out a new data system in such an environment is already difficult, and the insufficient investment in change management and communications throughout the Career Connect project made those challenges more pronounced. This, in addition to the phasing-in of functionality, had an impact on the outcomes assessed in this study. It can especially be seen in the provider staff perceptions of Career Connect, which largely ranged from mixed to negative: staff largely found IWDS easier to use than Career Connect, thought that they spent more time on data entry with Career Connect, and did not change their perceptions
on data quality from the baseline period. At times, these perceptions did not square with reality: for example, the time spent on data entry and lookup tasks actually went down with the implementation of Career Connect. The Partnership still has the opportunity to remedy some of these perceptions through more intensive training, procedures, and making the case about Career Connect’s value to provider staff in a variety of ways. And some of the functionality that has not yet been rolled out—such as workflow management tools and reporting—have the potential to be highly valuable to staff and therefore impact perceptions.

This evaluation’s findings from the implementation and outcomes study highlight for future data systems projects pitfalls to avoid, strategies that worked, and important considerations to think through in order to successfully implement their vision. These key findings include:

IMPLEMENTATION STUDY

How was the Career Connect Project Implemented?

- Career Connect was a complex collaborative project, involving partners across many sectors. While challenging, this complexity was a necessary part of a project that aims to meet the diverse needs of workforce providers, government entities, and public and private funders.
- The systems requirement process was robust and critical to the success of the project, but it struggled a bit without formal processes to facilitate regular and consistent communication. The Systems Requirement Contractor’s (SRC) team participation dropped off as development started, which resulted in some loss of expertise on the project.
- Conducting an RFI before a systems development RFP brought invaluable information to the project, helped a largely non-technical project team understand the technical requirements of the project, and resulted in a more realistic (though ultimately still overly ambitious) understanding of timeline and costs.
- Career Connect needs to serve the interests of many stakeholders. Having diverse stakeholders advising the project—from system developer selection to planning to implementation—helped make sure that key perspectives were not overlooked. However, stakeholder engagement was not consistent throughout the project.
- The Career Connect team invested a lot of effort into identifying and anticipating potential challenges at the beginning of the project. Despite identifying the challenges, the project team was not always equipped with the resources necessary to avoid them.
- The Career Connect project was inadequately staffed for the majority of the project. Towards the end of the project, more staff members were brought in to bring Career Connect across
the finish line, but Partnership staff acknowledged that bringing on more staff resources earlier on would have made the project more efficient and effective.

- While Partnership staff conducted some value stream mapping mid-project, they went into the planning and developer selection phases without a clear understanding of the business processes they desired out of the final product. Over time, this was hashed out through trial and error, but staff thought that thinking through business processes upfront would have made working with the systems development contractor (SDC) easier.

- The Partnership and the SDC at times had different understandings of where key responsibilities would fall and how critical processes would be carried out. The expectations for how things like testing, training, and project management would be handled were not always explicitly spelled out in contracts and project planning documents.

- Data migration and interface development was much more difficult than initially expected or planned for. IWDS was not well documented, which posed barriers to mapping fields and business rules from the legacy system to the new system. This process of figuring all this out extended the timeline, and Partnership staff wished that they understood their existing data system better in advance of building a new one.

- The project managers were critical to the success of the project. Their expertise and commitment went a long way towards navigating the project through difficult challenges and maintaining faith in a project that took much longer than expected.

- Leadership at The Partnership did not always give Career Connect the attention it needed in order for it to be maximally successful. The project occurred in parallel with the creation of The Partnership as an organization, which naturally results in competition for leadership’s time and energy. Regardless, shifting attentions sometimes made it difficult for the Career Connect project team to get the resources they needed to keep the project moving, particularly in the early and middle stages of the project.

- In the last phases of the project before Phase II Go Live, The Partnership significantly expanded the staffing of the Career Connect project by bringing in program and administrative support. In key stakeholder interviews, staff from the SDC and The Partnership resoundingly concluded that this seriously benefited the project.

What was the Experience of Stakeholders Involved in the Career Connect Project?

- Communication suffered as a result of insufficient staffing during the majority of the project. The communications strategy was further complicated by the evolving timeline and scope of the Career Connect project.

- The Partnership facilitated high levels of stakeholder engagement during the planning phases of the project, but engagement reduced to a narrower group of stakeholders during development. This was partly due to insufficient staffing for communications and the technical nature of the development phase of the project.

- DCEO’s cooperation was critical to the success of the project: without their help figuring out how to document IWDS and working on the interface, Career Connect likely would not have been possible. The Partnership fostered strong relationships with DCEO to make this happen, but some DCEO staff expressed in interviews a desire to have been brought into the project from the WIF proposal-writing phase since their participation was so important.
• **The Partnership shifted its training practices significantly** from Phase I Go Live to Phase II Go Live. The project managers were responsible for training in Phase I, while responsibility shifted in Phase II to the broader Partnership staff. The end result was that more Partnership staff members had facility with and ownership of Career Connect. This also allowed the project manager to focus on finalizing development issues.

• **The Partnership made a strategic decision only to cover core functionality in the initial round of Phase II training.** It remains to be seen how training will occur on other key Career Connect functionality, such as reporting and workflow management, and how this will affect system usage. The Partnership conducted webinar trainings that included these topics in the fall of 2017, after data for this study were collected.

• The Partnership developed policies and procedures for the portions of Career Connect case management system that were covered in trainings, but did not develop a comprehensive policies and procedures manual in advance of Go Live. It remains to be seen how this will affect system usage.

• **Sustainability planning for long-term staffing, support, updates, and funding needs fell to the back burner** as more immediate project needs took precedence, despite continued feedback that it needed to be prioritized. At the time of Phase II Go Live, The Partnership had finalized only a 90 day sustainability plan.

• **The Partnership greatly improved their testing procedures over time.** Partnership staff felt that they inadequately planned for testing interfaces and data conversion in the fall of 2016, but by spring 2017, they incorporated their experiences into more comprehensive testing procedures and staffing plan.

• Delegate agencies reported in interviews that they were skeptical of train-the-trainer models and had negative experiences with them in the past with other initiatives. The Partnership tried to address the potential weaknesses of train-the-trainer by creating written curricula, training materials, and feedback surveys to assess trainer effectiveness.

• **Stakeholders’ experiences with the Career Connect project were colored by their past experiences with The Partnership, IWDS, and technology change** in general. In interviews, some delegate agencies worried that Career Connect would be used by The Partnership as a punitive compliance tool.

How Did Contextual Factors and Barriers Shape the Effort?
The most significant contextual barriers for the Career Connect project involved the following:

• **Policy realities and changes**—Congress passed WIOA and it became the new law of the land in July 2015, but final regulations were not issued until mid-2016, creating a vague and moving target for Career Connect development.

• **Fragmented workforce field and the nature of workforce contracts**—the workforce development field in Illinois involves many layers of government and many diverse players, leading to a host of challenges related to various funding streams, different sets of regulations and compliance requirements, and the need to coordinate many distinct players. Further, The Partnership re-issues RFPs for their delegates every few years, so the mix of delegates being brought along on the Career Connect project changed over the project.
Chicago Cook Workforce Partnership’s Career Connect Project—Evaluated by the Social IMPACT Research Center

- **Political realities and changes**—Illinois elected a new governor who took office in 2015 and ushered in a host of leadership changes, which impacted the Career Connect project along with the fiscal year 2016 and 2017 state budget stalemates.

**How Closely Does Career Connect Resemble its Intended Design?**

- It is a success that The Partnership was able to shepherd the creation of a data system that had the vast majority of its requirements and preferences met—especially since those requirements and preferences were sourced from a robust systems requirement process that included diverse perspectives.

- Career Connect not only contains the functionality necessary for complying with WIOA requirements, but also functionality that helps workforce staff do their jobs better:
  - Functionality targeted at job developers is entirely new, compared to IWDS.
  - Career Connect helps case managers determine eligibility and select appropriate services for customers.
  - Case managers can better track customers’ progress towards addressing barriers to employment.
  - Case managers can better manage their own workflow with dashboards, reminders, appointment calendars, and more.
  - Career Connect can help workforce providers better understand their own effectiveness with powerful reporting capabilities.

- Career Connect is built on a strong technical infrastructure that is designed to protect customers' sensitive data and be maintainable and updatable over time.

- Some features that were not implemented as of the Go Live date have implications for Career Connect’s ability to achieve its intended outcomes.

- The inability to store electronic documentation information means that Career Connect will struggle to achieve its goal of reducing reliance on paper files.

**OUTCOMES STUDY**

**Outcome 1: Level of information on client assessment, service usage, and outcomes is improved**

- A main barrier to success in reducing reliance on paper files was The Partnership’s decision not to activate Career Connect’s functionality to store scanned documents. As a result, reliance on paper files did not decrease as much as hoped since this functionality is not currently available to users. There is the potential that reliance on paper files will decrease as The Partnership rolls out this functionality in the future.

- Another area where providers will need to continue to rely on paper files or alternative data systems is for any assessment or applications they have that are particular to their organization. Providers cannot customize Career Connect fields to their needs.

- Between baseline and post-implementation, there was a reduced reliance on printed resumes, indicating that perhaps users are taking advantage of Career Connect’s resume capabilities, and fewer printouts of emails.

- The full impact of Career Connect on paper file reliance is likely to become clearer as old, pre-Career Connect cases become exited and new customer files are created.
• Provider staff felt that Career Connect had the capacity to store more types of client information than IWDS did, but that IWDS allowed them to store more information required for compliance with non-WIOA funders. This implies that provider staff members feel that Career Connect has more flexibility than IWDS but perhaps are not familiar enough with Career Connect to understand its capacity to store non-WIOA compliance information.

• There was no change from baseline to post-implementation on other perceptions of comprehensiveness of information, indicating that the roll-out of Career Connect did not fully achieve the desired effect of helping provider staff believe that information is more comprehensive than it was in the past.

Figure 3

Comparing Career Connect to IWDS, which allows you to store more types of client information? (n = 22)

- 27% Career Connect
- 23% Equal amounts of client information in both
- 50% I don't know

Figure 2

WIOA MIS allows me to enter all information required for all compliance and contractual purposes of non-WIA funders.

- Strongly Agree: 17% Strongly Agree, 32% Strongly Agree
- Somewhat Agree: 22% Somewhat Agree, 10% Somewhat Agree
- Unsure: 10% Unsure, 10% Unsure
- Somewhat Disagree: 5% Somewhat Disagree, 7% Somewhat Disagree
- Strongly Disagree: 15% Strongly Disagree, 17% Strongly Disagree
- Does not apply to my work: 38% Does not apply to my work

Outcome 2: Providers’ access to desired information increases

• There was no significant change between baseline and post-implementation in either the perception that provider staff spend less time locating client data nor in the amount of time staff spent running reports measured by staff logs and cover sheets. Given the consistency of these findings, Career Connect likely did not meet its intended outcome of reducing the amount of time spent running reports between baseline and post-implementation.

• One major caveat to these findings is that The Partnership had not yet trained staff on how to run reports at the time of data collection. It is therefore not surprising that the time spent accessing reports did not change.

• Career Connect did meet its intended goal of reducing the average amount of time spent outside of the WIOA MIS running reports.

• Provider staff rated IWDS as easier to use or equally easy to use as Career Connect on most measures where there were significant differences between baseline and post-implementation. At the time of data collection, The Partnership had only trained provider staff on the most basic functionality. Some of the negative perceptions of Career Connect may be due in part to insufficient change management or training.
• Staff reported that technical issues were resolved more quickly with Career Connect than with IWDS, so in that respect, Career Connect improved the user experience.  

**Figure 4**

Mean time spent in minutes running reports outside WIOA MIS, staff logs

Outcome 3: Duplicative data entry into multiple databases is reduced

• The staff logs and cover sheets (as described in the Evaluation Methodology Overview) reported slightly different trends in the number of data systems used: according to staff logs, they went down from 13 to 11, but according to cover sheets, they went up from 12 to 13. These differences may be due to the different types of tasks captured in cover sheets. Given the ambiguity of the results and the small difference in number of systems, it does not seem that Career Connect made much headway in decreasing the number of data systems used. This is not surprising, since most of the system interfaces aside from IWDS originally envisioned in the systems requirement document were eventually removed from the scope of work.

• For many of the non-WIOA funding sources, Career Connect achieved its objective of increasing the percentage of clients whose records are stored in the WIOA MIS.

Outcome 4: Program administrative burden is reduced

• On this variable, perceptions and reality diverge: staff believe that they are spending more time on data entry in Career Connect than in IWDS, while in reality, the staff logs showed that the average amount of time spent per task went down from 15.3 minutes in IWDS to 13.6 minutes in Career Connect. While the cover sheets did not show a change, that may be due to the fact that most uses of cover sheets related to different types of tasks than recorded in the staff logs. This divergence between perception and reality could be related to a number of factors. For one, it took longer to add a new customer in Career Connect than in IWDS, and the change in this task could stick out in provider staff’s minds as particularly onerous, overshadowing the shorter time it takes to add or update information. Part of the reason that it takes longer to add a customer in Career Connect is because Career Connect asks you to input more information up-front in order to calculate customer eligibility and improve data comprehensiveness and quality, which is another goal of the Career Connect project. These
goals—reducing time on data entry, increasing data comprehensiveness and quality—are inherently in tension with each other.

- **There was significant variability among the study sites** in how they used the data systems, how long it took them to complete tasks, and what data systems they used. This could indicate very different business processes, performance, computer literacy, capacity, and support systems in place across delegate agencies.

**Outcome 5: Quality of data is improved**

- **There were no changes between baseline and post-implementation in the frequency of assessment of key best practice workforce data collected.** However, there is some evidence that Career Connect has more dedicated data fields available to collect key workforce data than did IWDS, requiring staff to rely less on case notes and making it easier to query by customer characteristics. Staff reported an increase in recording data in dedicated sections of the WIOA MIS about transportation needs and time out of the labor market, but a decrease in reporting about substance use in a particular section.
- The relatively small number of changes on the percent of best practice-recommended employment data collected by providers may be due to a **decision by The Partnership to advise delegate agencies not to use the Objective Assessment portion of Career Connect**, which was designed to capture broader information about client needs and barriers beyond what is needed for WIOA compliance.
- **Overall, perceptions of data quality did not increase with the implementation of Career Connect.** They did not decrease, either. This may be related to minimal training on the system that resulted in a lack of confidence in how it is being used.

**IMPLICATIONS FOR POLICY AND PRACTICE**

*Key Lessons from Career Connect Implementation*

- **Carving out time at the very beginning of the collaboration to clearly articulate roles, responsibilities, and levels of effort can save time in the long run.** It can also help lead to a more unified face for the project.
- **A robust systems requirement process is of vital importance** and it proves helpful to select a SRC team that has strong prior relationships and connections to the relevant stakeholders. Further maximize the SRC team’s value by setting up formal processes to facilitate regular and consistent communication.
- **Being as specific as possible in the RFP for the selection of the SRC Team** can help ensure that the SRC Team is comprised of the right members with expertise and connections best aligned to the project, reduce time spent revising draft work products, and ensure that everyone is on the same page about expected deliverables.
- **Conduct an RFI before an RFP in order to get a better understanding of what’s possible from a technical perspective and what the costs and timeline more realistically look like.** Having a diverse team involved in the developer selection process helps make sure that the many stakeholders’ perspectives are represented and not overlooked.
• **Having an Advisory Council with membership that represents a variety of stakeholder and user viewpoints can bring in new perspectives** that generate unexpected and beneficial ideas during the planning, developer selection, and implementation phases of the project. Leaving some buffer time in the project timeline to try out unanticipated ideas that the Advisory Council might come up with will leave more room for **potentially beneficial experimentation.**

• **Going through the work of identifying challenges that a project is likely to face does not necessarily mean that the project can avoid those challenges, especially if there are insufficient staff resources to pull it off.** In future projects, resources should include staff for project management, administration, subject matter experts, and specialist roles. Not all roles need to be filled by staff dedicated full-time for the project, but leadership should set clear expectations of the contributions their staff are expected to make to the project.

• **Keeping the SRC team on board during the beginning of the systems development process** could expedite the project timeline, put project knowledge from the initial systems requirement phase to good use, and relieve the burden on the Project Team.

• Related to systems development, it would likely be beneficial to **start small with the minimum viable product and expand**, rather than trying to start big and having to scale back later on in the process.

• During the SDC proposal consideration process, **project teams should push candidates to clearly define terms and fully articulate their processes for undertaking different parts of the project**, including testing, training, and project management, and spell out expectations for responsibilities for these processes in the contract.

• **Get the right people—people who have the authority to make decisions about policy and legal agreements—in the room early to work out the details of data share agreements.**

• **Do not underestimate the amount of time and effort it will take to migrate data from old to new systems and to build interfaces.** It is also important to develop policies and procedures about how to handle data that does NOT get migrated and communicate consistently to data users what data they will be able to access and how, as well as the reasoning why they cannot access all data.

• **Be sensitive to the realities that legacy data systems still have their champions, and try not to frame the new system as a usurper.**

• **Conducting value stream mapping well in advance of the system development process** will help clarify the business processes and workflow that inform product development.

• **Making every effort to document and understand existing data systems** before moving forward with interface development will streamline the process.

• **Using facilitation techniques (or a third party facilitator) during configuration meetings can help keep meetings on track** and keep everyone working toward the same goal.

• Taking the time to **explain local political realities to the systems developer**, and allowing the Project Team to take the lead on messaging in meetings, could avoid stepping on other public agencies’ toes or causing unnecessary confusion.

• **Doing more research up front about the work and costs involved with setting up interfaces** would make for a more realistic budget, timeline, and expectations.
Key Lessons from the Stakeholder Experience

- **Developing and keeping up-to-date a detailed communications plan** with key audiences, audiences’ needs and interests, audiences’ priority levels, messaging, and talking points from the beginning of the project can go a long way toward managing expectations and winning over stakeholders.

- While it is easy to fall into a habit of communicating with stakeholders that are more central to the project, **it is important not to let other stakeholders fall off completely—particularly when they are going to be the end users of the data system.** Develop a formal plan to keep all relevant stakeholders up to date, and stick to it. If this involves a system of cascading communications that relies on agency leadership to communicate to front-line staff, make their responsibilities clear and equip them adequately to communicate with their staff.

- Creating **policies and procedures** that clarify how new business processes or other organizational changes will be implemented before training data system users can help reduce anxiety around the transition.

- **Developing a staffing plan** that spreads the burden of implementing a phased rollout can make for a smoother transition. This is something that happened for Phase II rollout.

- **Sustainability planning should be a consideration from the beginning of the project,** and the Project Team should communicate the sustainability planning it has done to key stakeholders in order to ease anxieties about the future.

- Training a large body of users on a significant technology change is an opportunity to **assess the computer literacy of users before the training starts** and provide resources to bring the technical literacy up to a reasonable level.

- Train-the-trainer models run the risk of losing information in translation. Indeed, delegates voiced skepticism about train-the-trainer models based on past experiences. The **drawbacks of train-the-trainer models can be minimized** by taking steps such as drafting clear, written curricula and training materials and feedback surveys to assess trainer effectiveness. The Partnership implemented this for Phase II rollout.

- **Rolling out functionality in phases, or waiting to train people how to use it, has pros and cons:** while it minimizes the amount that trainees have to learn at once, it also means people may be unable to perform functions important to their job while waiting for additional training. Since The Partnership decided to train on parts of Career Connect’s functionality at a later date, they will need to carefully consider how to roll out training in such a way that generates as much engagement as the campaign of in-person training on core functionality.

- The specter of failed technology integration efforts means that **stakeholders may bring past baggage to current projects.** Project leads should listen to these concerns, demonstrate that they have learned from past projects, and effectively communicate what they’re doing differently this time around.

Key Lessons from Contextual Factors and Barriers

- **On large scale systems change projects, funders must be flexible around changing project scope and timeline.** In this instance, the flexibility of DOL was very important to allowing The Partnership to make the necessary project modifications to ensure project success.

- **Project planning should include conversations about, and specific planning for, potential contingencies.** WIA had been up for reauthorization for some time, and the timing of it was
always a risk. Planning for contingencies takes more time up front, but can help facilitate quicker decision making about how to proceed on the project if the contingencies occur.

- Secure some form of “official” authority for the project. Without it, The Partnership had no clear lever to use to compel other public agencies to collaborate on the Career Connect project, but the project’s very success hinged on that collaboration. A clear mandate from the Governor or another higher-level agency or official can spur timely cooperation.

- Seize moments of opportunities that arise in the midst of upheaval and change. When state leadership turned over, The Partnership was poised to sell the new leaders on the value of Career Connect.

**Key Lessons from How Career Connect Resembled its Intended Design**

- **Future projects should mimic The Partnership in including a robust systems requirements process,** which produced a comprehensive list of functionality that addressed the needs of workforce providers and the workforce system.

- **Even though Career Connect has a powerful set of tools,** not **all of them were activated at Go Live or covered in training.** This likely affects the outcomes observed in the evaluation.

- **Having finalized data documentation and policies and procedures ready at Go Live could help answer questions staff have about data definitions and the use of the data system.**

**Key Lessons from the Outcomes Study**

- **Activating the capability to store electronic documentation and conducting more intensive training on the workflow management and reporting features of Career Connect have the potential to save significant time, help providers learn from their data, and make case managers more effective at their work.**

- **The Partnership should consider revisiting whether Career Connect should allow delegate agencies to add custom fields in the future** in order to accommodate custom application or assessment questions.

- **In several cases, provider staff perceptions of Career Connect did not reflect Career Connect's actual features.** These misperceptions could be addressed with more training on data definitions, compliance, and features that add value to case managers’ workflow.

- **The reporting function of Career Connect in particular showed evidence of not being used to its full potential by provider staff, and the amount of time staff spent on reporting did not change.** This is not surprising, given that The Partnership had not yet trained provider staff on reporting at the time of data collection; the time motion study showed that some staff had figured out how to run reports on crucial tasks, like identifying customers for follow-up, but many reports remained opaque to them, or they did not have user permissions to run reports at all. Future projects should consider more intensive up-front training and change management, at least on features that are so commonly used, instead of waiting months to phase it in.

- **Insufficient Partnership staff resources to engage in adequate communications was likely a factor in the perceptions that IWDS is easier to use than Career Connect. Future projects should incorporate a change management communications strategy with a longer runway before a new system goes live.** Most provider staff used IWDS for a long time before they
used Career Connect; it may simply take more time and familiarity for them to become fully make the transition, especially if they have limited computer literacy.

- **The Partnership’s investment in systems and processes to address technical issues with Career Connect did make a positive impression on provider staff.** This demonstrates the value for future projects of extensive testing that involves front-line staff, creating help desks and ticketing procedures, strong communication with the SDC, and devoting sufficient staff resources to technical support.

- The number of data systems that were to interface with Career Connect were reduced drastically over the course of the project to just IWDS at the time of Go Live. It is therefore not surprising that the outcomes study found little to no difference in the number of data systems used between baseline and post-implementation. Future projects should carefully consider the goals of integrated management information systems projects in the future—should interfacing with multiple systems be a goal to begin with? If so, plan with a full understanding of the significant time and resources it will take to get it off the ground.

- **Future projects, when setting goals, should consider how these goals may be add odds with each other and prioritize which is more important.** For example, Career Connect aimed both to reduce time on data entry tasks as well as to improve data comprehensiveness and quality. It takes time to increase the amount of data you enter and make sure it’s done well.

- When designing future trainings, **The Partnership as well as future projects should consider how to tailor curricula to staff members who are at very different levels of comfort and computer literacy.** This variability is evidenced across study sites in how they spent different amounts of time performing tasks. Going forward, doing some assessment of where staff are in the learning process—through advance surveys or focus groups—before developing curricula and tracking staff into trainings that are appropriate to their expertise level could be valuable to ensuring that training is as effective as possible.
Important Acronyms & Terms

<table>
<thead>
<tr>
<th>Career Connect</th>
<th>The integrated workforce management information system developed by the SDC and The Partnership.</th>
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<tbody>
<tr>
<td>Delegate Agency</td>
<td>A direct service provider contracted by The Partnership to provide WIA/WIOA core and intensive adult, dislocated worker, and/or youth services. Delegate agencies often use other resources in addition to WIA/WIOA to augment WIA/WIOA services or serve non-WIA/WIOA customers.</td>
</tr>
<tr>
<td>DCEO</td>
<td>Illinois Department of Commerce and Economic Opportunity: DCEO disburses WIA/WIOA funds throughout Illinois and owns Illinois’s legacy workforce management information system, IWDS.</td>
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<tr>
<td>DOL-ETA</td>
<td>United States Department of Labor Employment and Training Administration</td>
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<tr>
<td>IDES</td>
<td>Illinois Department of Employment Security: IDES runs two important data systems, Illinois Job Link, the State of Illinois’s job board, and Workforce Information System, the State of Illinois’s portal for workers’ quarterly employment and earnings data.</td>
</tr>
<tr>
<td>IDHS/DVR</td>
<td>Illinois Department of Human Services, Division of Vocational Rehabilitation. DVR helps people with disabilities find and keep jobs through the administration of a variety of federal and state programs. IDHS/DVR runs WebCM, the online system that vocational rehab providers use to document their services and report to the state.</td>
</tr>
<tr>
<td>Inquirant, registrant, and participant</td>
<td>In IWDS, a person who has used self-services at a WIOA agency but has not yet been approved for staff-assisted services is referred to as an “inquirant” (in Career Connect, this is a registered customer). In IWDS, a person who has applied for and started receiving staff-assisted WIOA services is referred to as a “registrant;” the equivalent term in Career Connect is “participant.”</td>
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<tr>
<td>MIS</td>
<td>Management information system</td>
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<tr>
<td>The Partnership</td>
<td>The Chicago Cook Workforce Partnership (The Partnership) is a collaboration between Chicago Mayor Rahm Emmanuel and Cook County President Tony Preckwinkle to create a comprehensive workforce development system designed to work with businesses and job seekers. The Partnership’s mission is to create, promote, and effectively manage a network of workforce development organizations that designs innovative solutions to address business needs, and prepares individuals for, and connects them to, career opportunities. The Partnership administers over $70 million of private and public funding for workforce development activities in the Cook County area.</td>
</tr>
<tr>
<td>Provider</td>
<td>An entity that provides direct workforce services such as job placement and career coaching to jobseeker customers. Delegate agencies are a subset of providers.</td>
</tr>
<tr>
<td>SDC</td>
<td>Systems Development Contractor: The entity that developed Career Connect.</td>
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| SRC | Systems Requirement Contractor: The team that conducted stakeholder...
engagement and developed the Career Connect requirements.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>WIA</td>
<td>Workforce Investment Act: The U.S. Department of Labor’s (DOL) Workforce Investment Act (WIA) Title I of 1998 was the main source of federal funds for workforce development activities throughout the nation when the Career Connect Project began. WIA funding was used to serve two primary customers—businesses and job seekers. In Illinois, WIA Title I funding is distributed to the Department of Commerce and Economic Opportunity (DCEO), which disburses it to Local Workforce Investment Areas (LWIs), such as The Partnership, to manage and provide services.</td>
</tr>
<tr>
<td>WIF</td>
<td>Workforce Innovation Fund. A program of DOL-ETA and a primary funder of the development of Career Connect.</td>
</tr>
<tr>
<td>WIOA</td>
<td>Workforce Investment and Opportunity Act: The U.S. Department of Labor’s (DOL) Workforce Investment and Opportunity Act (WIOA) Title I of 2014 replaced WIA as the main source of federal funds for workforce development activities throughout the nation in the middle of the Career Connect project. WIOA funding is still used to serve two primary customers—businesses and job seekers—and is still distributed in the same way as WIA was, while placing great emphasis on better aligning the workforce, education, and economic development systems and improving the structure and delivery of workforce services to better assist workers and employers.</td>
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Introduction

OVERVIEW
In July 2012, the U.S. Department of Labor Employment and Training Administration awarded a three-year Workforce Innovation Fund (WIF) grant to the Chicago Cook Workforce Partnership (The Partnership). The purpose of The Partnership’s WIF project was to design, implement, and test an integrated workforce management information system (MIS), later named Career Connect, that contained comprehensive and useful program- and customer-specific measures across funding streams that supported varied reporting capabilities and provided the information necessary to adequately serve the needs of the workforce system’s customers. The project began in earnest in January 2013; it was scheduled to be completed in mid-2015 but, through a no-cost grant extension, ran until mid-2017. Career Connect Phase I (business services) went live in mid-2015 and Phase II (case management) went live on June 12, 2017.

The Partnership planned that its Career Connect project would be built on the foundation of a robust stakeholder engagement process to not only inform the functional aspects of the data system, but to also encourage providers, funders, and state agencies to buy into using the new system. The Career Connect project was carried out by a small Project Team comprised of several Partnership staff, a Systems Requirement Contractor (SRC) team tasked with conceptualizing Career Connect, and a Systems Development Contractor (SDC) selected to build and implement Career Connect. A number of long-standing and ad hoc groups of stakeholders were pulled together to advise on the project along the way.

The functional goal for the project is to have all Cook County workforce providers that receive Workforce Investment and Opportunity Act (WIOA) Title I funds (delegate agencies) using Career Connect as their data system of record. This included 49 delegate agencies when the project began and 53 by the time Career Connect was fully implemented in June 2017. Additionally, the goal is to invite non-WIOA workforce providers to also use the system.

The long-term goal of the Career Connect project is three-fold:

1. Workforce customers, both jobseekers and employers, have better economic outcomes.
2. Cook County, Illinois, realizes broader economic gains.
3. The workforce development field becomes better coordinated and less siloed.

The Career Connect project rests on the theory that this long-term vision can be realized only if Cook County workforce providers experience greater efficiencies, minimal administrative burden, high levels of satisfaction, and the ability to make data-informed customer-level and program-level decisions with an integrated data system—all characteristics that would not accurately describe the state of workforce information systems at the project’s inception.

PROBLEM THE CAREER CONNECT PROJECT ADDRESSED
Formed in July 2012 from a consolidation of three local workforce investment boards and a city-created research and policy nonprofit, The Partnership was established with a mandate to become
more responsive to local employer needs and streamline the delivery of workforce services. The Partnership administers Workforce Investment Act Title I (WIA, the law of the land in 2013 when the project began) and Workforce Investment and Opportunity Act Title I (WIOA, the law that replaced WIA in the middle of the Career Connect project) funds for Cook County.

The newly formed Partnership was born into a messy data systems reality. As a condition of funding, workforce providers are often expected to enter customer and program data into funder-specific databases. Since workforce providers weave together various funding streams, often to support the same customer, the result is laborious and time-consuming duplicative data entry into multiple funder databases (some staff reported to the SRC team spending 30 to 35 hours per week on data entry/management). These funder databases are designed to be a vehicle by which the funder receives the program data they need or want to understand the efficacy of the programs they fund—meaning they are not designed as program and customer MIS. Each data system includes a different universe of measures, little flexibility to customize the system, and a format strictly based on the reporting requirements of each particular funder. This fragmentation and redundancy limits the ability of case managers to obtain an accurate and comprehensive picture of customer needs and services and prohibits program administrators from assessing their overall progress toward customer and program-level outcomes.

The legacy WIA/WIOA Title I management information system used in Illinois, the Illinois Workforce Development System (IWDS), functions much like other funder databases in that it captures WIA/WIOA Title I-mandated data elements and little else and is limited in its capacity to function as a case and performance management tool. IWDS is also not a self-contained tool. Users have to leave the system many times while using it to perform other critical tasks like income verification, referrals, individual employment plans, and paying training providers. IWDS actually does not have any functionality for one whole half of WIA/WIOA service provider staff: those in business services. Most of the other data systems workforce agencies use (or are required to use) are also not case management tools; they are data repositories that provider staff may or may not be able to get data back out of. Workforce providers expressed a desire for a tool that would help them manage their workflow as well as their customers. They wanted functionality like dashboards, reminders, alerts, and more that would help them track their progress at a glance and manage their day-to-day work more easily and effectively.

In order to implement The Partnership’s reform agenda, a better and more integrated data system that helps workforce providers manage their workflow was seen as critical. Further, The Partnership recognized that there was no MIS in Cook County that tracks workforce outcomes across providers and across funding streams. This means that in addition to programs lacking the robust data tools they need to perform better, there is no central repository of local workforce data, which cripples efforts to understand the impact of the workforce system as a whole and make data-informed decisions to better serve the workforce system’s customers.

This fragmented reality provided the impetus for the Career Connect project.
LITERATURE REVIEW

The need for management information systems that integrate data across funding streams has been established by a variety of actors in the workforce development field, and subsequently there are several data integration efforts similar to Career Connect currently underway across the country. A review of the literature, however, suggests that related, published research skews toward descriptive accounts of lessons learned rather than peer-reviewed outcome or impact evaluations.

In the absence of peer-reviewed literature, efforts such as Career Connect can be informed by the informal implementation guidance issued by a variety of actors. For example, in a “how-to” guide on integrating data in multi-agency collaborations based on experience evaluating such efforts, Walker, Farley, and Polin (2012) highlight the need for similar integration efforts to create a shared sense of purpose across agencies, decide as a group what data to collect, establish common definitions of indicators, thoughtfully choose a system, and strategically involve frontline staff from the earliest stages of the project. Once the system is in place, Walker et. al further warn that integration project leaders must be sure that the group has established clear roles, responsibilities, and consequences and codify those with Memoranda of Understanding; ensure agency staff are both well-trained on the system and have dedicated time to making certain there is a champion of the system who can compel partners to act; and provide ongoing training and support to troubleshoot any system issues.

Similarly, following the implementation of Skills2Compete-Maryland, a statewide mandate for an integrated and more accountable workforce and education system, Unruh and Seleznow (2011) relate that the process of data integration provides opportunities to address gaps in data, inconsistent practices among agencies, and lack of coordination; changing perceptions among stakeholders is key to the systems change that is necessary for integration; and that gathering stakeholders to establish priority indicators and common definitions is a critical first step in moving toward more meaningful outcomes.

Similar insights can be gleaned from a report-back on the integration efforts of six states (Florida, Michigan, Montana, Oregon, Texas, and Washington), in which Washington Workforce Training and Education Coordinating Board Deputy Director Bryan Wilson (2005) identifies the following challenges for future integration efforts to be aware of: the need to establish authority for integrating system and have dedicated time to making certain there is a champion of the system who can compel partners to act; and provide ongoing training and support to troubleshoot any system issues.


performance information across agencies, the struggle to establish a culture of trust and shared accountability, successfully addressing privacy concerns, effectively building sustainability, and reaching consensus on goals and measures.  

On the data side, lessons from the Benchmarking Project, a current effort to aggregate and analyze workforce data from over 200 workforce providers around the country, lend insider knowledge on implementation roadblocks. Most relevant to Career Connect, Benchmarking Project researchers found that providers defined outcomes inconsistently and that there were significant amounts of missing data, both of which impede drawing meaningful conclusions from the data.

Hester and Perkins (2012) conducted a formative evaluation of a new management information system intended to integrate data across grantees in 36 states. Using content analysis, system tests, data runs, key informant interviews, informal conversational interviews, and observations of project working groups, Hester and Perkins found that the system had mixed results in terms of meeting functionality criteria, particularly when it came to collecting required data, storing data correctly, including documentation, and providing a method for data to be queried and easily retrieved for reports. While the system effectively met the outcome of collecting data across grantees to be updated continuously, Hester and Perkins also found that there were concerns with the system’s usability for grantees, especially in terms of being able to enter required data for reporting and performance measurement. Finally, funders rated the system a failure in terms of providing a way for them to effectively monitor and evaluate grantee performance and progress as well as grantee completion of data entry requirements.

Implementations of Work Support Strategies (WSS) across states also provide instructive lessons in their attempts to integrate data. The WSS initiative is a foundation-funded initiative in Colorado, Idaho, Illinois, North Carolina, Rhode Island, and South Carolina that is designed to help low-income families access applicable work supports. The states participating in WSS aimed to improve their processes to deliver benefits to families efficiently and accurately while minimizing burdens on families and workers. One of the strategies WSS states used to achieve these goals was improving their technological systems in order to deliver services more efficiently. Loprest, Gearing, and Kasabian (2016) suggest that efforts to improve data collection and sharing across Temporary Assistance to Needy Families (TANF, cash assistance/welfare), the child care subsidy, and workforce development systems reduced the burden on families of providing the same information to multiple programs, reduced the burden on state agencies of collecting this information multiple times, limited the risk of families falling through the cracks at hand-off or transition points, and resulted in better data on program use so states can make more informed decisions on allocation of scarce resources and the need for additional resources. These states used technology changes in several ways to

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9 Ibid.
promote integration. The technology changes included implementing new and updated eligibility systems. For example, North Carolina replaced multiple legacy systems with a single eligibility system that greatly increased efficiency. Other changes included creating online applications and customer portals to increase access to benefits and information; implementing lobby management systems to support and manage workflow within benefit system offices; and moving to electronic data verification. Key lessons from these efforts that have relevance for Career Connect are:

- The project team should not underestimate the cost of implementing technological changes, and flexible funding is key.
- Compressed time frames dictated by grant deadlines mean that project teams must be ruthless about setting priorities and allocating resources accordingly.
- The project teams should ensure that technology change is advancing broader system goals, not happening in a vacuum.
- Project teams need to maintain strong lines of communication with technology vendors and set expectations clearly.
- Technology changes must be connected with broader business process changes, and change management must address both sets of changes. Serious challenges can arise if changes in these two areas are not handled strategically. For example, North Carolina had identified a task-based model as best practice, but the implemented eligibility system did not support these practices. In Illinois, “chaos ensued” when the new eligibility system was rolled out at the same time new business practices were being developed.
- Staff should be trained and engaged throughout the implementation process. States found that discrete, one-off training sessions were less effective than iterative training processes, particularly for staff who have a hard time adjusting to new technology.
- Implementation crises are par for the course and should be managed strategically through phased roll-outs, implementing work-arounds, and shifting of resources and priorities when necessary.

Several of the above lessons and challenges from WSS efforts are echoed by Chinoy (2016) based on observations of similar attempts to integrate workforce data systems and create longitudinal data systems in Kentucky, Minnesota, and New York. Chinoy emphasized the need to have key leaders champion the data sharing initiative, demonstrate the value of the data early in the process to get stakeholders on board, secure a legislative mandate to require data sharing when possible, carefully establish different levels of user access to secure data and maintain privacy, establish data sharing agreements across agencies, use best-practice methods of ensuring data quality, and establish strong cross-agency communication.

Finally, some general insights can be gleaned from Chen (2001) in highlighting the effort of the CDC in developing a national evaluation system for monitoring health department HIV programs and Kramer, Parkhurst, and Vaidyanathan’s (2009) study of 20 efforts to develop shared approaches to
performance, outcome, and impact measurement across multiple organizations. Chen concludes that the development of large scale cross-organizational evaluation systems requires stakeholder participation and buy-in, strong commitment within organizations, and technical assistance as an integral part of the system. Kramer et. al. identify eight common elements of success among twenty shared measurement projects across states, including strong leadership and substantial funding over a multi-year development period; substantive stakeholder engagement from a diverse group; using best web technology practices; allowing any interested and relevant organization to use the system if they want to; independence from funders in defining measures and administering systems; dedicated and sufficient staffing; and ongoing improvement and testing of the system. Kramer et. al. found that successful implementation occurred when participants gathered periodically to share results, learn from each other, and coordinate their efforts.

In short, while there is much to learn from prior studies as it relates to planning and implementing a transformation like Career Connect, there have been minimal rigorous, quantitative studies of MIS and data system integration efforts, indicating that earlier calls for systematic research into effective management tools such as integrated data systems are still quite relevant. Studies that have been done have largely focused on implementation, not outcomes. Thus, this study has much to add to the current knowledge base in the field; it is one of the first documented outcome studies attempted on a large-scale MIS effort.

EVALUATION ROADMAP

In the following study, we:

- Assess whether Career Connect achieved its desired outcomes;
- Document the context and operations of the Career Connect’s design;
- Assess the degree to which it was implemented as designed; and
- Evaluate stakeholder participation.

We begin with a discussion of the report’s methodology, and then document the basics of Career Connect’s implementation—its approach, key stakeholders, timeline and scope, audiences, and more. We then delve more deeply into how Career Connect was implemented through a systems requirement process, development process, and project staffing. The experiences of stakeholders involved with the Career Connect project are then assessed, looking at communication, change management, training, and perceptions of project success. We take a look at how contextual factors affected the project, from the fragmented nature of the workforce field in Cook County to political realities and changes. The study then assesses how closely Career Connect resembles its intended design. Shifting from the implementation study to the outcomes study, we analyze how Career Connect has improved the workforce provider experience.

**Career Connect Project Basics**

**Grant:** United States Department of Labor’s Employment & Training Administration’s Workforce Innovation Fund, Round 1

**Intervention Type:** Administration: Management Information Systems (MIS) – New and Untested Ideas

**Grantee:** The Chicago Cook Workforce Partnership (The Partnership)

**Grant Number:** IF-23248-12-60-A-17

**Grant Award Amount:** $3,000,000; originally $1.9 million of the total for systems development contract, later modified to $1.6 million

**Period of Performance:**
- Original: July 1, 2012 through June 30, 2015
- Revised: July 1, 2012 through June 30, 2017 (DOL granted a no-cost extension in February 2015)

**Legacy System:** Illinois Workforce Development System or IWDS, the state of Illinois’s management information system used by local workforce investment boards and their delegate agencies across Illinois to report on required WIA/WIOA Title I performance metrics.

**New Cook County-Only System:** Chicagoland Career Connect, named such in mid-2014, formerly referred to as the Integrated Workforce Information System or IWIS.

**Main Sub-Contractors:**
- Third-party evaluator: Social IMPACT Research Center at Heartland Alliance.
- Systems Requirement Contractor: Chapin Hall Center for Children with Chicago Jobs Council and independent consultant Marty Miles.
- Systems Development Contractor: Geographic Solutions, Inc.

**Other Sub-Contractors:**
- Career Connect interface with IWDS: Southern Illinois University, Center for Workforce Development.
- Implementation project management: Jeffery M. Gawel, consultant

**Supplemental Resources:** A collaborative of private workforce funders, The Chicagoland Workforce Funder Alliance, in late 2013 granted a total of $469,375 over 3 years to fund a technical project manager position, sustainability work, and communications. A private funder also contributed an AmeriCorps VISTA volunteer to help better align the private funder community’s needs and contributions with Career Connect development.
Evaluation Methodology Overview

This study was approved by the Institutional Review Board at Heartland Alliance for Human Needs & Human Rights.

The detailed evaluation methodology can be found in Appendix A.

STUDY PURPOSE
The purpose of the Career Connect evaluation is three-fold:
1. To determine if Career Connect facilitates the desired outcomes.
2. To monitor outcomes and provide continual feedback to The Partnership to influence and strengthen the development of Career Connect.
3. To document the context and operations of Career Connect’s design, assess the degree to which the initiative was implemented as designed, and assess stakeholder participation.

The evaluation was conducted by the Social IMPACT Research Center at Heartland Alliance and included both an outcomes study and an implementation study. It took place from October 2013 through December 2017.

OUTCOMES STUDY
The outcomes study was a quantitative pretest-posttest design, consistent with the knowledge base in the field around MIS work in workforce development.

Research Questions
1. Does efficiency and administrative burden for workforce development providers change after Career Connect?
2. Does end user experience/satisfaction with management information systems change after Career Connect?
3. Does the ability of case managers to assess customer needs change after Career Connect?
4. Does Career Connect give providers the tools to make more data-informed decisions?

Outcomes of Interest
Outcome 1: Level of information on client assessment, service usage, and outcomes is improved (relates to research questions 3 and 4)
When the project began, workforce providers had no comprehensive, cross-funder system of record. This means that their client data were spread over multiple databases, Excel files, and paper files, none of which contained a complete account of any given client. In order for staff to understand a client’s full set of needs, service utilization, and outcomes, they had to comb through multiple databases and Excel files, never fully knowing if they indeed had the full picture they needed to make decisions about future services and follow-up. Similarly, Cook County WIA providers did not use a standard intake and assessment process and therefore did not collect directly comparable data, limiting system-wide data aggregation and analysis. Career Connect aimed to improve providers’ ability to access information about client assessment, service usage, and outcomes.
Outcome 2: Providers’ access to desired information increases (relates to research questions 1, 2, 3, and 4)
The WIA MIS active at the baseline period was characterized by inflexible and cumbersome reporting and query tools that did not easily yield the information providers needed to engage in performance management and to complete grant reports. Providers also reported that the interface itself was confusing, and even long-time system users reported frustration in trying to navigate to the exact information they were seeking. Additionally, since there was no comprehensive, cross-funder system of record, when providers wanted to pull data for reporting and managing purposes, they had to manually match records from a variety of sources. These realities resulted in tremendous inefficiencies and likely inaccuracies in reporting.

Outcome 3: Duplicative data entry into multiple databases is reduced (relates to research questions 1 and 2)
The many funder-specific/mandated databases providers must feed client and program data into results in the obvious reality of providers entering the same client’s information into several databases. Furthermore, since no single one of these databases is robust enough to serve as a true cross-stream system of record, providers all keep their own Excel files to house data that don’t fit into the funder-mandated systems but that are important for the program to know. The result is a confusing labyrinth of databases and Excel files that all contain slightly different versions of data on a client and a data entry workflow that is complex, redundant, very time consuming, and potentially error-ridden.

Outcome 4: Program administrative burden is reduced (relates to research question 1 and 2)
During the baseline data collection period, the state of duplicative data entry logically resulted in many staff hours being spent entering data into databases and tracking tools. Some of this entry was obviously necessary and not at all a bad use of staff time. However, the redundancy associated with entering the same data into multiple places leads to administrative burden—time entering redundant data that could, in theory, be spent doing other programmatic tasks.

Outcome 5: Quality of data is improved (relates to research questions 3 and 4)
There were several layers of concerns over the quality of the data in IWDS. First, there was confusion among providers as to which indicators are the important ones for mandated reporting purposes. Second, there was not agreement about which indicators aside from the mandated ones are important for understanding client outcomes. Third, even for the indicators that were mandated to be reported, there were significant differences among providers in how these indicators are defined and therefore reported. Finally, federal and local guidance, both formal and informal, combined with fear over being disciplined for not meeting data requirements, had created a state of confusion and apprehension during the data entry process that likely led to lower quality data. Because of these issues, there was a high level of distrust in the quality of many indicators in IWDS. If data quality does not improve, providers will not use the data system as a client or performance management tool, and any system-wide data aggregation and analysis will be suspect.

Participants, Population, and Units of Analysis
In the long-term, Career Connect is expected to yield better customer-level outcomes due to it facilitating greater efficiencies and improved service provision once fully implemented with
WIA/WIOA Title I providers and then with non-WIA/WIOA and potentially even with non-Cook County providers in the future. Within the timeframe of the WIF grant and this evaluation, however, the outcomes that are assessed are at the WIA/WIOA provider-level, not the customer-level. This is based on the project’s theory that realizing provider-level outcomes is the necessary precursor to realizing improved customer and workforce system outcomes.

Therefore, the project and the evaluation population is WIA/WIOA Title I delegate agencies in Cook County (49 at the project’s inception). Five of these WIA/WIOA delegates are participants in the evaluation, and are referred to as Study Sites. The Study Sites were selected by The Partnership and the SRC based on several considerations, including performance, geography, capacity to participate, size, service population, diversity of funding streams, and willingness to participate.

The unit of analysis for this evaluation is the organization represented by provider staff (i.e., Career Connect end-users) at the Study Sites.

Data Sources and Collection
Data were collected through a combination of customer file reviews, staff surveys, time-motion studies, staff logs, and customer file tracking. While there is little precedent for an outcome evaluation of this type of intervention, these data sources are consistent with and build upon the body of literature on evaluations of system integration efforts. Data were collected at three points in time: on two separate occasions prior to Career Connect implementation (March 2014 and August 2014) and once after Career Connect was implemented (July – August 2017).

IMPLEMENTATION STUDY
In addition to the outcomes study, evaluators conducted an implementation study. The implementation study was intended to both document the Career Connect project to inform future similar efforts and yield in-the-moment insights for The Partnership, the SRC, and the SDC as they carried out the project so they could make mid-course corrections and engage in their own form of performance management.

Research Questions
1. How was the Career Connect project implemented?
2. What was the experience of stakeholders involved in the Career Connect project?
3. How did contextual factors and barriers to Career Connect development and implementation shape the effort?
4. How closely does Career Connect resemble the design outlined in the Systems Requirement Document?

Data Sources and Collection
The implementation study utilized a mixed-methods, descriptive, and operational design. Data sources included the review of project documents, meeting observation, workforce leadership survey, and interviews with key stakeholders. For detailed methodology, see Appendix A.
Intervention Background

GENERAL PROJECT APPROACH AND AREAS OF WORK
At the highest level, the Career Connect project can be seen as having four sequential components of work:

1. **The systems requirement process**: The systems requirement process spanned most of 2013 and was led by the Systems Requirement Contractor (SRC) team. The purpose of the systems requirement process was to solicit input from workforce development stakeholders about what functionality a new workforce MIS should include. The systems requirement process culminated in a Systems Requirement Document, which The Partnership turned into a request for proposal (RFP) to find the Systems Development Contractor (SDC).

2. **The systems development process**: By early 2014, Geographic Solutions, Inc. was selected as the SDC and the contract was executed, thus starting the systems development process that would last until mid-2017. In addition to building out the Career Connect platform, the systems development process also included negotiating data share agreements and working to build interfaces with other data systems so that Career Connect can push and pull data with the many other data systems that workforce providers use—thereby becoming a truly integrated system. In mid-2015, one piece of Career Connect was launched with WIA/WIOA providers, the business services portion, which gave the staff responsible for building relationships with employers and matching jobseekers with open jobs a data system to help them do their jobs. This functionality did not exist before with the legacy IWDS. The business services launch (referred to as Phase I) was a soft launch in that The Partnership encouraged, but did not require, that delegates use it.

3. **Full launch**: The heart of Career Connect is its jobseeker case management functionality, and this component of Career Connect was launched in June 2017 (referred to as Phase II). At this point, all The Partnership’s delegate agencies were required to use Career Connect for WIOA Title I customers. Additionally, two non-WIOA programs, administered by The Partnership, were added to the system in the fall of 2017.

4. **Support and sustainability**: Post Career Connect Phase II launch, the project entered a support and sustainability phase.

PROJECT TEAM AND OTHER PLAYERS
The Career Connect project has been led by The Partnership’s Strategic Initiatives and Policy (SIP) department. The SIP department is responsible for managing special projects outside the routine operation of administering public workforce services, which other Partnership departments manage with the support of the administrative components of the agency (the legal department, human resources, information technology, etc.)

From its inception, the Career Connect project was managed by a small Project Team housed in the SIP department. During the systems requirement process, the Project Team was comprised of a 0.5 full-time equivalent (FTE) general project manager and a smaller share of the SIP Director. Once the systems development process ramped up, the Project Team expanded to include:
1. 1.0 FTE for general project management, which was funded with WIF and WIOA dollars. This person’s role included project management, coordinating outreach, working with outside stakeholders, training, and writing RFPs.

2. 1.0 FTE for technical project management, a role that was funded with WIF dollars. This person’s role was to manage technical aspects of the project, including liaising with the SDC and related technical partners.

3. 0.25 FTE IT Network Administrator who administered the IWDS system for The Partnership and acted as a technical advisor, provided critical understanding of IWDS for development work, and ran requested reports from IWDS to inform Career Connect development.

4. A small share of the SIP Director, which was funded with WIF grant dollars. This person’s role included managing expectations and communicating about the project with non-Strategic Initiatives staff.

Figure 5: Career Connect Project Team through the majority of implementation

As Career Connect Phase II grew closer to Go Live, there were a number of staffing changes that occurred:

- The full-time technical project manager left his position in September 2016.
- A new Director of Strategic Initiatives and Policy came on board in August 2016, who took on some of the project management responsibilities after the technical project manager left, including determining staffing and other resources needed for Go Live, revising and managing project timelines, developing procedures, and coordinating training.
- A Partnership WIOA Regional Manager was brought on to the Career Connect project to coordinate interface testing and user acceptance testing in October 2016.
- The IT Network Administrator’s role shifted and he was spending nearly all of his time on Career Connect as Go Live approached. He was charged with leading data conversion testing starting in late 2016 and continued to provide back-end support with IWDS.
For the project to succeed, though, many others from across The Partnership were drawn in to lend their expertise to the project:

- Administrative staff like legal counsel and finance had to spend time on the project, and their work was funded with WIF grant indirect dollars.
- The database manager for the legacy system, IWDS, spent significant time on the project, which wasn’t entirely anticipated from a work or budget perspective until a budget modification in early 2015. This person acted as a technical advisor, provided critical understanding of IWDS for development work, and ran requested reports from IWDS to inform Career Connect development.
- Many other Partnership program staff were drawn in, some spending a fair amount of time on the project at various junctures. This also wasn’t entirely anticipated from a work or budget perspective. But their involvement was necessary for contributing perspectives on how Career Connect interacts with their work administering public workforce programs.

Involvement from other Partnership staff increased significantly as Phase II Go Live approached. Aside from the changes outline above, approximately 30 program and administrative staff were pulled in to:
- be trained on Career Connect by the SDC;
- develop training and testing procedures;
- train workforce agencies on Career Connect;
- conduct user acceptance, data conversion, and interface testing;
- handle the logistics of planning training and testing;
- communicate about Career Connect updates with key stakeholders; and,
- report issues to the SDC.

PROJECT TIMELINE AND SCOPE

The project began in earnest in early 2013 and was scheduled to be completed in mid-2015 when the WIF grant ended. The Partnership received a no-cost extension until mid-2017 to accommodate major contextual changes that greatly impacted the project. Changes to the original logic model, including scope, activities, outputs, short-term outcomes, and long-term outcomes, also occurred along the way. For more detail on changes to the timeline and scope, see Appendix C.

Key changes to the project timeline and scope include:
- Career Connect was originally scheduled to go live in early 2015, but due to the implementation of WIOA and some unanticipated technical issues, it was not able to launch then. The Partnership received a no-cost extension of the DOL WIF grant until June 30, 2017 and Career Connect went live on June 12, 2017.
• **Interface development took longer than originally anticipated.** WIOA disrupted this process as IWDS, Career Connect, and both sides of the interface needed to be updated whenever phases of WIOA were implemented.

• The Partnership **changed its implementation plan** from launching all Career Connect functionality with a group of Early Adopters to launching Phase I—business services to all delegates in mid-2015 and Phase II—case management to all delegates in June 2017. Early Adopters served as testers before the Phase I and II launches.

• **Contextual changes** over the course of the project required The Partnership to develop new relationships, make changes to Career Connect, and adjust the project scope and timeline. These include the implementation of WIOA and a new Illinois governor who brought in new state agency leadership.

• Certain aspects of the project that would have made Career Connect more immediately useful to non-WIOA providers were **put on the shelf.** These include efforts to develop common definitions, indicators, and an intake assessment across Cook County’s workforce field and interfaces with non-WIOA data systems. These efforts were de-prioritized due to limited staff resources, the difficulty of developing/maintaining interfaces and reaching consensus on common tools, and the pressing and time-consuming need to update WIA data systems for WIOA. These efforts may be revisited in the future after Career Connect is live.

• The outcome of reducing duplicative data entry and administrative burden will not be fully realized within the scope of this project due to reducing the number of interfaces in the project scope. Duplicative data entry will likely be reduced to the extent that case managers can use Career Connect for workflow management and reporting instead of independent tracking systems.
**Planned vs. actual timeline of the Career Connect project (see Appendix C for detail)**

<table>
<thead>
<tr>
<th>Event</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIF grant awarded</td>
<td>3Q '12</td>
</tr>
<tr>
<td>Systems req. process</td>
<td>1Q '13</td>
</tr>
<tr>
<td>SDC procurement</td>
<td>1Q '14</td>
</tr>
<tr>
<td>Evaluation occurs</td>
<td>1Q '15</td>
</tr>
<tr>
<td>CC development &amp; testing</td>
<td>1Q '16</td>
</tr>
<tr>
<td>CC implemented at Early Adopters</td>
<td>1Q '17</td>
</tr>
<tr>
<td>CC implemented at WIOA delegates</td>
<td>1Q '18</td>
</tr>
<tr>
<td>WIF grant ends</td>
<td></td>
</tr>
</tbody>
</table>

**INTERFACE DETAILS**

One of the key promises of Career Connect was to bring together data from a variety of funding streams. Integrating this data would reduce duplicative data entry efforts for front-line staff, enable workforce providers to understand whether they are effectively serving all of their customers regardless of the funding used to support them, and allow for a holistic view of the outcomes produced by the workforce development system in Cook County. From the beginning of the project, Career Connect project staff explored ways to integrate Career Connect with existing data systems used by a wide variety of funders. The original vision was, ultimately, to enable workforce staff to enter customer data into one system (Career Connect), which would then push it back out into a broad variety of individual data systems. For a number of technological, political, funding- and capacity-related reasons, this vision ended up being drastically scaled back. Of all the data system interfaces initially considered by The Partnership, only one was implemented by the time Career Connect went live: the interface with IWDS, the legacy WIA/WIOA management information system.

The interface with IWDS was mission critical to the development of Career Connect and was the first interface pursued in earnest. The technical difficulty in creating the interface exceeded initial expectations. The legacy data system was poorly documented, requiring a lot of detective work with DCEO and Partnership program staff in order to map data fields between IWDS and Career Connect. Interface testing was labor-intensive and time-consuming. It required developing a large number of
customer profiles, enlisting staff to enter them into Career Connect, comparing IWDS and Career Connect side-by-side, documenting the inevitable issues that arose, ensuring that the SDC fixed the issues (which didn’t always happen on the first pass), and re-testing. This testing had to happen both for historical data conversion as well as real-time API updates. And all of this work had to be readjusted as WIOA was implemented in phases. With each round of WIOA updates, the state had to update IWDS, the SDC had to update Career Connect, and both the IWDS and Career Connect portions of the interface had to be updated and tested. DCEO turned out to be a cooperative and engaged partner during interface development, but if they hadn’t been, the interface would likely have not been successful—which raised questions about the viability of interfaces where the system owners had less-developed relationships with The Partnership or less incentive to collaborate. As the Herculean nature of the task of developing an interface became more and more apparent, The Partnership decided not to take on other interfaces before Go Live.

Interfaces Aggressively Pursued
The Partnership Project Team devoted substantial resources to implementing the interfaces listed below, although some were abandoned over the course of the project.

Data system: The Illinois Workforce Development System (IWDS)
System owner/operator: DCEO
Developer: Chicago Systems Group, Inc. (no longer in the development business)
Relationship to Career Connect: IWDS is the management information system the State of Illinois uses to collect federally mandated WIA/WIOA Title I performance reporting data from all WIA service providers in the state. Creating an interface between IWDS and Career Connect is the single most critical element of the entire project after building out Career Connect since these two systems must share data in order for Career Connect to push mandated federal and state performance measures to IWDS and to deliver on its promise of streamlining data entry.

Implementing the interface: The IWDS/Career Connect interface is the most complicated of all the interfaces, both from a technical and a political standpoint. Technically, every field in IWDS that contains mandated reporting data must be mapped to the corresponding field in Career Connect to allow data to be transferred out of Career Connect and into the correct fields in IWDS. This sounds simple enough, but is fraught with complications. IWDS has been around a long time, and things like data governance exist more as institutional knowledge than as up-to-date written documentation, so it is not entirely clear exactly which data are indeed mandated. Then there is the issue that a field in Career Connect may have new response choices that are different than the response choices in IWDS, so each response choice for each field must be considered individually—thousands of response choices in total. These technical issues are complicated by the fact that the company that developed IWDS years ago is no longer doing development work, and since it’s a custom-built—and old—system, finding anyone with the know-how to work on it is a big challenge.

Political realities also posed a challenge to the implementation of the interface, as IWDS still has its champions within the state and The Partnership had to work carefully to build support from people necessary to Career Connect’s success (see more in “What was the Experience of Stakeholders Involved in the Career Connect Project?” chapter). A dramatically changing policy context, particularly the passage of WIOA and the resulting changes in required data, threw curveballs at the project as well (see “How did Contextual Barriers and Factors Shape the Effort?” chapter for more information).
**Launched with Career Connect?** Yes

**Data system:** Illinois Job Link (IJL)

**System owner/operator:** IDES

**Developer:** America’s Job Link Alliance or AJLA

**Relationship to Career Connect:** IJL is the State of Illinois’s job board. It is a portal for both jobseekers looking for work and employers looking to fill vacant positions. While anyone can use it, IJL use is required for unemployed workers receiving Unemployment Insurance (UI), as well as for employers complying with UI. WIA/WIOA Title I-funded organizations work with many jobseekers who must use IJL to document their job search for UI purposes. This makes an IJL/Career Connect interface quite important to reduce confusing redundancy for the jobseeker receiving WIA/WIOA services who would otherwise need to use two different systems to try to find work. It’s also important for the business service specialists at the WIA/WIOA agencies who are always sourcing job leads and trying to match jobseekers with suitable positions. Bringing IJL’s sizable job board (which includes both manual employer entries and automated scraping of job leads from other job sites) into Career Connect helps business service specialists be far more efficient in doing their jobs. It also creates a seamless, perhaps invisible, experience for employers who simply have to keep using the system they’re used to using while benefitting from the increased exposure of their job postings to more potential new hires. IJL was listed as a “required” interface in the RFP issued by The Partnership for system development.

**Implementing the interface:** The IJL/Career Connect interface is complicated by the fact that IJL was built and maintained by one of Career Connect SDC’s main competitors and one that bid on but was not selected for the Career Connect project. Developing an interface requires that both developers provide detailed technical information to the other, some of which is proprietary, making both parties reluctant to work together. In the end, however, both parties were willing to pursue the work. Moreover, The Partnership wanted to make sure that the interface most critical to project success—the one with IWDS—would not have budget overruns before committing funding to an IJL interface. More broadly, there is little incentive for IDES to interface with Career Connect as most of the benefit of the interface accrues to Career Connect users, not IJL users, though some IJL users would certainly be inconvenienced by duplicative systems. The Project Team went back and forth over many months trying to balance the desired benefit of a seamless experience for jobseekers and employers with the realities of budgets and timelines and tricky working relationships. Also at play was the uncertainty posed by the possibility of the state moving to an integrated WIOA data system, which made all parties less inclined to invest time and effort into an interface for a system that may soon be unused. Phase I of Career Connect, the portion of the system that manages employer information, job leads, and job seeker resumes and the like, went live in the spring of 2015 without an IJL/Career Connect interface. The Partnership decided in early summer 2015 not to pursue an interface with Illinois Job Link based on complex development and timeline estimates from AJLA, lack of clarity about the sustainability of the interface, and limited Partnership staff capacity. When the job seeker portal launches, Career Connect will pull in the jobs posted on IJL, giving job seeker customers access to those postings as well as job posted internally in Career Connect and to other local and national job boards.

**Launched with Career Connect?** No
**Public Agency Data System Owners**

**Department of Commerce and Economic Opportunity (DCEO)**
The Department of Commerce and Economic Opportunity is the state agency that leads economic development efforts for Illinois. DCEO’s main focus is to retain and create jobs. DCEO is the state agency that administers WIA/WIOA Title I. DCEO runs IWDS, the legacy WIA/WIOA data system. DCEO also runs a website called Illinois workNet Center that is a clearinghouse for all of the Illinois programs that provide workforce-related resources and services.

**Illinois Department of Employment Security (IDES)**
The Department of Employment Security supports economic stability in Illinois by administering the Unemployment Insurance, Employment Services, and Labor Market Information programs. IDES runs ILJ, the state’s job board, and WIS, the state’s portal for quarterly employment and wage information.

**Illinois Department of Human Services, Division of Vocational Rehabilitation (IDHS/DVR)**
IDHS/DVR helps people with disabilities find and keep jobs through the administration of a variety of federal and state programs. IDHS/DVR runs WebCM, the online system that vocational rehab providers use to document their WIOA Title IV services and report to the state.

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**Data system:** Wage Information System or WIS, formerly IBIS  
**System owner/operator:** IDES  
**Developer:** unknown  
**Relationship to Career Connect:** WIS is the State of Illinois’s portal for workers’ quarterly employment and earnings data. WIA/WIOA agencies are required to verify employment and earnings. A WIS/Career Connect interface would automate a manual process and eliminate the need for the Career Connect user to deal with yet another data system in the due course of their job. The Partnership is interested in interfacing Career Connect with WIS in order to access data on employment (including the industry in which someone works and how their employment history changes over time), earnings, and employment retention. These are important metrics to workforce development providers, as they show whether their programs have meaningful impact over time. It is particularly difficult to get information on employment status from jobseekers after they have left the workforce program, so data on employment retention over time would fill a key data hole.

**Implementing the interface:** The WIS/Career Connect interface has been caught up in a catch-22. While WIA/WIOA mandates this verification process, the Department of Labor’s rules stipulate that only public entities can receive wage data. Though The Partnership is considered locally to be a quasi-governmental agency, it has nonprofit status, so is not recognized by DOL as being a public agency eligible to receive wage data. As of this writing, the WIS/Career Connect interface is not complete; no activity pursuing this interface has taken place since mid-2015. Conversations about the need to obtain wage data as a part of Career Connect resurfaced in April 2016, and as of June 2016, The Partnership reached a tentative agreement with DCEO and IDES to obtain wage data for WIOA customers through IWDS (rather than from WIS). The Partnership hopes to revisit a direct wage data interface with IDES once the state has settled on a statewide WIOA data system.

**Launched with Career Connect?** No

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**Data system:** WebCM  
**System owner/operator:** IDHS  
**Developer:** unknown  
**Relationship to Career Connect:** WebCM is the online portal that vocational rehabilitation service providers use to document their services. Historically, when vocational rehab and WIA/WIOA providers wanted to refer customers to each other, they did this manually and in a non-standardized way. Creating an interface between WebCM and Career Connect that facilitates referrals would standardize and automate the process, hopefully leading to better
follow-through and better service provision for customers. The passage of WIOA further cemented the importance of this connection by requiring greater coordination across the WIOA Titles, though the details of how this work will be integrated at the state and local level are still being determined.

**Implementing the interface:** The main barrier to the WebCM/Career Connect interface has been that IDHS has other priorities, some of which involve massive technology efforts that pull them in different directions. Though willing, IDHS staff have simply have not had the bandwidth to participate in the meetings and the work that developing an interface demands from both sides. As of this writing, the WebCM/Career Connect interface is not complete; IDHS staff noted that they would not have capacity to work on the interface until at least April 2016, and The Partnership has not had the capacity to re-start conversations about the interface since then. In addition, during the summer of 2016, The Partnership led a value stream mapping process focused on the integration of services across WIOA-mandated partners (including vocational rehabilitation partners). One outcome of that process is to create a common intake form/process across the partners. As a result, The Partnership has put the WebCM interface on hold, but wants to explore adapting the base Career Connect referral functionality to send and receive referrals among multiple partners.

*Launched with Career Connect? No*
Figure 7. Career Connect Stakeholders

KEY STAKEHOLDERS
A diverse team of stakeholders are involved with the Career Connect project, including:

- **The Advisory Council**: Purpose is to advise on the project’s direction and trouble spots. Comprised of members from all the sub-teams listed below, plus several other individuals from the Other Stakeholder groups in more of an ad hoc way. Convened several times a year.
  - **Project Team**: Purpose is to manage the day-to-day work of the Career Connect Project. Comprised of the director of The Partnership’s Strategic Initiatives and Policy team, the program project manager from The Partnership, and the implementation project manager formerly with the systems requirement team who was on contract at The Partnership for most of the implementation process.
  - **Champions Team**: Purpose is to be dedicated ambassadors for the project in their own spheres of influence and be close advisors on broad project matters like
stakeholder engagement and communications; functions as sort of an executive committee of the Advisory Council. Comprised of several members of the systems requirement team as well as a private funder and a non-WIOA provider representative.

- **Core Team**: Purpose is to inform the detailed configuration of Career Connect and act as internal ambassadors for the project. Comprised of The Partnership staff from departments related to WIOA Programs, Business Relations and Economic Development, Compliance, Legal, Training Providers/ITA, and Network Administration.

- **Evaluation Team**: Purpose is to be a participant observer, recording the process and bringing insights from findings to bear on the process. Comprised of several researchers from the Social IMPACT Research Center.

- **Public Agency Technical Leads**: Purpose is to create buy-in and to be ambassadors for the Career Connect project among public agencies as well as contribute their technical expertise to the planning and development of Career Connect, particularly around WIA/WIOA performance reporting questions, data share agreements, and interface work.

**Other Stakeholder Groups**

- **Early Adopters**: Purpose is to help test the beta versions of Career Connect, be the first wave of agencies to be trained, and be the first wave of agencies to adopt Career Connect. Comprised of 11 organizations.

- **Study Sites**: Purpose is to participate in outcome evaluation activities. Comprised of 5 organizations with a total of 9 office locations or sites; all Study Sites are Early Adopters.

- **Private Funders**: Purpose is to bring their non-WIA/WIOA philanthropist perspective to bear on Career Connect and to build buy-in for eventually accepting Career Connect reporting from their grantees in lieu of their own mandated systems (or interfacing with Career Connect). Convened several times a year.

- **Non-WIA/WIOA Workforce Providers**: Purpose is to bring their non-WIA/WIOA provider perspective to bear on Career Connect and build buy-in for potentially using Career Connect in the future if it’s offered more broadly. Convened as a distinct group only once or twice, but select non-WIA/WIOA providers were involved in other ways.

- **IT Working Group**: Purpose is to get technical input on key decisions for the SDC RFP writing. Comprised of technology people from the public, nonprofit, and for-profit business sectors. Convened only once or twice.

- **Business Services Representatives Group**: Purpose is to help construct clear business services workflow to best configure that portion of Career Connect. Comprised of business services representatives from The Partnership and from delegate agencies. Convened often around Phase I – Business Services development, testing, and implementation.
CAREER CONNECT AUDIENCES
 Career Connect aimed to meet the needs of many different groups, which included:

- **The Partnership** itself is a Career Connect audience; it uses the system to gather data from its delegates to monitor compliance and to help facilitate continuous quality improvement.

- **The frontline staff at workforce agencies** needed a system that helps them do their job more efficiently and effectively—a true case management tool.

- **Management and leadership of workforce agencies** want a system that cuts down on duplicative data entry so their staff can spend more time on working directly with customers, and they would like a system that brings together their entire portfolio of work, regardless of funding stream, so that with a great reporting function they can understand the true scope and impact of their work.

- **Jobseekers** want to receive the best service they can from workforce agencies, and a data system that allows frontline staff to spend more time with jobseekers and allows managers to craft better targeted programs will do that. Jobseekers will also benefit from Career Connect’s enhanced self-service capabilities (which will be rolled out in a Phase III).

- **Employers** want a system that more effectively connects them with jobseekers who will be a good fit for their jobs, and a workforce system that is better equipped to prepare jobseekers for their workplaces.

- **DCEO**, as the state administrator of WIA/WIOA, is an audience group that has a vested interest in getting accurate and timely data they need to fulfill federal reporting requirements without spending any more time and resources than they already spend administering IWDS. DCEO must manage WIA/WIOA in all areas of the state, so having separate systems and processes for Cook County represents a potential risk for them. On the other hand, DCEO stands to gain quite a bit from the Career Connect project. The API that was developed for Career Connect to interface with IWDS is designed to be “generic” to allow other systems to interface with IWDS. Commerce will maintain “ownership” of the API code. Cook County is essentially a testing ground for something that state agencies have been considering—moving all WIOA Titles to a unified data system or unified portal that interfaces with the existing systems. Should this happen, the State of Illinois could build upon the work that has already been done with Career Connect.

- **The United States Department of Labor** needs accurate and timely data from localities providing WIA/WIOA services and also wants to see both jobseekers and employers served by the federal workforce system in the most effective and efficient way possible.

- **Private funders** that fund workforce programs recognize the administrative burden placed on providers with competing or duplicative data and reporting demands, and so understand the potential value of Career Connect for providers and exhibit a sense of altruism in this regard. That said, private funders also stand to benefit from a comprehensive, cross-funder system of record themselves. Some of them could drop costly systems they pay for and require their grantees to use and instead accept Career Connect reports. Since The Partnership did not pursue the part of the project about reaching consensus on common metrics, this might be a barrier to adoption if funders aren’t willing to give up their own metrics to accept those built into Career Connect. The involved funders, though, see a much bigger and distal value in
Career Connect that is about building a robust dataset ripe for exploration and analysis that could help answer their burning research questions to help inform policy/program design.

- **Non-WIA/WIOA providers** share similar interests in Career Connect that WIA/WIOA have, even though they do not have the same frustrations with IWDS in particular: reducing the number of data systems they need to use and gaining a data system that helps them manage workflow and learn from their data across funding streams. In its current iteration—with only the IWDS interface going full steam—Career Connect will not likely be able to fulfill many of these needs for non-WIA/WIOA providers, but it may do so in the future. Of more immediate concern is getting Career Connect set up so that providers who offer both WIOA and non-WIOA programs can use Career Connect to manage all (or most) of their clients. In the fall of 2017 The Partnership implemented two of its non-WIOA programs in Career Connect. These programs are managed both by agencies that also administer WIOA and by those that do not work with WIOA. The Partnership’s experience setting up, administering, and supporting these programs will inform its expansion of Career Connect to other agencies for their non-WIOA programs.
How was the Career Connect Project Implemented?

Understanding how Career Connect was implemented and how that affected its outcomes involves developing descriptions of project roles and associated responsibilities, key project activities and timing of each, and key project deliverables. It is also important to assess the fidelity of the project—the degree to which project activities are completed and completed as planned, and why deviations happened.

In order to answer this question, evaluators reviewed project documents (including job descriptions, RFPs, proposals, meeting minutes, progress reports, and Career Connect materials); recorded observations with field notes during project meetings, focus groups, Career Connect/IWI Advisory Council meetings, and other project-related events; and conducted interviews with project staff, documented through written or typed notes taken during the interview and completed after the interview.

Key findings include:

- Career Connect was a complex collaborative project, involving partners across many sectors. While challenging, this complexity was a necessary part of a project that aims to meet the diverse needs of workforce providers, government entities, and public and private funders.
- The systems requirement process was robust and critical to the success of the project, but it struggled a bit without formal processes to facilitate regular and consistent communication. The Systems Requirement Contractor’s (SRC) team participation dropped off as development started, which resulted in some loss of expertise on the project.
- Conducting an RFI before a systems development RFP brought invaluable information to the project, helped a largely non-technical project team understand the technical requirements of the project, and resulted in a more realistic (though ultimately still overly ambitious) understanding of timeline and costs.
- Career Connect needs to serve the interests of many stakeholders. Having diverse stakeholders advising the project—from system developer selection to planning to implementation—helped make sure that key perspectives were not overlooked. However, stakeholder engagement was not consistent throughout the project.
- The Career Connect team invested a lot of effort into identifying and anticipating potential challenges at the beginning of the project. Despite identifying the challenges, the project team was not always equipped with the resources necessary to avoid them.
- The Career Connect project was inadequately staffed for the majority of the project. Towards the end of the project, more staff members were brought in to bring Career Connect across the finish line, but Partnership staff acknowledged that bringing on more staff resources earlier on would have made the project more efficient and effective.
- While Partnership staff conducted some value stream mapping mid-project, they went into the planning and developer selection phases without a clear understanding of the business processes they desired out of the final product. Over time, this was hashed out through trial and error, but staff thought that thinking through business processes upfront would have made working with the systems development contractor (SDC) easier.
• The Partnership and the SDC at times had different understandings of where key responsibilities would fall and how critical processes would be carried out. The expectations for how things like testing, training, and project management would be handled were not always explicitly spelled out in contracts and project planning documents.
• Data migration and interface development was much more difficult than initially expected or planned for. IWDS was not well documented, which posed barriers to mapping fields and business rules from the legacy system to the new system. This process of figuring all this out extended the timeline, and Partnership staff wished that they understood their existing data system better in advance of building a new one.
• The project managers were critical to the success of the project. Their expertise and commitment went a long way towards navigating the project through difficult challenges and maintaining faith in a project that took much longer than expected.
• Leadership at The Partnership did not always give Career Connect the attention it needed in order for it to be maximally successful. The project occurred in parallel with the creation of The Partnership as an organization, which naturally results in competition for leadership’s time and energy. Regardless, shifting attentions sometimes made it difficult for the Career Connect project team to get the resources they needed to keep the project moving, particularly in the early and middle stages of the project.
• In the last phases of the project before Phase II Go Live, The Partnership significantly expanded the staffing of the Career Connect project by bringing in program and administrative support. In key stakeholder interviews, staff from the SDC and The Partnership resoundingly concluded that this seriously benefited the project.

DISCUSSION OF FINDINGS

Systems Requirement Process
The Career Connect project kicked off with the selection and creation of a Systems Requirement Contractor (SRC) team. The Partnership selected a SRC team in December 2012 to conceptualize Career Connect, research best practices and lessons learned from the field related to systems integration work, and gather input from workforce development stakeholders about system requirements and functionality. The SRC team consisted of Chapin Hall at the University of Chicago, the Chicago Jobs Council (CJC), and independent workforce consultant Marty Miles. As a trusted workforce convener, it proved invaluable to have CJC as part of the systems requirement team as they were easily able to mobilize and engage stakeholders.

As part of their work, the SRC team:
• Conducted a literature review and environmental scan to gain a better understanding of current or recent relevant projects focused on integrating workforce data or aligning outcome measures and definitions;
• Conducted stakeholder engagement through a survey of workforce provider staff, focus groups with providers and funders, and one-on-one/small group meetings with public agency and provider staff in order to document the different types of workforce programs, the data...
measures currently tracked for these programs, data systems used by public agencies and providers, and data system challenges and suggestions for improvement;

- Enumerated a comprehensive set of functions for case management, data reporting, and workflow management;
- Assessed providers’ current customer assessment and intake processes to help inform the development of a standardized intake form;
- Recommended which interfaces the partnership should prioritize: IWDS, Illinois Job Link, and Web CM;
- Described the technical requirements of the data system and its interfaces;
- Outlined appropriate user permissions and levels of access for these users;
- Outlined governance and sustainability considerations;
- Recommended a timeline; and
- Identified potential challenges and strategies to address them.

The SRC’s literature review and meetings with others from around the country who have engaged in like efforts yielded valuable insights, but often those insights were difficult to operationalize in meaningful ways on the project. For instance, key informants were adamant that these types of projects can only be successful with topmost leadership buy-in, commitment, promotion, and political mandate. For an effort like the Career Connect project, this means leadership from the governor or mayor. Being a local implementation of a federal initiative, this type of political directive from high-level state or city leaders was not realistic for Career Connect, and the Project Team didn’t actively pursue it. Key informants also recommended starting small, building minimally viable products and then improving them and bringing them to scale. This is not the approach that The Partnership took.

Originally, the project included parallel work on bringing workforce stakeholders to consensus around common workforce metrics and a standard intake and assessment model. While Career Connect does have a standard assessment form (which The Partnership is not rolling out at Go Live), The Partnership did not go down the path of building consensus around metrics that could stand as yardsticks for all Cook County agencies and funders in the workforce field. Key informant input helped drive this decision; informants spoke to how challenging and time consuming it is to get all agencies to agree to be accountable to the same set of metrics and to get all funders to agree to use those metrics for their reporting requirements. A VISTA worker hired by the Chicagoland Workforce Funders Alliance set out to collect the metrics of the funders within the Alliance and was unable to distill a set of common measures. Additionally, federal measures such as the WIOA Title I performance measures are not flexible.

Many key informants and the literature emphasized the importance of stakeholder involvement, especially from frontline workers. The Partnership was intentional in its efforts to solicit input from frontline staff, though the large geographic area that is Cook County made bringing people together difficult. Key informants noted that it is easy to fall into the pattern of engaging stakeholders early on in the planning process, and letting engagement fall off as the project gets underway. The Career Connect project did follow this pattern to some extent, especially when the project was put on hold and the timeline continued on well past the period of early stakeholder engagement. Stakeholder
engagement picked up again in the months prior to Phase II Go Live, when The Partnership conducted outreach to delegates to notify them of trainings and solicited their help with testing.

Early key informants, along with many other formal and informal advisors along the way, emphasized the need to actively work on a sustainability plan for long-term staffing, support, updates, and funding needs from the get-go. The Partnership heard and recognized this, but lacked the bandwidth to tackle it until late in the project (April 2016). By the time Phase II went live, the sustainability plan remained on the backburner: The Partnership had only developed a 90 day sustainability plan, much to the staff’s frustration. Project staff chalked the lack of long-term sustainability planning to the fact that, even with more staff involvement from throughout The Partnership, everyone was spread thin with other Partnership initiatives and attending to immediate needs so that Career Connect could go live. The Partnership did develop Help Desk procedures shortly before Go Live.

Similarly, key informants stressed the need to develop a consensus definition of the project’s goals and communicate them consistently throughout the lifespan of the project. Midway through the project, stakeholders had a variety of perceptions of the project’s goals. While this was likely due in part to the fact that people tend to pay closest attention to the parts of the project that intersect with their work, it also reflects a struggle on the part of The Partnership to communicate consistently—especially in the absence of a vigorously-pursued communications strategy.

Early key informants also noted that it is important to intentionally make decisions about system governance. Initially, The Partnership did not agree with the SRC team that this would be a concern, since Career Connect is The Partnership’s project. However, as the project rolled out, issues of system governance arose—particularly around the interfaces. The Partnership and the owners of the data systems with which Career Connect interfaces have had to hash out answers related to whose responsibility it is to develop the interfaces, maintain and update them over time, develop “business rules,” and own and audit the data entered in each system. These questions remain largely unresolved with the IWDS interface, even at the time of the Career Connect launch, although they have been worked out in a formal data share agreement for the WebCM interface if and when The Partnership resumes work on it.

By and large, the systems requirement process went smoothly and was successful in its aim to surface stakeholder input about the functionality of Career Connect. The success of the systems requirement process was due in large part to the strong relationships among The Partnership and the players that comprise the SRC. Regular and consistent communication, including biweekly check-in calls, between the SRC team and The Partnership was a proactive way to ensure the systems requirement process proceeded on task and on time. Strong project management and prior relationships among the SRC team also helped the process run smoothly, although the SRC team would have benefited from more administrative support.

Everyone’s willingness to be somewhat flexible with the systems requirement process led to some great new ideas. For instance, the decision to hold a two-step procurement process for the SDC, first with a Request for Information (RFI) and then with a Request for Proposals (RFP), led to a much stronger and more specific RFP. The Advisory Council (convened several times a year to advise The Partnership on the project’s direction and trouble spots) recommended this approach. Neither The
Partnership nor the SRC had anticipated this step, though it proved its value by eliciting important information and ideas that the team had not considered in their early drafts of the systems requirement document and RFP. Adding this unanticipated step did, however, extend the timeline.

Nonetheless, the SDC search and RFP process was clear, moved along relatively quickly, and all involved in it felt it resulted in the best product upon which to build Career Connect. The SDC search committee intentionally included a diverse array of stakeholders, which helped ensure that many different stakeholder needs were considered in the process of selecting the SDC. In the course of the procurement process, The Partnership developed several tools to help guide the work—specifications for product demonstrations, scoring rubrics—that may be very helpful to other workforce entities looking to develop MIS.

Despite the overall smoothness of the systems requirement process, there was a period of internal negotiation around roles and responsibilities as well as level of effort on the project due to the multi-organizational nature of the team. There was some confusion about who would take the lead role on the systems requirement process—the SRC team or The Partnership. Specifically, the roles for who would manage relationships with workforce providers and other external stakeholders needed to be negotiated throughout the process. There was also initially a lack of understanding about how much technical expertise would be needed from the beginning of project planning and the systems requirement processes. The technical adviser on the SRC team was initially envisioned as a minor role, but ended up needing to spend a lot of time on the project and was eventually hired by The Partnership as a technical project manager. The systems requirement process also suffered from a lack of specificity in the SRC contract around deliverables, leading to a mismatch of expectations between the SRC team and The Partnership about the final work product. The Partnership thought the end report would flow easily into an RFP without a lot of additional work, which was not what the SRC team produced. The Partnership’s expectations on this front were not entirely clear from the get-go (in the RFP or the contract) for the SRC team.

When all was said and done, the SRC’s work culminated in a final systems requirement document that informed the RFP issued to find the Systems Development Contractor. The SRC’s efforts illuminated a number of realities that drove The Partnership to make some key decisions about Career Connect:

- Career Connect needs to meet the needs of a variety of users, including workforce provider front-line staff and managers, funders, public agency staff, and researchers/other third parties. This is a tall order, and so The Partnership honed in on workforce providers as the primary audience for this iteration of Career Connect.
- Workforce providers offer a diverse array of services and use a variety of funding sources to fund them, which reinforced that Career Connect must interface with multiple systems in order to be maximally useful to providers.
- While a small number of outcome measures (nine) were tracked by nearly two thirds of providers, there was otherwise a high degree of variability among definitions of measures and outcomes that was largely driven by different funders, indicated how challenging it would be to develop common definitions and measures accepted by all relevant workforce funders.
- The Partnership’s delegates craved a data system that would help them manage their workflow proactively and make data-driven decisions, not just comply with reporting
requirements. This drove The Partnership to place great emphasis on creating a product that not only met local, state, and federal reporting requirements, but also actually helped staff do their jobs as effectively and efficiently as possible. It also led The Partnership to pay particular attention to the reporting functionality of Career Connect so that agencies could harness the power of the data they are inputting.

- The burden of duplicative data entry was quite astounding and is difficult to overstate. The Partnership took this to heart and aggressively pursued the interfaces that the SRC recommended.

Despite coming to an end on paper, the systems requirement work didn’t stop at the end of the articulated systems requirement phase of the project; if anything, it was just getting started. The systems requirement phase of the project necessarily focused on mapping out a higher level of desired functionality. Once the SDC was on board, the work really began on enumerating the detailed technical requirements for each of the identified areas of functionality.

**Systems Development Process**

The systems development process flowed out of the systems requirement process, starting with a request for information issued in July 2013, which ultimately informed the development of the request for proposals released in September 2013. Despite a cumbersome procurement and contracting process that slowed down the project timeline, The Partnership announced the selection of the systems development contractor (SDC), Geographic Solutions Inc., in February 2014, and several initial kick-off meetings were held. The Partnership also brought on a full-time technical project manager at this time, who had been a member of the SRC team. The initial “Go Live” date for launching Career Connect, December 2014, was pushed back many times throughout the project as political realities, unforeseen technical challenges, and broader policy changes slowed down the development process. The Partnership ultimately launched Career Connect on June 12, 2017.

The Partnership talked from the beginning, with varying degrees of specificity, about how Career Connect would be for non-WIA/WIOA workforce providers as well as for WIA/WIOA providers. Non-WIA/WIOA providers were engaged in much of the systems requirement process and even in some of the system development process. Good intentions here may have led to overpromising in this regard. At the time of Phase II – Case Management implementation, Career Connect was made available to only a limited number of non-WIA/WIOA providers. The Partnership plans to explore this further after the Phase II is fully implemented (and has funding to do so from the Chicagoland Workforce Funders Alliance). At the time of Phase II Go Live, the Generic Program module of Career Connect was active so that non-WIOA programs administered by The Partnership could be managed in Career Connect. However, the decision was made to not cover that functionality during the training of case managers in order to focus on covering the core functionality with WIOA customers. Instead, The Partnership rolled out two of its non-WIOA programs in Career Connect in fall of 2017 and provided hands-on training for the agencies and staff members that administer those programs. The real importance of the non-WIA/WIOA issue is around WIA/WIOA providers who also run non-WIA/WIOA programs. For them, Career Connect must be able to accommodate their non-WIA/WIOA services or else Career Connect will be just another data system for them to use (unless it interfaces with every private or other funder data system, which was never the intent).
This driving intent behind Career Connect to be a one-size-fits-all solution to the problem of fragmented workforce data systems translated in implementation to an all-in-at-once approach. The SRC process led to a systems requirement document that outlined the biggest and best vision for Career Connect, which was carried over then to the SDC RFP, then the SDC contract, then the systems development process. This meant that every conceivable user and every conceivable scenario had to be accounted for and the software had to be configured accordingly. This resulted in a very, very lengthy systems configuration process that was perpetually behind schedule. Some of this big bang approach eroded over the life of the project as it became clear that it was too difficult to work through all potential scenarios and progress to a place where there’s something to show for all the planning work.

Aside from practical considerations, there is a tension inherent in developing a data system that helps all stakeholders achieve compliance with WIA/WIOA and designing a system that can collect much more information that providers can use to best serve customers and that others can use to better understand how to reduce barriers to employment for jobseekers. Career Connect is built to accommodate the assessment of many barriers to work, which can conceivably help providers better meet their customers’ needs, but there was some pushback around collecting more information than the minimum required since then the provider might be held accountable for not helping to address a known need.

The systems development work was intertwined with, often in confusing and inefficient ways, figuring out both the current and desired state of business processes. On paper, the SDC outlined clear project phases: Inception (contract signed, project planning, kickoff meetings); Elaboration (requirements analysis, base system configuration, system design, etc.); Construction (application development, testing); Transition (training, system installation, Go Live). In reality, the work was far more iterative and it moved slowly through the Elaboration phase. The core of the systems development work revolved around detailed configuration conversations where every field on every screen is thoroughly examined to make decisions about the order of fields, the response choices, rules around required or non-required fields, question logic wherein the answer to one field locks or unlocks new fields, etc. These conversations, often conducted in groups with current IWDS users or with The Partnership staff, were easily derailed by squabbles over current workflow, since workflow and the regulatory requirements that govern it matter for a data system. Additionally, The Partnership was often asked to make decisions in the abstract, without the being able to see the functions in the context of the new system.

The Project Team did some value stream mapping, but Partnership staff reported that a much more robust business process mapping of all possible workflows should have happened well before the SDC came onboard. For instance, questions around user permissions (which users can see which information and which users can make changes, run custom reports, etc.) surfaced issues that were much more about policy and business process than technology, leading to spirited conversations about how to balance discretion with accountability and control. Having these sorts of discussions in meetings that were supposed to focus on technical functions of the system was not an efficient use of the SDC’s time.
The configuration process also tended to go down rabbit holes related to desired functionality, which was technically what was supposed to be settled in the systems requirement process. Some of this stems back to the SDC RFP phase, which was much more focused on the vendor’s product than on the vendor’s process for managing the project generally and configuring it to The Partnership’s specifications.

While the systems development process understandably included the actual programming of the Career Connect software, it also included an extensive area of work around developing interfaces with other relevant data systems. The system interface work was more intensive and took far longer than anyone expected. The groundwork to get public agencies truly onboard to create data share agreements and work on the interfaces together started too late, though it’s admittedly a bit of a chicken and egg scenario where public agencies want details about what they’re being asked to commit to but The Partnership needing commitment before spending the time to work out the details. It took a while for the Project Team to realize who from the public agencies needed to be involved in these conversations. Initially, they invited the technical staff, but really, they needed policy staff to work out the high level agreement to participate and to understand the policies guiding the various requirements.

In the original Career Connect project budget and work plan, the interface work was not adequately reflected. The SDC contract included the cost of building the Career Connect side of the interface and updating it over time, but did not include the cost to various system owners of building and maintaining their sides of the interfaces. The public agencies made it clear that they would not pay for the interface work nor do the work themselves, so it fell to The Partnership to find technical experts to build the interfaces and then pay for it out of the project budget or with other resources. A bright spot with the interface work was the IWDS/Career Connect data conversion process. Both The Partnership and DCEO dedicated significant technical staff time to the process and made great headway (though much of it had to be re-done after the implementation of WIOA). One wrench in this process was the fact that IWDS had spotty documentation, making it difficult to map IWDS fields to Career Connect fields. In key informant interviews, lead project staff emphasized that understanding existing data systems before building interfaces would have made development a smoother, more straightforward process.

These interface conversations were always delicate. Even starting a conversation about interfaces surfaces connotations around the inadequacy of the legacy data system—our system will be superior to yours, so therefore your data system should sit behind ours, instead of being the system the end user actively uses. The Partnership was highly sensitive to this and did all they could do to mitigate this sentiment and frame the entire project in a different light.

Part of the development and interface work that not everyone on the Project Team seemed to grasp the magnitude of at first was data migration—preloading Career Connect with a set of current and historical data from IWDS. This is quite a big consideration because on Go Live day, frontline staff at a minimum need to have access to their current active caseload to do their jobs. Some providers are quite concerned about the decision to migrate data on active cases from the start of The Partnership (July 1, 2012) and closed cases with an exit date of July 1, 2012, or later and the lack of clarity about how they will be able to access older closed cases. The Partnership is considering granting
some users (managers, perhaps) access to IWDS in view-only mode so they can look up past information on customers, but if this function needs to be performed regularly, it could create workflow bottlenecks. The Partnership plans did not have this policy finalized by Go Live.

More broadly, lack of specificity in the SDC contract created situations where The Partnership had to take more of a lead role or find other resources to fill the gaps. For example, the SDC contract included only the Career Connect side of the interface, so The Partnership had to find additional resources and vendors to build other parts of the interface. Additionally, it eventually became apparent to the Project Team that the SDC’s user testing plan was inadequate. The use of terms like “testing” are broad and not specific, so The Partnership assumed this encompassed all phases of testing, but the SDC only meant its own internal testing, not user testing. So The Partnership had to create and run its own user testing process, a very heavy lift. Despite initially underestimating the scope of testing work, The Partnership came up with a very successful user testing process for Phase I. The testing plan included remote management of the testing process and daily check-in calls, and the SDC adopted it to use for their other clients. Over half of the testers who started the process for Phase I completed it. The Partnership rolled out a similar, though vastly scaled up, testing process for Phase II. A Partnership WIOA Regional Manager and the IWDS database administrator were responsible for user acceptance, interface, and data conversion testing. They developed testing plans and pulled in other Partnership and delegate agency staff to conduct the testing and report issues to the SDC. Approximately 40 Partnership, delegate agency & DCEO staff participated in Phase II testing, including functional, data conversion, and interface testing. Phase II testing revealed significant issues that had to be addressed before Go Live, necessitating further delays in the Go Live date from early 2017 to June 2017. The project manager had to keep track of issues identified and follow up with the SDC to ensure that they were addressed, since some reported issues were overlooked. There was some tension between the project team and the SDC about the level of detail required in testing—The Partnership and DCEO wanted to try to test for every possible scenario and fix all issues before Go Live, while the SDC advocated for testing the primary scenarios and fixing smaller issues as they arose after Go Live. Ultimately, the project followed The Partnership’s more detailed approach, which contributed to the lengthy timeline.

Project management on a project with the complexity of Career Connect is critical to its success. Communication and project management between the SDC and The Partnership were not always smooth, and they tried several different methods to make it work, including a ticketing system, emails, and daily or weekly check-in calls. Internal communications strategies had to balance the need to keep abreast of project progress with the risk of burning staff out with too many meetings with unclear agendas. Regular conversations could have greatly benefited from more participation from DCEO, but as they were not directly involved with the project, their staff could not devote the time to that level of participation. Identifying issues and addressing them was difficult with the scale of errors found in this project—in the final phase of testing alone, The Partnership identified over 200 issues. From The Partnership’s perspective, the SDC struggled to communicate about which issues were fixed and which weren’t, and why some were being prioritized over others. The SDC had many different teams working on the Career Connect project and The Partnership felt that sometimes the left hand didn’t know what the right hand was doing. The SDC asked The Partnership to prioritize issues, but those requests felt last-minute at times to Partnership staff. Two weeks before Go Live, the primary project manager for Career Connect at the SDC left the company, which could have been
extremely disruptive. Fortunately, the new primary project manager had been the secondary project manager as well as had significant experience with the product they were rolling out with The Partnership, and both sides felt the transition was relatively smooth.

Finally, though the SDC that The Partnership selected brought a wealth of experience and the strongest product, bringing on a vendor that has little understanding of the local context and political realities led to unnecessary confusion and some awkward situations. The SDC sometimes undid careful groundwork laid by The Partnership with public agencies. For instance, one entire product demonstration showcased an employer-facing module that The Partnership was planning to use for job developer staff, but not employers; another system exists in Illinois for employers, but the SDC continued to demonstrate how employers could use the product. This sort of lack of tailoring to audience tended to set off alarm bells for public agencies who felt concerned that Career Connect might be looking to take over their turf. The SDC and the Project Team weren’t always on the same page presenting a unified front in meetings with public agencies. Even when the SDC team was in front of the likely end users, their presentations often fell flat and exhibited a general lack of awareness and understanding for where the audience was and what they need to hear and see at any given moment in time (e.g., highly detailed demonstrations the first time they meet with any providers). Complicating all this, differing nomenclature sometimes stood in the way of mutual understanding. For instance, the terms inquirant, applicant, and registrant were all being used differently by the SDC, the Project Team, and others, leading to confusion.

Major outstanding questions regarding the interface include sustainability over time. DOL is implementing WIOA in stages, and with each new update, IWDS, Career Connect, and the interface between the two will need to be updated. While DCEO will update IWDS and the SDC is contracted to update Career Connect and its side of the interface, there is no formal agreement about who will be responsible for updating the IWDS side of the interface as WIOA updates roll out and other changes need to be made. DCEO has also raised the possibility of moving the state away from using IWDS as a system of record. If DCEO migrates the state to a program other than Career Connect, interface work will need to begin anew.

**Project Staffing and Role Within The Partnership**

From project inception throughout the implementation process, the staff resources devoted to this project from The Partnership were not sufficient to carry out the project’s demands.

The two project managers had far, far too much on their plates. One of them wasn’t even on the Career Connect project full time for the entire project. Both tried at length to be responsive to all the many stakeholders involved while juggling the many other demands of the project, but there are only so many hours in the day, and certain things that were not immediate priorities often fell by the wayside.

The two project managers had to manage many groups of people:

- The SRC team
- The SDC
- Other vendors/subcontractors
- Public agency partners
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- The evaluator
- Other Partnership staff
- Early Adopters
- Other delegate agencies
- DOL and the National Technical Assistance Coordinator
- The WIF community of practice
- All the many stakeholder groups (Advisory Council, etc.)

In addition to the demands on the project managers, The Partnership’s IWDS database manager had to manage general tech support, support for IWDS, and serve as a technical advisor for Career Connect. The project would have benefitted from, at a minimum, dedicated administrative support to manage scheduling and logistics.

Housing the Career Connect project with The Partnership’s Strategic Initiatives department created a sense of disconnect for the other departments who never fully owned the project, but who will ultimately be responsible for the day-to-day use of the system. Some delegate agencies noted that their Partnership liaisons did not know much about Career Connect, or Partnership liaisons were asking the delegates for information about the project. Core Strategic Initiatives staff recognize that their efforts to get buy-in from the rest of the organization were limited and see it as a consequence of limited staff capacity. After the technical project manager left in late 2016, leadership at The Partnership recognized the need to share responsibility among staff for bringing Career Connect to light. The SIP Director, IWDS database manager, program staff, and administrative staff took on major roles with project management, testing, training, logistics, and the development of policies and procedures. Lead project staff reported that pulling in support from all corners of The Partnership was majorly beneficial for the project, making it more efficient and effective as well as taking burdens off an overtaxed project manager’s plate. All lead project staff said in key informant interviews that they wished they had pulled in other staff earlier in the process. See “intervention background” chapter for more detail on staffing changes.

The organizational culture and the nascent organizational development of The Partnership played a role in how the different departments worked together on the project. Meetings could be difficult to schedule, some people didn’t show up to important meetings or would leave early for other priorities, and slow decision-making led the Career Connect timeline to languish. These issues were exacerbated during periods of intensity for The Partnership, like auditing and issuing delegate agency RFPs.

Relatedly, while The Partnership leadership was supportive of the Career Connect project, they were not closely engaged and involved, so were limited in their ability to be proactive and continuous ambassadors for the effort. Without deep leadership involvement, important decisions took too long, which significantly impacted the project. For most of the project, leadership did not fully prioritize the project internally or emphasize the need for staff to make time for it, which could have broken down the silos between the Strategic Initiatives department and the rest of The Partnership staff.
Leadership challenges with Career Connect occurred in the context of the creation of The Partnership as an organization, born from the merger of three organizations into one. The natural challenges faced during the creation of a new organization—learning what staff and other resources are needed, re-organization of roles and responsibilities, establishing organizational structure, competing priorities—contributed to Career Connect not always receiving the attention it needed for maximum project success.

**IMPLICATIONS FOR POLICY AND PRACTICE**

Developing new, integrated management information systems is likely to become more common as WIOA pushes for closer systems alignment and as funders and providers alike look to create greater efficiencies. The Career Connect project illuminates several implications related to implementing a MIS project for those looking to embark on similar efforts:

- **Carving out time at the very beginning of the collaboration to clearly articulate roles, responsibilities, and levels of effort** can save time in the long run. It can also help lead to a more unified face for the project.
- **A robust systems requirement process** is of vital importance and it proves helpful to select a SRC team that has strong prior relationships and connections to the relevant stakeholders. Further maximize the SRC team’s value by setting up formal processes to facilitate regular and consistent communication.
- **Being as specific as possible in the RFP** for the selection of the SRC Team can help ensure that the SRC Team is comprised of the right members with expertise and connections best aligned to the project, reduce time spent revising draft work products, and ensure that everyone is on the same page about expected deliverables.
- **Conduct an RFI before an RFP** in order to get a better understanding of what’s possible from a technical perspective and what the costs and timeline more realistically look like. Having a diverse team involved in the developer selection process helps make sure that the many stakeholders’ perspectives are represented and not overlooked.
- **Having an Advisory Council with diverse membership** can bring in new perspectives that generate unexpected and beneficial ideas during the planning, developer selection, and implementation phases of the project. Leaving some buffer time in the project timeline to try out unanticipated ideas that the Advisory Council might come up with will leave more room for potentially beneficial experimentation.
- **Going through the work of identifying challenges that a project is likely to face does not necessarily mean that the project can avoid those challenges.** especially if there are insufficient staff resources to pull it off. Some of the challenges identified during the systems requirement process, such as inconsistent communication and stakeholder engagement, the need for consensus on common workforce metrics, and the need to consider project sustainability and system governance from the start, could have been addressed by devoting more staff to the Career Connect project. In future projects, resources should include staff for project management (technical and non-technical); administration; subject matter experts; and specialist roles (consultants, developers, testers, etc.). Not all roles need to be filled by staff dedicated full-time for the project, but leadership should set clear expectations of the contributions their staff are expected to make to the project.
• Keeping the SRC team on board during the beginning of the systems development process could expedite the project timeline, put project knowledge from the initial systems requirement phase to good use, and relieve the burden on the Project Team.
• Related to systems development, it would likely be beneficial to start small with the minimum viable product and expand, rather than trying to start big and having to scale back later on in the process.
• During the SDC proposal consideration process, project teams should push candidates to clearly define terms and fully articulate their processes for undertaking different parts of the project, including testing, training, and project management, and spell out expectations for responsibilities for these processes in the contract.
• Get the right people—people who have the authority to make decisions about policy and legal agreements—in the room early to work out the details of data share agreements.
• Do not underestimate the amount of time and effort it will take to migrate data from old to new systems and to build interfaces. It is also important to develop policies and procedures about how to handle data that does NOT get migrated and communicate consistently to data users what data they will be able to access and how, as well as the reasoning why they cannot access all data.
• Be sensitive to the realities that legacy data systems still have their champions, and try not to frame the new system as a usurper.
• Conducting value stream mapping well in advance of the system development process will help clarify the business processes and workflow that inform product development.
• Making every effort to document and understand existing data systems before moving forward with interface development will streamline the process.
• Using facilitation techniques (or a third party facilitator) during configuration meetings can help keep meetings on track and keep everyone working toward the same goal.
• Taking the time to explain local political realities to the systems developer, and allowing the Project Team to take the lead on messaging in meetings, could avoid stepping on other public agencies’ toes or causing unnecessary confusion. Similarly, acquainting the developer with background on the likely audience of their presentations and asking them to take the audience’s needs into account when drafting the presentation (and practice the technical aspects of the presentation in advance) will lead to a more engaging and productive experience for the audience.
• Doing more research up front about the work and costs involved with setting up interfaces would make for a more realistic budget, timeline, and expectations.
What was the Experience of Stakeholders Involved in the Career Connect Project?

The Partnership designed the Career Connect project so that it revolves around stakeholder engagement, and they see stakeholder engagement as one of the most central components for the overall success of the project. Gauging their success at engaging these stakeholders involves documenting the project’s many and evolving stakeholders, the nature of their engagement, their satisfaction with how they were engaged, and their assessment of the success of the Career Connect project.

In order to assess the experience of stakeholders, evaluators recorded observations with field notes during project meetings, focus groups, Career Connect/IWIS Advisory Council meetings, and other project-related events; conducted semi-structured phone interviews with representatives from the various stakeholder groups, documented through written or typed notes taken during the interview and completed after the interview; and conducted a short online survey with leadership at workforce providers (WIA and non-WIA) in Cook County.

Key findings include:

- **Communication outside of the key project partners (core team within The Partnership, development contractors, and the evaluator) and stakeholder engagement suffered** as a result of insufficient staffing during the majority of the project. In interviews, delegate agencies displayed inconsistent knowledge of the purpose and status of the project and lamented the lack of information they had—and this was from delegates who had relatively high engagement as Early Adopters or Study Sites. Communications strategy was further complicated by the evolving timeline and scope of the Career Connect project. As can be seen in the outcomes study, this may have contributed to negative or inaccurate perceptions of Career Connect among provider staff.

- **The Partnership facilitated high levels of stakeholder engagement during the planning phases of the project, but engagement reduced** to a narrower group of stakeholders during development. Limited staff resources made it difficult to continue convening various advisory groups or get stakeholder feedback in other, more regular ways. The technical nature of the development phase of the project posed challenges as well.

- **DCEO’s cooperation was critical to the success of the project:** without their help figuring out how to document IWDS and working on the interface, Career Connect likely would not have been possible. The Partnership fostered strong relationships with DCEO to make this happen, but some DCEO staff expressed in interviews a desire to have been brought into the project from the WIF proposal-writing phase since their participation was so important.

- **The Partnership shifted its training practices significantly** from Phase I Go Live to Phase II Go Live. The project managers were responsible for training in Phase I, while responsibility shifted in Phase II to the broader Partnership staff. The end result was that more Partnership
staff had facility with and ownership of Career Connect while allowing the project manager to focus on finalizing development issues.

- The Partnership made a strategic decision only to cover core functionality, such as adding an individual, creating a WIOA application, and adding services and job places, in the initial round of Phase II training. It remains to be seen how training will occur on other key Career Connect functionality, such as reporting and workflow management, and how this will affect system usage. The Partnership conducted webinar trainings that included these topics in the fall of 2017, after data for this study were collected.

- The Partnership developed policies and procedures for the portions of Career Connect case management system that were covered in trainings, but did not develop a comprehensive policies and procedures manual in advance of Go Live. It remains to be seen how this will affect system usage.

- Sustainability planning for long-term staffing, support, updates, and funding needs fell to the back burner as more immediate project needs took precedence, despite continued feedback from the advisory council and systems requirement contractors throughout the project that it needed to be prioritized. At the time of Phase II Go Live, The Partnership had finalized only a 90 day sustainability plan.

- The Partnership greatly improved their testing procedures over time. Partnership staff felt that they inadequately planned for testing interfaces and data conversion in the fall of 2016, but by spring 2017, they incorporated their experiences into more comprehensive testing procedures and staffing plan.

- Delegate agencies reported in interviews that they were skeptical of train-the-trainer models and had negative experiences with them in the past with other initiatives, saying that important knowledge was lost in translation. The Partnership tried to address the weaknesses of train-the-trainer by creating written curricula, training materials, and feedback surveys to assess trainer effectiveness.

- Stakeholders’ experiences with the Career Connect project were colored by their past experiences with The Partnership, IWDS, and technology change in general. In interviews, some delegate agencies worried that Career Connect would be used by The Partnership as a punitive compliance tool. Delegates expressed concerns that they would need to learn a new system that would later lose funding and fall into disuse, or that Career Connect would not be as useful as originally thought due to the scaled-down number of interfaces.

DISCUSSION OF FINDINGS

Communication
Despite being identified as a critical step early in the project by the SRC team, Partnership staff did not always proactively and consistently communicate changes to the project goals, plan, and timeline in a clear manner over the course of the project, seeding some level of distrust among key stakeholders. The Partnership did draft a communications strategy, but due to capacity constraints,
it did not gain much traction. While the communications strategy identified key audiences and their desires and prioritized them, it did not get into depth about messaging and talking points. As a result, the communication that did happen often lacked a consistent message, which sometimes led to confusion among providers and other key stakeholders.

Some delegate agency staff reported in surveys and interviews that they felt that they received adequate communications from The Partnership, while others wanted more information (for example, more information in a timelier manner about how WIOA passage would impact the project). Many Early Adopters and study site representatives said in interviews that they believed that other delegates did not have much information about Career Connect. The Partnership relied heavily on the Early Adopter sites and evaluation process to communicate about project progress—to the extent that some Study Sites could not distinguish between project activities and goals, and evaluation activities and goals. Some Early Adopters felt that The Partnership should have gotten their buy-in earlier; this may be even more of a risk with other providers that did not receive the same level of engagement as the Early Adopters. While some providers were engaged early on as part of the systems requirement process, not all of them were, or staff turnover resulted in a loss of institutional knowledge about The Partnership’s outreach. The Partnership conducted another wave of stakeholder engagement with a subset of delegates in the second quarter of 2016 in order to get their input through focus groups on certain parts of Career Connect, including the objective assessment and Individual Employment Plans. Complicating the roll-out is a lack of clarity about roles and responsibilities regarding the chain of communication on Career Connect: what communication responsibility fell in The Partnership’s court vs. delegate agency leadership.

Early Adopters and Study Sites—which were the delegates with the most information about the project—had diverse and sometimes inaccurate understanding of project goals. For example, some providers continued to believe that Career Connect would connect with a broad variety of data systems well after decisions were made to not pursue particular interfaces. Some knew about the discontinued interfaces, but did not understand why they were not pursued and were frustrated by the decision and the lack of communication about the reasoning. Stakeholders that were engaged very early in the systems requirement process warned against as-needed communications and articulated that this type of an endeavor warranted constant communication and transparent decision-making. The lack of consistent communications throughout the life of the project raised the risk of elevating expectations and ultimately disappointing providers when Career Connect was rolled out, which may pose barriers to the widespread adoption of Career Connect—particularly for non-WIOA providers. Indeed, as seen in the outcomes study, many provider staff have negative or inaccurate perceptions of Career Connect’s user-friendliness and time-saving capacity, which may be related to the lack of communications.

In the communications it did push out, The Partnership focused on communicating with provider leadership, some of whom passed information on to their front-line staff and some of whom did not. Some provider leadership felt that The Partnership should have made more efforts to engage front-line staff directly, while others wanted to withhold information from front-line staff until the project was finalized. Since front-line staff will be heavy users of Career Connect, this lack of information will likely make the transition to a new data system and a new way of doing business quite jarring. It was hard for The Partnership to determine who exactly to engage at each stakeholder engagement
moment—executive directors? Frontline staff? IT or data people? In some early meetings, especially, it was clear that the wrong people were in the room for the topic at hand.

The need and desire for transparency and consistent communications bumps up against the reality that the true functionality of Career Connect was constantly evolving, driven mainly by things that are not entirely or at all within The Partnership’s locus of control. In early systems requirement conversations with stakeholders and even well into the development phase of the project, The Partnership may have overpromised on interfaces, on Career Connect’s likely availability to non-WIA/WIOA providers, and on the timeline. In some meetings, interfaces for the Community Development Block Grant (CDBG) were mentioned, though U.S. Department of Housing and Urban Development (HUD)-related interfaces were never actively pursued at all. At other points, the uncertainty surrounding the interface work and the changing policy context at the state and federal levels led The Partnership to go mute for fear of putting into words anything that might not actually happen as planned. The uncertainty around interface work and the lack of sustainability planning contributed to uncertainty about when and how Career Connect would be implemented for non-WIA/WIOA workforce customers, further eroding the Project Team’s confidence in how to talk about it publicly.

In addition to challenges communicating with providers, The Partnership had to manage its relationships with state partners. Having many different stakeholder/informant groups, such as the advisory council and champions group, come together on an ongoing or ad hoc basis depending on their purpose is consistent with change management and project management literature, but the Project Team did not have the capacity to keep them all engaged and active for as long as they could have been meaningful (some met just once). However, stakeholders were happy with the diversity of the advisory council, champions group, systems developer selection team, and early adopter agencies.

From a political standpoint, the mere existence of this project could be interpreted by the public agency that owns IWDS as undermining. The Partnership’s strong relationships with DCEO and DCEO’s honest recognition of their own system’s shortcomings greatly mitigated this, but the fact remains that The Partnership is trying to create a better data system and needs the help of the people whose data system they’re trying to improve upon. Without DCEO’s time, resources, and, frankly, permission, this entire project would have been dead before it started, highlighting a major risk inherent in the project—being so very dependent on one public agency’s cooperation. Several stakeholders, including DCEO, felt that The Partnership should have engaged DCEO from the planning and proposal writing stages of the project (they felt that they were not brought in until a year into the project)—particularly their technical staff.

**Change Management**

Introducing Career Connect and cutting off access to IWDS has the potential to be extremely disruptive to delegates if the transition isn’t managed carefully. The Partnership is asking delegates to at a minimum learn a new data system, and in some cases, change business processes and workflow, change how they work with other delegates, and adopt a data-driven culture.
Change management was recognized from the very beginning as being of central-most importance for this project, but the Project Team was understaffed and overburdened, and so a robust change management process was never fully developed and implemented. The Partnership did request technical assistance on change management from DOL early on, but this was not received until early 2016, while it could have benefited the project much earlier. Part of change management is communications, and because a full-blown and coordinated communications strategy was never implemented, almost every stakeholder meeting had to start by reviewing the project basics and regularly at least somewhat devolved into answering people’s questions about “will the system include *this*?” This constant revisiting of nitty gritty functionality or policy decisions tested the patience of people who have been more closely involved.

Part of change management is stakeholder engagement, and there was never any cohesive and planful strategy for stakeholder engagement. For instance, the Early Adopters were engaged when The Partnership needed them to help test the system, but to truly make ambassadors out of them, representatives from the Early Adopters could have been integrated into the Champions group or, at least, equipped to be a public face for Career Connect within their spheres of influence. Being engaged as an Early Adopter and a Study Site placed additional demands on the agencies (and their responsibilities remained vague in the minds of Early Adopters for some time), but they weren’t compensated or incentivized accordingly.

Several stakeholder engagement strategies that The Partnership tried stand out as being particularly successful, however. The naming contest that ultimately produced “Career Connect” helped generate a sense of fun and excitement for the project. A luncheon was held after Phase I implementation to acknowledge everyone who was involved, which made stakeholders who had devoted time and energy to the project above and beyond their normal work feel appreciated.

The Advisory Committee was a key component of The Partnership’s stakeholder engagement plan, and therefore a potential tool for effective change management, but they were often difficult to manage (in part due to its large size) and their ideas and recommendations were difficult to operationalize due to the Project Team being understaffed or the realities of the WIF grant timeline. The Advisory Committee was particularly vocal about an intensive communications and outreach strategy, going so far as to offer specific messaging ideas, but communications happened only piecemeal. Issues around needing to plan for sustainability from the beginning continually bubbled up: the Advisory Committee encouraged The Partnership to iron out plans for system ownership, training and support, system maintenance, system re-configuration, funding, and so on, but planning around these things only happened in fits and starts and remains at an early stage. Another recommendation from the Advisory Committee that was deemed infeasible was to approach development by starting small and then expanding the system, but this did not reconcile with the fact that the grant funds expire by a certain date. Relatedly, some Advisory Committee members had gone through a large scale technology change like this and vocalized that the Career Connect project timeline as overly ambitious—indeed, The Partnership did end up needing to file for a no-cost extension. A missed opportunity was that The Partnership could have better used the Advisory Committee as champions for the project by fully equipping them with the “marketing” materials, talking points, and other tools to help them fully embrace their roles as ambassadors for Career Connect. One challenge to using Advisory Committee members as champions is that some Advisory
Committee members may have been hesitant to be bold ambassadors for the project because they didn’t entirely trust the project would happen or happen entirely as promised.

The eventual phased approach for implementation was necessary to help manage the changing contextual demands, but it posed challenges to effective change management. Without adequate staffing and planning for how to both maintain and support live functions while planning and implementing future functions, serious capacity issues arise. The Partnership decided to roll out different functionalities of Career Connect in phases—Phase I A was Business Services for adult and dislocated worker agencies (rolled out in June 2015, to 270 staff at 32 agencies); Phase I B was Business Services for youth agencies (rolled out in October 2015, to 119 staff at 21 agencies); and Phase II is Case Management (rolled out in June 2017). The project slowed or was put on hold several times because of the need to incorporate new requirements from WIOA and state-level policy changes, as well as delays with developing interfaces and setting up data share agreements. The two project managers had too much on their plate supporting Phase I while trying to shepherd Phase II along. Continued timeline extensions taxed delegates’ patience. The long timeline makes it harder for delegates to stay invested in the project and get excited.

Another change management consideration is related to how providers have or have not traditionally worked together. Workforce providers in Cook County have historically worked in close, friendly proximity to one another but have never had to truly collaborate and share, so some elements of Career Connect force providers to change their mentality—and it’s hard. Career Connect brings business services—the portion of agencies’ work that focuses on cultivating employer relationships and matching jobseekers and employers—into the data system, whereas IWDS never did. In order for the business services side of Career Connect to work, each agency must be transparent about its employer relationships because every employer entered into Career Connect is visible to every organization using Career Connect. Provider staff resisted this since they each spend time cultivating these relationships for their own jobseekers, important to help them meet their placement goals. Despite this initial reticence, after Phase I – Business Services implementation, there were very few complaints raised about sharing employer information in Career Connect. Funders, both public and private, drive these concerns since they require reporting on things like job placements, employer relationships cultivated, and the like. While these requirements are outside of The Partnership’s control to change, The Partnership was forced to deal with them.

Brand new functionality that Career Connect offers, like electronic document storage, are both exciting and anxiety-producing. On the one hand, this holds a lot of promise for reducing paperwork, streamlining audits, and generally creating efficiencies. But there are security concerns and lack of clarity around if DOL will accept electronic documents for compliance purposes. There are also major cost considerations, as many providers may not have scanners that would allow them to store documents electronically. It is unclear who would shoulder the costs for obtaining hardware that would facilitate electronic document storage. At the time of Phase II Go Live, the electronic document storage functionality was not activated in order to give The Partnership more time to sort out these questions.

A challenge that will plague Career Connect is that The Partnership has limited ability to compel agencies that are not their grantees to use it—aside from their delegates who will use Career
Connect for WIOA Title I case management, adoption will be voluntary. The Partnership will need to market Career Connect’s benefits to business services users and non-delegate agencies if they want it to be widely adopted. For example, Phase I – Business Services was optional. There was traction in use at first after staff were initially trained on it, but eventually people reverted back to their old ways. There are currently no WIOA performance measures tied to employer engagement, and therefore no consequences to not using Career Connect for business services. Early reports of help desk activity after the launch of Phase I indicates that there was likely a drop-off in Career Connect Phase I usage in the absence of a mandate to switch to the system.

Looking forward, planning for sustainability will likely pose challenges for change management. Due to limited staff capacity, planning for ongoing sustainability of Career Connect has fallen by the wayside. Sustainability planning is important because system users come and go and the policy and funding context is constantly changing, so Career Connect will need to be constantly changing as well. This requires the staff power and the resources for an ongoing training program, help desk functions, re-configurations, and monitoring and updating the interface, among other things. Throughout the project, sustainability planning has been identified as a priority by a variety of internal and external stakeholders but The Partnership lacked the staff resources to devote to it. At the time of Phase II Go Live, The Partnership had help desk software and procedures and a 90-day sustainability plan, but planning for the long term was very limited.

Early on in the project—mid-2013—the team did map out key areas of sustainability consideration and that list included:

- Governance
- Finances
- Personnel
- Hosting and maintenance
- Technical support
- Updates and enhancements
- Training
- Interfacing with future systems
- Communications and marketing
- Data ownership and governance
- Open development/data considerations
- Future development phases

In particular, stakeholders have concerns about how the system will be funded once the WIF grant runs out and how it will be managed and supported—including who will “own” it. While some work has been done to plan for sustainability, such as drafting a tech support plan (which resulted in positive provider staff experiences with technical issues post-implementation), it has not been comprehensive nor prioritized. Project managers drafted a sustainability plan in April 2016 and revised it in May 2016, but as of Go Live, only a 90 day sustainability plan had been finalized. The 90 day sustainability plan covers staffing assignments for the following functions:

- Oversight
- System Development Partners
Chicago Cook Workforce Partnership’s Career Connect Project—Evaluated by the Social IMPACT Research Center

- VOS Updates & Upgrades
- Data system management
- Conversion
- Interface maintenance & modifications
- Document management
- Technical support/help desk
- Business services/job seeker portal
- CRS/Providers and Program
- Expansion
- Generic programs
- Reporting
- Training
- Monitoring use of Career Connect

The dearth of information about sustainability planning could discourage providers from adopting Career Connect as a system of record if they do not believe it will be supported in the long run.

Training
Many stakeholders—including delegates—have been apprehensive about training users to use Career Connect (and vocal about its necessity) from the early stages of the project. This concern is born out of recognition of how much a new data system will change the day-to-day workflow of provider staff, who have varying degrees of computer literacy, as well as out of dissatisfaction with training available for systems currently in use. With IWDS, training happened intermittently, and it was not ongoing. There were also no written materials to support staff in their use of the product and to help ensure consistent and proper use of the system.

Training large numbers of people at the same time is logistically challenging (e.g., need computer labs large enough) and it also disrupts business as usual since large shares of frontline staff are out of the office for several days. For Phase I – Business Services training, the two project managers did all the training themselves, and though they did it well, it was all consuming. Training happened without a finalized training manual or policy guidance governing, for example, how case notes should be used for business services, which were developed later (an early version of the training manual, informal training handouts, data confidentiality agreements, and an employer data procedures document were provided at the trainings). The fact that policies were developed after Go Live resulted in the need to tweak the system and communicate changes to users. Some people in the room being trained were just learning about the project’s existence for the first time, which indicates a lapse in The Partnership’s communications strategy.

For Phase I B training (youth agencies), The Partnership’s business services team acted as training assistants, which was really helpful in creating a sense of ownership among that team for Career Connect. For Phase II, the SDC trained Partnership staff (outside of the project managers) to conduct the trainings. It needed to happen differently for Phase II since there were so many more people to train at once and all users had to be prepared to use Career Connect on Go Live day, as access to IWDS was turned off. Partnership leadership prioritized this work for large swaths of their staff and
mobilized an all-hands-on-deck effort for several weeks. Instead of all of the training planning falling on the project manager, as it did in Phase I, almost all of the training planning and implementation was conducted by a team of other Partnership staff, including program staff and the SIP Director. Partnership program staff were heavily involved in the development of training materials, including training curricula and policies and procedures for select portions of Career Connect that were distributed to trainees in advance of the training. A comprehensive policies and procedures manual for all sections of Career Connect was not developed in advance of Go Live, however. As part of the curriculum development process, Partnership staff decided not to cover all of Career Connect’s functionality in the Phase II trainings; instead, they focused on how to enter an application into the system and adding services and assessments. Functionality like reporting and case management workflow tools were not covered and The Partnership decided to train users on this at a later date (some of this functionality was covered in webinars after the data were collected for this study).

Representatives from the SDC traveled to Chicago to train Partnership trainers in the weeks before they trained delegate agencies. Some providers specifically expressed concern about this kind of train-the-trainer model since they thought much would get lost in translation (based on their experiences with past train-the-trainer models). Since Partnership staff were so closely involved with the development of training curricula, however, they had more ownership of the process and comfort conducting the trainings. Despite the difficult logistics of rolling out trainings for 400 people in eight locations across two weeks, trainings were relatively smooth. Sometimes technical issues were encountered—the training site being down, for example, or test passwords not working—though a team of SDC staff were on call to resolve them relatively quickly.

Some stakeholders believe that training will need to be broader than just familiarizing staff with a new data system—training will also need to change the culture of workforce providers to become more data-driven. This has largely not been how The Partnership has approached the trainings; they have instead focused more on familiarizing users with the new data system and its policies and procedures.

Perceptions of Project Success
Many factors—some related to the project, and some not— influenced stakeholders’ perceptions of Career Connect’s likelihood of success. Many stakeholders brought baggage from their past experiences with similar projects or working with Partnership staff to this project, particularly delegate agency staff. Some providers had lived through similar attempts to streamline data systems that did not work or were otherwise underwhelming, and that contributed to skepticism about Career Connect’s prospects for success.

Skepticism about the project among delegate agency staff was also driven by their past and current interactions with The Partnership in the due course of their work. It was hard for providers to separate out their experiences with and feelings about The Partnership, IWDS, or technology change in general from their perceptions of the project. Instances in which The Partnership was slow to respond, gave inconsistent responses to questions, or was generally perceived as being consumed with compliance instead of quality flavored people’s perceptions about the likely success of the Career Connect project and their desire or willingness to be involved. Delegate agencies felt overwhelmed by the amount of work they had to do for The Partnership in general—the Career
Connect work seemed burdensome in addition to the general compliance work. For instance, delegate staff cited examples of The Partnership staff asking them for Excel reports, sometimes multiple times each week, for things The Partnership staff could presumably get out of IWDS. There is a concern among delegate staff that a new technology solution will be moot if the way The Partnership conducts business doesn’t also dramatically evolve. This baggage led to some stakeholders questioning The Partnership’s motives for doing this project at all, worrying that this was about giving The Partnership a better means by which to act punitively toward delegates.

One key area that sows doubt in stakeholders’ minds about the project’s success is the diminished number of interfaces compared to the original project scope. As fewer and fewer interfaces remained in the project scope, some stakeholders believed that Career Connect would be less successful and less impactful than originally planned. There is a lot of doubt about how useful the system will be to non-WIOA providers. Private funders, for whom a cross-funder data system is a particularly high priority, were disappointed in the delimited scope of the interfaces.

A bright spot in the project was the competence of The Partnership’s Project Team even in the face of serious constraints, particularly the project managers. Delegates had overwhelmingly positive impressions of them and felt they were responsive to their feedback. For example, The Partnership initially scheduled biweekly in-person meetings with Early Adopters, which they felt was too much of a time commitment—especially for those who had to travel. The Partnership Project Team listened to their feedback and switched to more webinars and conference calls, which made the Early Adopters feel like The Partnership heard them and valued their time.

IMPLICATIONS FOR POLICY AND PRACTICE
The success of a systems integration project on a scale as large as Career Connect’s relies not only on the successful development of the data system, but on making the case for how it will benefit users, managing change and expectations in a skillful way, rolling out the system in the least disruptive way possible, and sustaining it over time. Career Connect’s experience has several implications that can inform similar projects:

- **Developing a detailed communications plan** with key audiences, audiences’ needs and interests, audiences’ priority levels, messaging, and talking points from the beginning of the project, and updating it throughout as the project develops, can go a long way toward managing expectations and winning over stakeholders. This process should include an initial assessment of key stakeholders’ preferences for communications at the beginning of the project so that the Project Team can effectively target communications and avoid wasting time on communications that fall flat. Project staff and champions should be trained on the communications plan and leadership should emphasize the importance of using it.

- **While it is easy to fall into a habit of communicating with stakeholders that are more involved with the project, it is important not to let other stakeholders fall off completely**—particularly when they are going to be the end users of the data system. Develop a formal plan to keep all relevant stakeholders up to date, and stick to it. If this involves a system of cascading communications that relies on agency leadership to communicate to front-line staff, make their responsibilities clear and equip them adequately to communicate with their staff. This is
even more important in a multi-year project that involves repeated deadline extensions and long fallow periods.

- **Creating policies and procedures** that clarify how new business processes or other organizational changes will be implemented—standard operating procedures for referring customers to job leads created by another agency, for example, or clarifying responsibility for acquiring hardware that unlocks Career Connect’s full functionality—**before training data system users** on Career Connect can help reduce anxiety around the transition.

- **Developing a staffing plan** that spreads the burden of implementing a phased rollout—distributing responsibilities for training new users and supporting current users—can make for a smoother transition. This is something that happened for Phase II rollout.

- **Sustainability planning should be a consideration from the beginning of the project**, and the Project Team should communicate the sustainability planning it has done to key stakeholders in order to ease anxieties about the future.

- Training a large body of users on a significant technology change is an opportunity to **assess the computer literacy of users** before the training starts and provide resources to bring the technical literacy up to a reasonable level.

- Train-the-trainer models run the risk of losing information in translation. Indeed, delegates voiced skepticism about train-the-trainer models based on past experiences. The **drawbacks of train-the-trainer models can be minimized** by taking steps such as drafting clear, written curricula and training materials and feedback surveys to assess trainer effectiveness. The Partnership implemented this for Phase II rollout.

- Rolling out functionality in phases, or waiting to train people how to use it, has pros and cons: while it minimizes the amount that trainees have to learn at once, it also means people may be unable to perform functions important to their job while waiting for additional training. Since The Partnership decided to train on parts of Career Connect’s functionality at a later date, they will need to **carefully consider how to roll out training in such a way that generates as much engagement as the big campaign of in-person training on core functionality**. If The Partnership does trainings remotely, they should consider incorporating ways of gauging trainees’ learning, such as quizzes. This part of the training plan is especially important since some of the functionality not covered in initial Phase II training, such as workflow tools and reporting, unlocks some of Career Connect’s greatest promises in terms of improving the user experience and allowing agencies to learn from their own data.

- The specter of failed technology integration efforts means that **stakeholders may bring past baggage to current projects**. Project leads should listen to these concerns, demonstrate that they have learned from past projects, and effectively communicate what they’re doing differently this time around.
How Did Contextual Factors and Barriers Shape the Effort?

With a project like Career Connect that spans 5 years, touches multiple levels of government, and involves multiple sectors, the broader contextual environment influences the work in often profound ways. Answering this question involves describing the contextual factors and barriers, assessing the degree to which they impacted the project, and describing any changes that occurred as a result.

In order to assess how contextual factors affected the Career Connect project, evaluators collected data related to contextual factors and barriers in their review of project documents, recording of observations with field notes during project meetings and other related events, and conducting of interviews with project staff.

The most significant contextual barriers for the Career Connect project involved the following:

- **Policy realities and changes**—with Career Connect intended to be the data system of record for Cook County WIA/WIOA providers, the system by definition has to facilitate meeting federal performance reporting requirements and meeting compliance standards. Congress passed WIOA and it became the new law of the land in July 2015, but final regulations were not issued until mid-2016, creating a vague and moving target for Career Connect development.

- **Fragmented workforce field and the nature of workforce contracts**—the workforce development field in Illinois involves many layers of government and many diverse players, leading to a host of challenges related to various funding streams, different sets of regulations and compliance requirements, and the need to coordinate many distinct players. Further, The Partnership re-issues RFPs for their delegates every few years, so the mix of delegates being brought along on the Career Connect project changed over the project.

- **Political realities and changes**—Illinois elected a new governor who took office in 2015 and ushered in a host of leadership and other changes, which impacted the Career Connect project along with fiscal year 2016 and 2017 state budget stalemates.

**DISCUSSION OF FINDINGS**

**Policy Realities and Changes**

The biggest influencer on the Career Connect project has been, without a doubt, the passage of the Workforce Investment and Opportunity Act (WIOA) in July 2014. WIOA majorly reformed the workforce investment system for the first time in 15 years, superseding the Workforce Investment Act. WIOA changes how states develop workforce strategies; creates a single set of common performance measures for adults and another for youth; emphasizes the need to serve vulnerable populations; expands requirements for data reporting; and more. Career Connect, IWDS, and the interface between the two, which was in mid-development when WIOA passed, had to be reworked to collect the measures newly mandated by WIOA. This necessitated a lengthy delay, and underscores the precarious nature of a local project that is so heavily driven by federal policy and regulation.

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The decision to delay work and align Career Connect with WIOA implementation helped consolidate the changes that The Partnership and its delegates would have to experience into one roll-out, rather than training delegates on a version of Career Connect that would become obsolete as WIOA was implemented. The passage of WIOA gave The Partnership pause in thinking through who their priority partners should be on the Career Connect project in light of WIOA’s emphasis on closer systems collaboration with systems like higher education and vocational rehabilitation.

Nonetheless, the decision to delay had ripple effects into many project sub-contracts, notably the vendor building the IWDS/Career Connect interface. The delay required renegotiation of many contracts: the SDC, the evaluator, the implementation project manager, and interface vendors. One major issue caused by WIOA was that the state, The Partnership, and the SDC had made major progress mapping data fields between IWDS and Career Connect in 2014. All of this work had to be put on hold in February 2015 and started over in order to meet WIOA standards. All work on the IWDS/Career Connect interface stopped between February and November 2015.

One major advantage in all this policy upheaval for The Partnership was having a SDC whose bread and butter is the federal workforce system. This meant that the SDC would need to be incredibly responsive to the WIOA changes to meet the needs of all their clients across the country, so Career Connect would be updated in the process. The risk here, though, is that the SDC might be overtaxed with updating all their other projects for WIOA. This risk is ongoing, as WIOA rules that impact Career Connect and the SDC’s core WIOA system continue to be updated.

**Fragmented Workforce Field and the Nature of Workforce Contracts**

Responsibilities for distributing funding and implementing workforce development policy in Illinois are distributed across a broad range of state, county, and local agencies. Most notably, two state departments—DCEO and IDES—share responsibility for different pieces of federal workforce policy. This means that in order to implement a system change effort that involves breaking down data silos, The Partnership needed to secure buy-in and active cooperation from many different players, all of whom have their own priorities and demands on their time. As a quasi-governmental entity that works at the county level, The Partnership did not have the same authority as a federal- or state-level agency might have to enforce collaboration from the top down. The Partnership had to effectively craft and articulate a strong case that interfacing with Career Connect would benefit other workforce-related agencies and then rely on strong relationships to make Career Connect happen; this proved to be slow going.

Public agencies have many demands on their tech staff’s time, and coordination with Career Connect has not always been the top priority. Many state agencies are also pursuing their own data systems projects, some in response to new laws or requirements. For example, IDHS would not work with The Partnership on creating an interface between Career Connect and its TANF/SNAP system because they were working on projects related to Medicaid expansion. This resulted in a situation where the original four priority Career Connect interfaces all went through an on-again-off-again cycle in which the interface moved in and out of the project scope, extending the timeline.

At the local level, The Partnership’s regular RFP and contract renewal process for delegate agencies also threw wrenches into the project. It has taken a considerable amount of effort to engage The
Partnership’s delegate agencies throughout the Career Connect project—soliciting their input during the requirements phase, gaining their buy-in, and keeping them abreast of updates is labor-intensive. The Partnership has particularly invested in building relationships with Early Adopter agencies that have tested Career Connect and served in an advisory capacity throughout the project. Over the course of the project, delegate agencies’ contracts with The Partnership ended and new RFPs were issued, with no guarantee that delegate agencies will remain the same. This brought up concerns about investing in particular agencies as Early Adopters if contracts might not be renewed. This barrier existed in large part due to federal procurement policies that limit the extension of contracts, making it hard to avoid contract changes over the course of a five-year project.

**Political Realities and Changes**

Governor Bruce Rauner changed state leadership when he took office in early 2015. Many political appointees who had been working with The Partnership on Career Connect interfaces left with the previous administration. The Partnership spent two years building relationships with agency directors and now needed to start anew with the new appointees. Luckily, The Partnership had done a good job of building bench strength buy-in too, so even when high-level state agency administrators left, others within the agencies remained helping create continuity for the Career Connect project.

While certainly a risk and something that slowed down the Career Connect project, the administration change was also seen by The Partnership as a potential opportunity to convince the state that Career Connect should be implemented across the state. This hope was fueled by ongoing active conversations at the state level about updating, improving, and integrating workforce data systems. Lessons from Career Connect are informing those conversations. The Partnership was invited by a group of state agencies working on technology integration issues to present on Career Connect, and it was received positively.

The Partnership ultimately decided to not let these pending state decisions stand in the way of them moving forward with launching Career Connect. But a real risk remains: if the state decides in the future to integrate its data systems into one, and if that new integrated system is not Career Connect, it may not make sense for Cook County agencies to continue using Career Connect; at the very least, it would precipitate another round of costly and time consuming data conversion and interface development.

The other major political reality at play is Illinois’s state budget crisis. The State of Illinois went over two full years without a state budget, leaving many critical state functions and contracts partially or completely unfunded; the crisis was not resolved until July 2017. The budget crisis led to resource scarcity throughout state agencies, which limited the time and energy state partners had to devote to working with The Partnership on data share agreements and interface work. State agencies were operating under the specter of agency consolidation, cutbacks, or privatization, which contributed to state agency staff being territorial and protective of their jurisdictions and existing data systems.

The IWDS/Career Connect interface was particularly impacted by changing policy realities. As noted above, the change in state leadership precipitated a need to build new relationships. In addition, rumors and legislation to consolidate the state’s workforce functions; state technology initiatives that put IWDS’s future—and so the under-construction IWDS/Career Connect interface—in question; the
passage of WIOA at the federal level; and the years-long wait for regulations that guide performance reporting caused the project to proceed in fits and starts.

The passage of WIOA in particular was the primary driver behind the lengthy extension of the project timeline since the legislation was sure to necessitate configuration changes in both Career Connect and IWDS, thus requiring a re-vamp of the interface. The Partnership decided, and the Department of Labor agreed, that waiting for WIOA reporting regulations to be issued so that both systems and the interface could be configured properly would result in a much smoother Career Connect implementation in the long run. DCEO, however, was not of the belief that interface development needed to be paused because of WIOA implementation and felt that The Partnership did not adequately involve them in that decision. The IWDS/Career Connect interface development was largely completed in late June, 2016, but WIOA final regulations had not been issued. Updates to the interface continued through spring 2017, as WIOA regulations were released and clarified by DOL.

All of these considerable changes in the policy environment meant that the scope and focus of Career Connect necessarily evolved as the project came up against resource and time constraints and policy changes.

**IMPLICATIONS FOR POLICY AND PRACTICE**

- On large-scale systems change projects, funders must be flexible around changing project scope and timeline. In this instance, the flexibility of DOL was very important to allowing The Partnership to make the necessary project modifications to ensure project success.
- Project planning should include conversations about and specific planning for potential contingencies. WIA had been up for reauthorization for some time, and it was always a risk. Planning for contingencies takes more time up front, but can help facilitate quicker decision making about how to proceed on the project if or when the contingencies finally come down.
- Secure some form of “official” authority for the project. Without it, The Partnership had no clear lever to use to compel other public agencies to collaborate on the Career Connect project, but the project’s very success hinged on that collaboration. A clear mandate from the Governor or another higher-level agency or official can spur timely cooperation.
- Seize moments of opportunities that arise in the midst of upheaval and change. When state leadership turned over, The Partnership was poised to sell the new leaders on the value of Career Connect.
How Closely Does Career Connect Resemble its Intended Design?

Answering this research question is important to understanding how well Career Connect stacks up to the original intent for it, as specified in the Systems Requirement Document (SRD). In this section, we document the degree to which Career Connect includes the tools, functionality, interface, and performance set forth in the SRD.

Comparing Career Connect to Its Intended Design

Based on findings from the systems requirement process, The Partnership developed a list of features it desired from the IWIS. This list was included in the SRD and developers responded about their ability to provide the listed features and functionality as part of the proposal process. We used this list of features to score the final Career Connect product on whether it achieved its intended design.

Table 1. Completion status of Career Connect features from systems requirement document.

<table>
<thead>
<tr>
<th></th>
<th>Completed</th>
<th>Partially completed</th>
<th>Not completed</th>
<th>Percentage complete</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory</td>
<td>137</td>
<td>14</td>
<td>6</td>
<td>87%</td>
<td>157</td>
</tr>
<tr>
<td>Desirable</td>
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<td>210</td>
<td>26</td>
<td>32</td>
<td>78%</td>
<td>268</td>
</tr>
</tbody>
</table>

Overall, The Partnership and the SDC produced a system that achieved the vast majority of the mandatory and desirable features and functionality. As of June 30, 2017 (approximately two weeks after it went live), Career Connect included 85 percent of “mandatory” features as fully completed and 8 percent as partially completed, 75 percent of “desirable” features as fully completed and 9 percent as “partially completed”, and 45 percent of “optional” features as fully completed and 5 percent as partially completed.

Mandatory Features

Completed

Many of the mandatory features that were completed in time for Go Live include information that is required to be collected by WIOA during the application process. Data elements include basic identifying information, workforce and education history, benefits eligibility, and barriers to employment. Other features include tools that enable case workers to select the appropriate services for the customer and track their progress, including:

- Funding source
- Assessment tool results
Some mandatory features include functionality targeted at job developers, including the ability to access job orders from employers, share job leads with other organizations, keep track of referrals to employers, and more. Some case management features that were implemented as “mandatory” features include the ability to input application and consent forms electronically and print them, create individual employment plans/individual service strategies and print them, collect case notes and organize them, and the ability to track progress towards addressing barriers to employment.

A number of reporting features were included to help agencies learn from their data and meet compliance requirements, including a set of standard compliance reports, case management activity reports, and custom reports functionality. Reports can be disaggregated by case manager, unit, agency, funding stream, and client characteristics; users can add, search, and modify entities and classify by agency type (agencies, community based organizations, schools, etc.).

Career Connect meets many mandatory technical specifications, including being built to latest industry standards, a modern relational database platform, a third-party-hosted Software as a Service setup, supported by a number of browsers and Windows/OS X, data security measures, differing permissions levels for different user roles, restrictions on reuse of old passwords, source code escrow, and sufficient data processing capacity to meet usage needs of Partnership delegates.

*Partially Completed*

A number of mandatory features were only partially implemented. The ability to track public benefits receipt is not as detailed as was enumerated in the SRD. Some information on barriers to employment were not fully implemented, in part because of delegate agency concerns about collecting overly invasive information: data on client substance use disorders, mental health diagnoses, and demonstration of work-ready behaviors are included in the “objective assessment” portion of Career Connect but The Partnership is currently instructing agencies not to use this feature; case managers can verify disability status but can’t enter dates of diagnosis; and case
managers can collect information on homeless status, but not more detailed information about housing status. Career Connect does not have the ability to collect information on all household members, such as birth certificate, license, and proof of income. Case managers can note when a customer has been referred to them, but not detailed information on the source of the referral or reason for referral (this functionality exists within the software but has not been implemented). Career Connect can show whether a client’s job placement was shared by multiple agencies, but the report that shows this information was not working at the time of writing.

**Not Completed**

A notable mandatory feature that was not implemented was the ability to collect and securely store electronic eligibility documentation, PDFs, and images. While VOS has that capacity, The Partnership has not activated it yet for Career Connect due to a need to develop security policies and concerns with how it might affect delegate agencies’ work flows. Once implemented, this feature has the potential to eliminate much of the need for paper files, if regulations allow electronic storage of documentation. Other features that were not completed include the number of instructional hours received by a client and dislocation events client attendance tracking (The Partnership ultimately decided these features were unnecessary).

**DESIRABLE FEATURES**

**Completed**

Many desirable features that were outlined in the SRD are features that would make case managers’ jobs easier. Desirable features that were implemented include storing customer contact information optional consent forms, how the customer arrived at the agency, resources the customer used, and a link to the Selective Service website. Some time-saving desirable features present in Career Connect include automatically-populating resume templates; Individual Employment Plans; and automatic assessment for eligibility for different programs. Some desirable workflow management features include workflow alerts and reminders and appointment calendars. Case managers can track information about progress towards job placement, including the ability to identify job matches for customers based on their background, collect information about post-placement services and job loss, and collect information about employer demand. Career Connect also includes a custom-facing interface that allows jobseekers to create resumes and search for jobs on their own. A number of desirable reporting features were implemented, including reports by client cohorts; reports targeting high-growth industries; tracking against program quotas; tracking levels of client services provided by agency, client barriers, and client type; and the ability to produce reports in various formats and with various visualizations. Career Connect includes a customizable dashboard to allow case managers to access key features and metrics easily. A number of desirable technical specifications were included, such as compatibility with non-traditional operating systems (like Linux), presence of APIs, ability to integrate with email software, an intuitive graphical user interface, user-defined fields, data quality features such as links to data definitions and drop-down menus to enforce data validation, and data security features such as time-outs and encryption.
**Partially Completed**

The Partnership desired a feature that would alert agency if a customer was already in the system, but errors were occurring when the customer already existed in IWDS as an inquirant (ultimately, the interface was updated so that these errors no longer occur). A module referral exists, but was not yet implemented. They also desired an income calculator that would help determine eligibility for various programs, but it only works for WIOA customers. The final Career Connect version did not include as extensive abilities to review training providers as desired in the SRD, nor can it automatically match customers with dislocation events. Users can collect only some of the information about employer satisfaction desired by The Partnership, such as employer relationships and length of time engaged (the employer satisfaction survey has not yet been implemented). Reports by custom geographies, such as community area and political ward, were implemented after Go Live. While Career Connect can track outcomes against benchmarks for WIOA, it cannot for other customers. And system administrators from The Partnership can modify some functionality without vendor assistance, but not add new modules.

**Not Completed**

Career Connect is not able to collect information about family self-sufficiency as defined by the Basic Economic Security Tables and track progress towards meeting self-sufficiency. It cannot automatically calculate the length of contiguous unemployment based on a customer’s work history, nor can it allow users to share electronic documentation. ITA application and intake forms and the electronic verification of ITA applications are part of a module that has not yet been implemented in Career Connect.

**OPTIONAL FEATURES**

**Completed**

Some optional features that were implemented allow customization of standard rules; system administrators can manipulate automatic program eligibility criteria to capture agency-specific criteria. Others improve communication capabilities—case managers can use Career Connect to manage client appointments and communications, electronically acknowledge receipt of referrals, and collect grantee/contractor contact information. Career Connect includes the ability to collect information about employer engagement and transfer veterans’ military experience into transferable skills. Finally, Career Connect can be used on mobile platforms.

**Partially Completed**

The Partnership requested the ability to geo-code residential addresses by Chicago community area, ward, Cook County Commissioner District, state and federal congressional districts, state senate districts, census tract, and PUMA. Community area and ward were implemented at Go Live; county district and state and federal legislative districts were implemented shortly after Go Live.

**Not Completed**
The Partnership desired functionality that would automatically determine client eligibility for services and public benefits using intake and assessment information, but that was removed from the project scope. Users are not able to electronically send referrals and appointment requests to another agency. Several functions related to ITA were not implemented, including verifying eligibility and creating dashboards for staff and The Partnership showing status of applications. Career Connect does not contain web forms for training providers to track client attendance, nor OTJ and Customized training web form applications that can be completed by employers or service providers. Technical specifications that were removed from the project scope include a platform as a service solution, contract management prompts, and the ability import emails into the system.

SUMMARY AND DISCUSSION OF FINDINGS

- As of this writing, **Career Connect is a workforce data system that is used for tracking WIOA Title I jobseeker customers and The Partnership’s non-WIOA programs.** It interfaces with the State of Illinois’s WIOA Title I system of record (IWDS), which is administered by the Illinois Department of Commerce and Economic Opportunity (DCEO). It is also used for tracking job orders and employer services by WIOA Title I providers. In addition to its client management and compliance functions, Career Connect contains an assortment of workflow management and reporting tools, though not all of them were actively rolled out to users.

- It is a success that The Partnership was able to shepherd the creation of a data system that **had the vast majority of its requirements and preferences met**—especially since those requirements and preferences were sourced from a robust systems requirement process that included diverse perspectives. Over three-quarters of the functions listed in their systems requirement document ended up in the final product.

- Career Connect not only contains the functionality necessary for complying with WIOA requirements, but also **functionality that helps workforce staff do their jobs better:**
  - Functionality targeted at job developers is entirely new, compared to IWDS.
  - Career Connect helps case managers determine eligibility and select appropriate services for customers.
  - Case managers can better track customers’ progress towards addressing barriers to employment.
  - Case managers can better manage their own workflow with dashboards, reminders, appointment calendars, and more.
  - Career Connect can help workforce providers better understand their own effectiveness with powerful reporting capabilities.

- Career Connect is built on a **strong technical infrastructure** that is designed to protect customers’ sensitive data and be maintainable and updatable over time.

- Some features that were not implemented as of the Go Live date have **implications for Career Connect’s ability to achieve its intended outcomes:**
  - The lack of a finalized data policies and procedures manual can affect data quality and staff’s confidence in Career Connect data.
  - The inability to store electronic documentation information means that Career Connect will struggle to achieve its goal of reducing reliance on paper files.
IMPLICATIONS FOR POLICY AND PRACTICE

- Future projects should mimic The Partnership’s robust systems requirements process, which produced a comprehensive list of functionality that addressed the needs of workforce providers and the workforce system.
- Even though Career Connect has a powerful set of tools, not all of them were activated at Go Live, or not covered in training. This likely affects the outcomes observed in the evaluation.
- Having finalized data documentation and policies and procedures ready at Go Live could help answer questions staff have about data definitions and the intended use of the data system.
How Has the Provider Experience Changed after Career Connect?

In order to measure whether Career Connect is achieving its goal of improving the provider experience, IMPACT undertook an outcomes study to understand how the implementation of Career Connect affected the following research questions:

RQ1. Does Career Connect change efficiency and administrative burden for workforce development providers?
RQ2. Does Career Connect change end user experience/satisfaction with Management Information Systems?
RQ3. Does Career Connect change the ability of case managers to assess client needs?
RQ4. Does Career Connect give providers the tools to make more data-informed decisions?

The outcomes study is a mixed-methods pretest-posttest design, consistent with the knowledge base in the field around management information system (MIS) work in workforce development. In the long term, Career Connect is expected to yield better client-level outcomes due to it facilitating greater efficiencies and improved service provision once fully implemented with WIOA providers and then with non-WIOA in the future. Within the timeframe of the WIF grant and this evaluation, however, the outcomes that will be assessed are at the WIOA provider level, not the client level. This is based on the theory that realizing provider-level outcomes is the necessary precursor to realizing improved client and workforce system outcomes.

Therefore, the project and the evaluation population is WIOA workforce providers in Cook County. Five of these WIOA providers were participants in the evaluation, referred to as “study sites.” These organizations were selected by The Partnership and the evaluation team in order to achieve a diverse range of provider sizes, populations served, funding streams represented, and geographies served, as well as for their participation in the implementation of Career Connect as “early adopters.” The unit of analysis for this evaluation is the organization represented by provider at the study site organizations. Due to the long period of time between baseline data collection and post-implementation data collection caused by delays in Career Connect implementation, there was significant staff turnover at the study sites (approximately 40 percent of the staff present at baseline were present during post-implementation). Therefore, the baseline study population and the post-implementation study population are treated here as independent samples, and statistical analysis methods for independent samples (rather than paired samples) were used. Baseline data were collected in August – September 2014 and post-implementation data were collected in September – November 2017, 3.5 – 5 months after Career Connect Phase II Go Live.

This project’s expected outcomes were operationalized into measurable variables, listed below as outcomes 1 – 5. For most outcomes, the evaluation intentionally includes measures of provider perceptions in addition to the variables that can be measured with more rigor. When designing a new data system, the way a system’s users feel about the system is almost as important as the functionality and design of the system, since the best system in the world will fail if perceptions about the system are negative. Data were collected through a combination of client file reviews, staff surveys, time-motion studies, staff logs, and native file review. For detailed information on the methodology, see Appendix A.
Outcome 1: Level of information on client assessment, service usage, and outcomes is improved (relates to research questions 3 and 4)

When the project began, workforce providers had no comprehensive, cross-funder system of record. This means that their client data were spread over multiple databases, Excel files, and paper files, none of which contained a complete account of any given client. In order for staff to understand a client’s full set of needs, service utilization, and outcomes, they had to comb through multiple databases and Excel files, never fully knowing if they indeed had the full picture they needed to make decisions about future services and follow-up. Similarly, Cook County WIA providers did not use a standard intake and assessment process and therefore did not collect directly comparable data, limiting system-wide data aggregation and analysis. Career Connect aimed to improve providers’ ability to access information about client assessment, service usage, and outcomes.

- **Variable 1a: Number of client assessment, service usage, and outcome data points present in native client files but not in the WIOA MIS**

  **Measure:** Measuring which elements from native client files are also in the WIOA MIS is important for understanding the potential for Career Connect to be used as the system of record and as a client management and performance management tool. Importantly, this variable is about understanding the elements in the paper file that are not possible to track within the WIOA MIS, not how well providers are doing at entering required information. A decrease in the number elements that are present in the native files but not the WIOA MIS is evidence of Career Connect success in this regard.

**Findings:** In addition to asking front-line staff to self-report on what data they collect, evaluators reviewed paper files and identified data points collected in paper files that do not have a place to be captured in IWDS/Career Connect. The file comparison was intended to collect data on the number of customer assessment, service usage, and outcome data points present in native customer files but not in IWDS/Career Connect to understand the potential for Career Connect to be used as the system of record and as a customer management and performance management tool.

The following pieces of information are maintained within paper files but were not housed systematically within IWDS, and also cannot be stored within Career Connect, meaning that case
managers still need to rely on paper files for these purposes after the implementation of the new system\textsuperscript{18}:

- **Personal statement about why customer wants to enroll in the program, how she or he will address any barriers to employment success, and why she or he feels this time will be different than any previously unsuccessful efforts** (used to assess suitability for the program). While the statement itself may not be appropriate to be included with Career Connect, it could be useful have staff quantify their assessment of each customer’s suitability for the program and compare that assessment to outcomes.

- **Custom organization-specific application and assessment forms**. Delegate agencies do not have the capacity to modify Career Connect fields to collect information above and beyond what is minimally required for compliance.

- **Documents verifying eligibility** (birth certificate, driver’s license, affidavit from parents for youth, public benefits receipts, proof of residency, social security card, selective service registration, attestation of household size/family status, eligibility checklist/intake form, certificate of naturalization, pay stubs/documentation of income, income calculation, utility bill, proof of declining industry, layoff letter, tax forms, timesheets, documents related to criminal history). VOS, the system that powers Career Connect, has the capacity to handle electronic documentation, but The Partnership has elected not to activate it for reasons explained in the discussion of findings focused on change management in the section “What was the Experience of Stakeholders Involved in the Career Connect Project?”

- **Individual Training Account (ITA) documentation** (financial statement, training exploration form, BIF, communication from training provider, budget worksheet). As noted above, Career Connect has the capacity to store this documentation but it is not active.

- **Employment and paid work experience verification** (tax info, I-9, copies of paycheck and receipts, timesheet, employment verification form). As noted above, Career Connect has the capacity to store this documentation but it is not active.

- **Documents substantiating support services provided** (work search history and application checklist—self-service, job leads, attendance sheets, ISS, IEP, employment/education plans, receipts, career interest assessments). Career Connect gives case managers the ability to build ISS/IEP plans within the system, but they still must print them out in order for customers to sign it. Anything requiring a signature cannot be stored in Career Connect and must instead be stored in a paper file.

- **Hard copies** of skills assessment tests, portfolios, transcripts, diplomas, OJT information, or credentials. While assessment scores can be recorded in Career Connect, providers keep copies of the tests themselves in paper files.

\textsuperscript{18}Meaning that there is no specific field to collect the data. While any data could potentially be entered into case notes, there is no systematic way for providers or The Partnership staff to pull that information.
• **Documents related to compliance** (Participant rights forms, Grievance Policy, signature sheets, consent forms, exit checklists, audit worksheet, etc.)

The following documents were in paper files during the baseline period, but not in post-implementation, indicating less reliance on paper files during the post-implementation period:

• **Resumes and references.** Three sites had paper copies of resumes, while two had references, in their files during baseline, but not post-implementation, indicating that perhaps the resume builder feature in Career Connect is used in the post-implementation period. Career Connect does not have a dedicated feature for tracking references, so perhaps case managers are tracking them differently (or that they simply did not appear in the sample of files).

• **Emails.** Three sites had printouts of emails in the baseline period but not the implementation period, indicating that perhaps case managers are using different methods of tracking correspondence with customers, such as recording in case notes or using email client organization features. Career Connect does not have the capacity to import email messages.

• **Variable 1b: Perceptions of comprehensiveness of information on clients in the WIOA MIS**

**Measure:** Measuring staff perceptions about the comprehensiveness of information on clients in the WIOA MIS is an important indication that Career Connect is meeting one of its fundamental goals, which is to be integrated so that providers can use it as a client and performance management tool. Furthermore, staff perceptions of this is important to understand since if reality changes but perceptions do not, there may be need for more training or design tweaks. Increases in favorable frontline worker perceptions of the comprehensiveness of information on clients are evidence that Career Connect is successful in this regard.

**Findings:** Half of the post-implementation respondents who had used IWDS before found that Career Connect allowed them to store more types of client information than IWDS. Twenty-three percent found that they could store equal amounts of client information in both systems and 27 percent did not know.

Fewer staff felt that Career Connect allowed them to enter all information required for compliance with non-WIOA funding requirements than IWDS did. Over half of the staff in the baseline period agreed or strongly agreed that IWDS allowed them to enter all necessary compliance information, compared to 28 percent in the post-implementation period.
There were no statistically significant differences between baseline and post-implementation in the perception that:

- The WIOA MIS allowed staff to enter all information that is important for managing their work with customers (three-quarters of staff agreed/strongly agreed with this statement during the baseline, while just over half did post-implementation);

- The WIOA MIS requires staff to enter too much customer/employer data that is not useful for their work.

Outcome 2: Providers’ access to desired information increases (relates to research questions 1, 2, 3, and 4)

The WIA MIS active at the baseline period was characterized by inflexible and cumbersome reporting and query tools that did not easily yield the information providers needed to engage in performance management and to complete grant reports. Providers also reported that the interface itself was confusing, and even long-time system users reported frustration in trying to navigate to the exact information they were seeking. Additionally, since there was no comprehensive, cross-funder system of record, when providers wanted to pull data for reporting and managing purposes, they had to manually match records from a variety of sources. These realities resulted in tremendous inefficiencies and likely inaccuracies in reporting.

- Variable 2a: Time spent locating desired information on a client in the WIA MIS

Measure: Measuring the time spent locating desired information on clients is important for understanding if Career Connect is more navigable than IWDS and saves time. If time spent locating desired information on a client decreases, there is evidence that Career Connect is successful in this regard.
**Findings:** There was no statistically significant difference between baseline and post-implementation in the perception that:

- it takes too long to navigate between pages in the WIOA MIS.
- The WIOA MIS loads pages with customer data quickly.

Based on the staff log and cover sheet data, there was no statistically significant change in the amount of time staff spent on running reports (see variable 4a for more).

Based on the time motion study, provider staff were largely able to find basic customer information in Career Connect comfortably and quickly, as they were in the baseline period with IWDS. Staff were also able to consistently use reports to identify customers who needed follow-up in both data collection periods, even though they had not been trained on reporting at the time of post-implementation data collection. Career Connect offered a big advantage over IWDS in that staff were able to determine WIOA eligibility when they reached the end of inputting an application, whereas in the baseline period staff would need to call their supervisors, consult policy manuals, or call their Partnership policy liaison if they were unsure of eligibility. Job developers appeared to use Career Connect more in their work than they had used IWDS, though many still completed several tasks outside of Career Connect. Some job developers used Career Connect to identify and add job leads but many used pre-existing methods, such as job lead emails and external job boards.

Staff still had to conduct some tasks outside of the WIOA MIS in both periods—notably, identifying training leads and growing industries in IL Work Net, workflow management (like reminders and appointments), determining eligibility for benefits (in IBIS), and keeping track of soft skills trainings. A limited number of staff in the post-implementation period had figured out Career Connect workflow management tools on their own; the dashboard was the most commonly used workflow management feature in Career Connect. The majority of staff, however, used preexisting methods of managing workflow, such as Outlook calendars and to-do lists.

Figure 10

### Time spent locating client info in time motion study

<table>
<thead>
<tr>
<th>Career Connect advantages</th>
<th>Same for both systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining WIOA eligibility through application</td>
<td>More use by job developers</td>
</tr>
<tr>
<td>Easily finding customer information</td>
<td>Using reports to ID clients for follow-up</td>
</tr>
<tr>
<td>Identifying training leads outside WIOA MIS</td>
<td>Workflow management outside WIOA MIS</td>
</tr>
<tr>
<td>Benefits eligibility outside WIOA MIS</td>
<td></td>
</tr>
</tbody>
</table>
• Variable 2b: Time spent using tools outside the WIOA MIS to create meaningful reports

**Measure:** Measuring the time spent using tools outside the WIOA MIS, like Excel and Word, to create usable reports is important to help understand if Career Connect has the potential to be a performance management tool or if it will continue to be simply an input system with little meaningful, day-to-day value for providers. If there is a decrease in the time spent outside the WIOA MIS in trying to prepare usable and meaningful reports, there is evidence that the WIOA MIS does indeed have potential to be used as a performance management tool.

**Findings:** Based on the staff logs, the average time spent running reports outside of the WIOA MIS decreased from baseline to post-implementation. In the baseline period, provider staff spent an average of 20.7 minutes per task running reports in data systems outside of IWDS. In the post-implementation period, provider staff spent an average of 11.1 minutes per task running reports in data systems outside of Career Connect. This decrease is statistically significant. There were not enough observations related to running reports in the cover sheets to draw inferences about time spent outside of the WIOA MIS running reports.

![Figure 11](image)

In the time motion study, the reporting functionality posed many challenges to staff in the post-implementation period. Staff largely did not know how to run reports on credentials or retention goals (which were also challenges in the baseline period), some did not know how to identify new registrants from the past 30 days, and some staff did not have user permissions to run reports at all. As a result, staff continued to rely on their memory, Excel spreadsheets, paper documentation, and other outside systems to keep track of information that would otherwise be contained in reports, as they did in the baseline period. Some staff knew how to run reports in Career Connect but did not trust their accuracy, so would verify against other methods (like IWDS reports or spreadsheets).
Variable 2c: Perceptions of ease of use of the WIOA MIS

**Measure:** Measuring staff perceptions of how well the WIOA MIS facilitates their access to the information they need is important for understanding how the end user is experiencing the system and may uncover potential training needs. An increase in positive perceptions of the ease of use of the system is evidence that Career Connect is successful in this regard.

**Findings:**

Half of post-implementation staff who had used IWDS before reported that they found IWDS easier to use than Career Connect. Equal numbers of respondents found Career Connect easier (18%) or both to be equally easy (18%), while 14 percent said they didn’t know.

Slightly more post-implementation respondents who had used IWDS before were more satisfied with IWDS (36 percent) than Career Connect (32 percent). Eighteen percent were equally satisfied with both while 14 percent said they did not know.

Staff in the post-implementation period who had used IWDS before did not find much difference in how IWDS and Career Connect helped them assess client needs. Forty-five percent said they could assess client needs equally well with both, while 9 percent preferred Career Connect, 9 percent preferred IWDS, and 36 percent said they did not know.

Provider staff found that it was harder to run reports in Career Connect that help them understand how their case load is progressing than it was in IWDS. During the baseline period, 68 percent of respondents agreed or strongly agreed that the WIOA MIS allowed them to run reports that help them understand case load progress, compared to 32 percent of respondents during the post-implementation period.
Similarly, when asked which system allowed them to run better reports, nearly half (45 percent) of the post-implementation respondents who had used IWDS reported that IWDS had better reports, while 18 percent of respondents chose Career Connect, 5 percent said both had reports of equal quality, and 32 percent did not know.

Nearly half (46 percent) of respondents during the post-implementation period reported that they were not comfortable using Career Connect, compared to 11 percent for IWDS in the baseline period. Half of respondents in the post-implementation period reported that it took them less than 3 months to become comfortable using Career Connect, while 39 percent of respondents during the baseline reported that it took them less than three months to become comfortable using IWDS.
There was no statistically significant difference between baseline and post-implementation in the perception that:

- The WIOA MIS is difficult to use.
- The WIOA MIS is user-friendly.
- Staff are overall satisfied with the WIOA MIS.
- Standard reports in the WIOA MIS are easy to access. Approximately two-thirds of respondents in both data collection periods agreed or strongly agreed that standard reports are easy to access.
- Standard reports in the WIOA MIS are useful.
- Staff are able to get custom reports quickly.
- Staff can easily find specific customer data.
- Generally, the WIOA MIS is a reliable tool that is working when staff need to use it.
- The WIOA MIS experiences many technical issues.
- Features like follow up reminders help staff manage their customer case load.
- The time staff spend using the WIOA MIS is valuable to their work.
- The time staff spend using the WIOA MIS is worth it because it allows them to do their jobs efficiently.
The time staff spend using the WIOA MIS is worth it because it allows them to do their jobs effectively.

Related to ease of use, the provider staff survey included several measures of how staff perceived the support they received on using the WIOA MIS.

More provider staff agreed that technical issues are resolved quickly with Career Connect than they were with IWDS. Eighty-one percent of respondents agreed or strongly agreed that technical issues with Career Connect are resolved quickly, compared to 48 percent of respondents for IWDS.

Figure 19

There were no statistically significant changes in staff perceptions of the following measures of support using the WIOA MIS:

- Staff received adequate formal training on how to use the WIOA MIS.
- Staff received informal on-the-job training on how to use the WIOA MIS from Partnership staff.
- Staff received informal on-the-job training on how to use the WIOA MIS from staff within their organization.
- IT updates to the WIOA MIS seem to be handled well.

Outcome 3: Duplicative data entry into multiple databases is reduced (relates to research questions 1 and 2)

The many funder-specific/mandated databases providers must feed client and program data into results in the obvious reality of providers entering the same client’s information into several databases. Furthermore, since no single one of these databases is robust enough to serve as a true cross-stream system of record, providers all keep their own Excel files to house data that don’t fit into the funder-mandated systems but that are important for the program to know. The result is a
confusing labyrinth of databases and Excel files that all contain slightly different versions of data on a client and a data entry workflow that is complex, redundant, very time consuming, and potentially error-ridden.

- Variable 3a: Number of databases/spreadsheets into which client data are entered

**Measure:** Measuring the number of databases and spreadsheets into which client data are entered is a critical indicator for understanding if the Career Connect increases efficiencies. A decrease in the number of databases/spreadsheets into which client data are entered is evidence of the Career Connect project’s success in creating a truly integrated database that automates data entry into the multitude of funder-required databases.

**Findings:** Workforce staff used fewer data systems in the post-implementation period than in the baseline as recorded by the staff logs, down from 13 to 11. However, in the cover sheets, staff reported an increase in the number of data systems used from baseline to post-implementation, up from 12 to 13. The difference in the distribution of the number of tasks per data system recorded by staff logs is statistically significant, while the difference in the distribution of the number of tasks per data system recorded by cover sheets is not statistically significant.

![Figure 20](image-url)

In the baseline period, the most commonly used data systems recorded by staff logs were IWDS, agency data systems, and “other” data systems; during this period, cover sheets reported that the most commonly used systems were IWDS, IBIS, and AbleNet. In the post-implementation period, the most commonly used data systems recorded by staff logs were Career Connect, “other” data systems, and IBIS; during this period, the cover sheets reported that the most commonly used systems were Career Connect, Excel, and internal tracking systems.
### Table 2

<table>
<thead>
<tr>
<th>Data systems used, staff logs</th>
<th>Number of tasks, baseline</th>
<th>Number of tasks, post-implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Connect, n/a</td>
<td></td>
<td>2039</td>
</tr>
<tr>
<td>Cityspan</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Datatel</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Edlink</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Excel spreadsheet</td>
<td>125</td>
<td>54</td>
</tr>
<tr>
<td>IBIS</td>
<td>45</td>
<td>59</td>
</tr>
<tr>
<td>Illinois JobLink</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>IWDS</td>
<td>2434</td>
<td>20</td>
</tr>
<tr>
<td>LinkedIn</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>My agency's job board (electronic)</td>
<td>23</td>
<td>4</td>
</tr>
<tr>
<td>My own agency's data system</td>
<td>174</td>
<td>17</td>
</tr>
<tr>
<td>Other data system or tracking tool</td>
<td>162</td>
<td>65</td>
</tr>
<tr>
<td>PACIS</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Salesforce</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Word</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>2994</td>
<td>2290</td>
</tr>
</tbody>
</table>

### Table 3

<table>
<thead>
<tr>
<th>Data systems used, cover sheets</th>
<th>Number of tasks, baseline</th>
<th>Number of tasks, post-implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abilenet</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Career Connect, n/a</td>
<td></td>
<td>736</td>
</tr>
<tr>
<td>CNAregistry</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DataTel</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Ed Assist</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>EdLink</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Email</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Excel</td>
<td>7</td>
<td>63</td>
</tr>
<tr>
<td>IBIS</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>IL WorkNet</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Internal tracking system</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>IWDS</td>
<td>582</td>
<td>5</td>
</tr>
<tr>
<td>IWP</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Other data system or tracking tool</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Salesforce</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>
Variable 3b: Percent of total clients with records in the WIOA MIS

**Measure:** Since there is no comprehensive, cross-funder system of record for workforce providers, no one system contains the full body of data for any given client, and not all workforce clients are in the WIOA MIS—only those receiving WIOA funded services are. In order for Career Connect to be maximally valuable to providers, the system must make space for all of a provider’s clients, not just their WIOA clients. Otherwise Career Connect simply becomes another redundant database and another administrative burden for providers. An increase in the percent of total clients with records in the WIOA MIS is evidence of Career Connect being truly integrated and being able to function as a case and performance management tool.

**Findings:** For most non-WIOA funding sources for which there was at least one client in either baseline or implementation periods, a greater proportion of clients had records in the WIOA MIS in the post-implementation period than in the baseline period. TANF clients had a two percentage point increase, SNAP had a 44 percentage point increase, DFSS/CDBG/CSBG had a 6 percentage point increase, while “other” funding sources had a 30 percentage point increase. However, fewer DCEO clients were entered in the WIOA MIS during the post-implementation period than in baseline (24 percentage point difference). There was not a large enough sample size to conduct tests of statistical significance. In the baseline period, there was an 83 percent response rate from site managers, while in the post-implementation period, there was an 86 percent response rate from site managers.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline Total</th>
<th>Baseline Percent in WIOA MIS</th>
<th>Post-implementation Total</th>
<th>Post-implementation Percent in WIOA MIS</th>
<th>Percentage point difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIOA</td>
<td>1198</td>
<td>100%</td>
<td>1527</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>TANF</td>
<td>208</td>
<td>7%</td>
<td>106</td>
<td>9%</td>
<td>2%</td>
</tr>
<tr>
<td>SNAP</td>
<td>72</td>
<td>10%</td>
<td>37</td>
<td>54%</td>
<td>44%</td>
</tr>
<tr>
<td>CHA</td>
<td>50</td>
<td>0%</td>
<td>0</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>DFSS/CDBG/CSBG</td>
<td>330</td>
<td>0%</td>
<td>78</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>DOJ</td>
<td>0</td>
<td>n/a</td>
<td>0</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>IDOC</td>
<td>350</td>
<td>0%</td>
<td>33</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>DCEO</td>
<td>300</td>
<td>100%</td>
<td>115</td>
<td>76%</td>
<td>-24%</td>
</tr>
<tr>
<td>DOL</td>
<td>864</td>
<td>1%</td>
<td>0</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Private Foundation</td>
<td>700</td>
<td>11%</td>
<td>0</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Other</td>
<td>551</td>
<td>0%</td>
<td>10</td>
<td>30%</td>
<td>30%</td>
</tr>
</tbody>
</table>
Outcome 4: Program administrative burden is reduced (relates to research question 1 and 2)

During the baseline data collection period, the state of duplicative data entry logically resulted in many staff hours being spent entering data into databases and tracking tools. Some of this entry was obviously necessary and not at all a bad use of staff time. However, the redundancy associated with entering the same data into multiple places leads to administrative burden—time entering redundant data that could, in theory, be spent doing other programmatic tasks.

- Variable 4a: Time spent on data entry

**Measure:** Measuring the time spent entering client data across all data systems is important for understanding if entering client data into Career Connect saves time over entering client data into multiple systems. If time spent entering data decreases overall, there is evidence that Career Connect is successful in reducing administrative burden.

**Findings:** A plurality (41 percent) of post-implementation survey respondents who had used IWDS before said that IWDS allowed them to spend less time on data entry than Career Connect. Twenty-three percent said they spent equal amounts of time on data entry in both systems, while 14 percent chose Career Connect and 23 percent said they did not know.

According to the staff logs, Career Connect reduced the overall average amount of time spent on data entry/reporting tasks. The average number of minutes spent per task went down from the baseline data collection period (15.3 minutes per task) to the post-implementation data collection period (13.6 minutes), as reported by the staff logs. The difference in mean time per task is statistically significant. However, according to the cover sheet data, there was no statistically significant difference in the amount of time spent on data entry/reporting tasks.

**Figure 21**

Comparing Career Connect to IWDS, which allows you to spend less time on data entry? (n = 22)

- 41% I don't know
- 23% Career Connect
- 23% I spend equal amounts of time on data entry in both
- 23% IWDS
The time spent on data systems tasks varies by the type of task: for example, adding new inquirant/registrants tends to take longer than looking up information or updating a report. When disaggregated by type of task completed, the following differences between baseline and post-implementation occurred:
• It took longer to add a new inquirant/registrant in the post-implementation period (38 minutes) than in the baseline period (34.1 minutes), according to the staff log data. According to the cover sheets, there was no statistically significant difference between baseline and post-implementation (the sample size is small, however).

• It took less time to add/update information in the post-implementation period (10.6 minutes) than in the baseline period (15.1 minutes), based on the staff log data. However, according to the cover sheets data, it took more time to add/update information in the post-implementation period (8.7 minutes) than in the baseline period (5.9 minutes).

• There was no statistically significant change between baseline and post-implementation for looking up information/auditing in both the staff log or cover sheet data.

• It took less time to perform tasks categorized as “other” in the post-implementation period, based on the staff logs. There was no statistically significant difference in the cover sheet data.

• There was no statistically significant change between baseline and post-implementation for running reports in either the staff log or cover sheet data.

• It took less time to add documentation in the post-implementation period (5.5 minutes) than in the baseline period (6.1 minutes), based on the cover sheet data (this was not an option for the staff logs).

Figure 24

Average time spent on all tasks, as recorded by staff logs, by study site, baseline (n = 2,987) and post-implementation (n = 2,290) data collection periods

<table>
<thead>
<tr>
<th>Study Site 1</th>
<th>Study Site 2</th>
<th>Study Site 3</th>
<th>Study Site 4</th>
<th>Study Site 5</th>
<th>All tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.2</td>
<td>3.3</td>
<td>14.8</td>
<td>12.0</td>
<td>43.0</td>
<td>13.6</td>
</tr>
<tr>
<td>9.2</td>
<td>10.3</td>
<td>15.4</td>
<td>15.2</td>
<td>54.1</td>
<td>13.3</td>
</tr>
</tbody>
</table>

Minutes
There is variation among the study sites in the types of tasks completed, average time to complete tasks, and data systems used:

- While, in the baseline period, four of the five study sites performed 60 – 100 percent of their staff log tasks in IWDS, Study Site 5 performed only 40 percent of their staff log tasks in IWDS.

- During the post-implementation period, four of the five study sites performed 85 – 100 percent of their staff log tasks in Career Connect, while Study Site 5 performed 69 percent of their staff log tasks in Career Connect.

- Similarly in the cover sheets, Study Site 5 performed just 25 percent of their baseline tasks in IWDS while the other four sites performed 80 – 99 percent of their baselined tasks in IWDS.

- During post-implementation period, Study Site 5 performed 59 percent of their cover sheet tasks in Career Connect, compared to 88 – 100 percent of the tasks in the other four sites.

- Over half of the staff log tasks at four study sites were related to adding or updating information during the baseline period, while at Study Site 2, looking up information or auditing comprised the largest proportion of staff log tasks (48 percent).

- In the cover sheet baseline data, over half of the tasks at three sites were related to adding documentation, while 90 percent of Study Site 1 tasks related to adding/updating information and over half of Study Site 2’s tasks related to looking up information/auditing.
• During the post-implementation period, 58 – 98 percent of the tasks at four sites were related to adding documentation, while the largest number of Study Site 3’s tasks (41 percent) related to adding/updating information. (See appendix E for tables)

Study Site 5 consistently took longer to complete tasks on average than the other sites during the baseline period, according to the staff logs. During the post-implementation period, Study Site 5 was in line with the other study sites on time spent adding a new inquirant/registrant, but took longer to perform the other types of tasks than other sites. There was less variation in the average time per task among the study sites in the cover sheet data, which may be related to the different nature of tasks that require accessing paper files. (See appendix E for tables)

**Outcome 5: Quality of data is improved (relates to research questions 3 and 4)**

There were several layers of concern over the quality of the data in IWDS. First, there was confusion among providers as to which indicators are the important ones for mandated reporting purposes. Second, there was not agreement about which indicators aside from the mandated ones are important for understanding client outcomes. Third, even for the indicators that were mandated to be reported, there were significant differences among providers in how these indicators are defined and therefore reported. Finally, federal and local guidance, both formal and informal, combined with fear over being disciplined for not meeting data requirements, had created a state of confusion and apprehension during the data entry process that likely led to lower quality data. Because of these issues, there was a high level of distrust in the quality of many indicators in IWDS. If data quality does not improve, providers will not use the data system as a client or performance management tool, and any system-wide data aggregation and analysis will be suspect.

• Variable 5a: Percent of best practice-recommended employment data collected and tracked the same way across providers.

*Measure:* Measuring the consistency of which data are collected and the manner in which they are tracked is important for understanding the possibility of workforce providers and funders to measure barriers and outcomes across funding streams. Increases in consistency of data collection and tracking are evidence of improved ability to measure workforce outcomes across the field.

*Findings:*

Between baseline and post-implementation, there were no statistically significant differences in self-reported frequency of assessment of:

- Literacy and numeracy
- Substance use
- Transportation needs
- Incarceration history
- Disability status
- Employment history
- Time out of the labor market
- Education levels
- Housing status
- Stability of child-care arrangements for custodial parents

More provider staff during the post-implementation period said they did not enter information about substance use anywhere in the WIOA MIS than in the baseline period (73 percent compared to 19 percent), while more provider staff during the baseline period said they entered information about substance use in a special field or section in the WIOA MIS (52 percent compared to 9 percent). During the baseline period, most provider staff reported that they entered information regarding transportation needs in the case notes section of IWDS (74 percent), while in the post-implementation periods, nearly equal amounts of respondents said they entered information regarding transportation needs in case notes (45 percent) or a special field or section in Career Connect (40 percent). Most respondents during the post-implementation period reported entering information about time out of the labor market in a special section or field in Career Connect (71 percent), while respondents during the baseline period were more evenly split between a special field or section in IWDS (37 percent), narrative section (23 percent), not entering the information in IWDS (23 percent) or case notes (16 percent).

**Figure 27**

<table>
<thead>
<tr>
<th>Where do you enter information regarding substance abuse in the WIOA MIS?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not enter this information anywhere in the WIOA MIS (19%)</td>
</tr>
<tr>
<td>Narrative section (4%)</td>
</tr>
<tr>
<td>Case Notes (26%)</td>
</tr>
<tr>
<td>A special field or section in WIOA MIS (9%)</td>
</tr>
<tr>
<td>p-value = 0.00888</td>
</tr>
<tr>
<td>Baseline (n = 27)</td>
</tr>
</tbody>
</table>

**Figure 26**

<table>
<thead>
<tr>
<th>Where do you enter information regarding transportation needs in the WIOA MIS?</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not enter this information anywhere in the WIOA MIS (5%)</td>
</tr>
<tr>
<td>Narrative section (7%)</td>
</tr>
<tr>
<td>Case Notes (0%)</td>
</tr>
<tr>
<td>A special field or section in WIOA MIS (14%)</td>
</tr>
<tr>
<td>p-value = 0.02615</td>
</tr>
<tr>
<td>Baseline (n = 42)</td>
</tr>
</tbody>
</table>
Between baseline and post-implementation, there were no statistically significant differences in how provider staff reported they enter information into the WIOA MIS regarding:

- Literacy/numeracy
- Incarceration history
- Disability status
- Employment history
- Education levels
- Housing status
- Stability of child care arrangements
- Information about what they consider to be key building blocks to successful exit

- Variable 5b: Perceptions of quality of data in the WIOA MIS

**Measure:** Measuring how staff perceive data quality is important for understanding if they are likely to trust the data enough to use the WIOA MIS as their system of record and as a client and performance management tool. Increases in positive perceptions of data quality are evidence of this.

**Findings:** A plurality (32 percent) of post-implementation respondents who had used IWDS before found that both IWDS and Career Connect allowed them to store client information with equal accuracy. Nearly a quarter (23 percent) preferred IWDS in this regard while 14 percent preferred Career Connect and 32 percent did not know.
Figure 29

Comparing Career Connect to IWDS, which allows you to store client information more accurately?

- 32% I don't know
- 23% Career Connect
- 32% I can store client information equally accurately with both
- 14% IWDS

There was no statistically significant difference on a number of measures of perceptions of data quality in the WIOA MIS, including:

- The WIOA MIS has built-in prompts to ensure data is entered correctly;
- Staff can easily correct customer data in the WIOA MIS;
- Staff often find that a customer has been entered twice;
- Terms are often clearly defined in the WIOA MIS;
- When staff revisit customer data that they've previously entered into the WIOA MIS, the data generally seem accurate.
- Staff have a clear understanding of how WIOA performance measures are defined.
- When staff receive reports from the funder, the data seem generally accurate and match their WIOA MIS records.

SUMMARY AND DISCUSSION OF FINDINGS

Respondent characteristics

The perceptions of Career Connect and IWDS come from a place of deep familiarity or, at least, regular use. Since The Partnership had not trained delegate agency staff on Career Connect’s full functionality, perceptions of how it may affect workload and administrative burden do not incorporate an understanding of its full potential.

Outcome 1: Level of information on client assessment, service usage, and outcomes is improved

Variable 1a: Number of client assessment, service usage, and outcome data points present in native client files but not in the WIOA MIS
• A main barrier to success on variable 1a was The Partnership’s decision not to activate Career Connect’s functionality to store scanned documents. Since much of what the study sites use paper files for is storing copies of documentation or signed copies of forms required for WIOA compliance, reliance on files did not decrease as much as hoped since this functionality is not currently available to users. There is the potential that reliance on paper files will decrease as The Partnership rolls out this functionality in the future.

• Another area where providers will need to continue to rely on paper files or alternative data systems is for any assessment or applications they have that are particular to their organization. Providers cannot customize Career Connect fields to their needs.

• The areas of improvement that occurred on variable 1a include reduced reliance on printed resumes, indicating that perhaps users are taking advantage of Career Connect’s resume capabilities, and fewer printouts of emails.

• Another important consideration for interpreting the native file review data is that many of the files in the sample were likely created before the advent of Career Connect and, therefore, much of the paperwork in those files are “grandfathered” in—providers are not likely to remove paperwork from files that is no longer necessary to be stored there. The full impact of Career Connect on paper file reliance is likely to become clearer as old, pre-Career Connect cases become exited and new customer files are created.

Variable 1b: Perceptions of comprehensiveness of information on clients in the WIOA MIS

• Provider staff felt that Career Connect had the capacity to store more types of client information than IWDS did, but that IWDS allowed them to store more information required for compliance with non-WIOA funders. There was a higher level of uncertainty about Career Connect’s capacity to store non-WIOA compliance information than there was for IWDS. This implies that provider staff members feel that Career Connect has more flexibility than IWDS but perhaps are not familiar enough with Career Connect to understand its capacity to store non-WIOA compliance information. In addition, providers had fewer non-WIOA clients during post-implementation than they did in the baseline period. This means staff may have had fewer opportunities to test out Career Connect with non-WIOA clients.

• There was no change from baseline to post-implementation on other perceptions of comprehensiveness of information, indicating that the roll-out of Career Connect did not fully achieve the desired effect of helping provider staff believe that information is more comprehensive than it was in the past.

Outcome 2: Providers’ access to desired information increases

Variable 2a: Time spent locating desired information on a client in the WIA MIS

• There was no significant change between baseline and post-implementation in either the perception that provider staff spend less time locating client data nor in the amount of time staff spent running reports measured by staff logs and cover sheets. Given the consistency of these findings, Career Connect likely did not meet its intended outcome of reducing the amount of time spent running reports between baseline and post-implementation.

• One major caveat to these findings is that Career Connect had not yet trained staff on how to run reports at the time of data collection. Some provider staff were investigating the
reporting function on their own, while others did not use it at all and accessed IWDS to get reports they were familiar with. It is therefore not surprising that the time spent accessing reports did not change, given the learning curve associated with learning this functionality without training on how to best use it or reliance on preexisting methods.

**Variable 2b: Time spent using tools outside the WIOA MIS to create meaningful reports**

- This finding indicates that Career Connect did meet its intended goal of reducing the average amount of time spent outside of the WIOA MIS running reports.

**Variable 2c: Perceptions of ease of use of the WIOA MIS**

- Provider staff rated IWDS as easier to use or equally easy to use as Career Connect on most measures where there were significant differences between baseline and post-implementation. Regardless of the “objective” user-friendliness of IWDS or Career Connect, perceptions are key in this measure and they are not in Career Connect’s favor. At the time of data collection, The Partnership had only trained provider staff on the most basic functionality. Some of the negative perceptions of Career Connect may be due in part to insufficient change management or training.
- Staff reported that technical issues were resolved more quickly with Career Connect than with IWDS, so in that respect, Career Connect has improved the user experience.

**Outcome 3: Duplicative data entry into multiple databases is reduced**

**Variable 3a: Number of databases/spreadsheets into which client data are entered**

- The staff logs and cover sheets reported slightly different trends in the number of data systems used: according to staff logs, they went down from 13 to 11, but according to cover sheets, they went up from 12 to 13. These differences may be due to the different types of tasks that involved cover sheets: cover sheets were mostly used for adding documentation and very rarely for running a report, while staff logs were used mostly for adding/updating information and looking up information/auditing—staff may use a different set of data systems for those tasks. Given the ambiguity of the results and the small difference in number of systems, it does not seem that Career Connect made much headway in decreasing the number of data systems used. This is not surprising, since most of the system interfaces aside from IWDS originally envisioned in the systems requirement document were eventually removed from the scope of work.

**Variable 3b: Percent of total clients with records in the WIOA MIS**

- For many of the non-WIOA funding sources, Career Connect achieved its objective of increasing the percentage of clients whose records are stored in the WIOA MIS. We cannot be certain whether this is entirely due to Career Connect’s increased flexibility in storing non-WIOA clients compared to IWDS, since some of the clients may be funded by WIOA in addition to the other funding source.
Outcome 4: Program administrative burden is reduced

**Variable 4a: Time spent on data entry**

- On this variable, perceptions and reality diverge: staff believe that they are spending more time on data entry in Career Connect than in IWDS, while in reality, the staff logs showed that the average amount of time spent per task went down from 15.3 minutes in IWDS to 13.6 minutes in Career Connect. While the cover sheets did not show a change, that may be due to the fact that most uses of cover sheets related to different types of tasks than recorded in the staff logs. This divergence between perception and reality could be related to a number of factors. For one, it took longer to add a new inquirant/registrant in Career Connect than in IWDS, and the change in this task could stick out in provider staff’s minds as particularly onerous, overshadowing the shorter time it takes to add or update information (indeed, during the time motion study, several staff members expressed their displeasure without prompting at the new process for adding inquirant/registrants). Part of the reason that it takes longer to add an inquirant/registrant in Career Connect than in IWDS is because Career Connect asks you to input more information up-front in order to calculate customer eligibility and improve data comprehensiveness and quality, which is another goal of the Career Connect project. These goals—reducing time on data entry, increasing data comprehensiveness and quality—are inherently in tension with each other.

- There was significant variability among the study sites in how they used the data systems, how long it took them to complete tasks, and what data systems they used. This could indicate very different business processes, performance, computer literacy, capacity, and support systems in place across delegate agencies. These differences highlight the challenges inherent in developing a data system that works for everyone and effectively managing change with a diverse audience.

Outcome 5: Quality of data is improved

**Variable 5a: Percent of best practice-recommended employment data collected and tracked the same way across providers**

- There were no changes between baseline and post-implementation in the frequency of assessment of key best practice workforce data collected. However, there is some evidence that Career Connect has more dedicated data fields available to collect key workforce data than did IWDS, requiring staff to rely less on case notes and making it easier to query by customer characteristics. Staff reported an increase in recording data in dedicated sections of the WIOA MIS about transportation needs and time out of the labor market, but a decrease in reporting about substance use in a particular section.

- The relatively small number of changes on this outcome may be due to a decision by The Partnership to advise delegate agencies not to use the Objective Assessment portion of Career Connect, which was designed to capture broader information about client needs and barriers. There was a lack of consensus among stakeholders about the relative usefulness of collecting this information versus the invasiveness of the questions.
Variable 5b: Perceptions of quality of data in the WIOA MIS

- Overall, perceptions of data quality did not increase with the implementation Career Connect. They did not decrease, either. This may be related to minimal training on the system that resulted in a lack of confidence in how it is being used.

IMPLICATIONS FOR POLICY AND PRACTICE

- There are still areas where Career Connect functionality has not been fully realized or communicated to provider staff but that could make major positive impacts on intended outcomes of the Career Connect project. Namely, activating the capability to store electronic documentation and conducting more intensive training on the workflow management and reporting features of Career Connect have the potential to save significant time, help providers learn from their data, and make case managers more effective at their work.
- The Partnership should consider revisiting whether Career Connect should allow delegate agencies to add custom fields in the future in order to accommodate custom application or assessment questions. It appears that many providers (indeed, all of the study sites) have some sort of custom application information that they collect, and empowering them to learn from this data alongside required measures would make the system much more integrated and valuable.
- In several cases, provider staff perceptions of Career Connect did not reflect Career Connect’s actual features—for example, beliefs that Career Connect allowed them to collect less information for compliance with non-WIOA funders than IWDS, or that data entry takes more time with Career Connect than with IWDS. The prevalence of these perceptions runs the risk that provider staff will not see the value in entering data in Career Connect, potentially threatening data quality and comprehensiveness. This could be addressed with more intensive training on data definitions, compliance, and features that add value to case managers’ workflow, as well as the development of a comprehensive policies and procedures manual. For example, training could acknowledge that adding new inquirants/registrants does take longer with Career Connect, but show how that process helps case managers on the back end by showing customer eligibility for different programs and ultimately improving data quality so they can learn and improve.
- The reporting function of Career Connect in particular showed evidence of not being used to its full potential by provider staff, and the amount of time staff spent on reporting did not change. This is not surprising, given that The Partnership had not yet trained provider staff on reporting at the time of data collection; the time motion study showed that some staff had figured out how to run reports on crucial tasks, like identifying customers for follow-up, but many reports remained opaque to them, or they did not have user permissions to run reports at all. Even when they did know how to run reports, some staff did not trust them and would reference other systems to verify Career Connect’s accuracy. Still, 3.5 – 5 months had elapsed between Go Live and data collection, and during that staff still needed to be able to run reports regularly in order to meet compliance requirements and do their jobs effectively. This caused pain points and frustration that arose during the time motion study and hurt perceptions of Career Connect’s utility. Future projects should consider more intensive up-front training and change management, at the very least on features that are so commonly
used, instead of waiting months to phase it in. However, it is to The Partnership’s credit that staff spent less time running reports outside of the WIOA MIS in the post-implementation period than in the baseline period.

- As noted in the implementation study, for much of the project, there were not sufficient Partnership staff resources to engage in adequate communications beyond core project stakeholders or change management. This was likely a factor in the perceptions that IWDS is easier to use than Career Connect. Future projects should incorporate a change management communications strategy with a longer runway before a new system goes live. Insufficient training on functionality beyond the most basic functionality may be a factor as well. Finally, most provider staff used IWDS for a long time before they used Career Connect; it may simply take more time and familiarity for them to become fully comfortable with it and fully make the transition, especially if they have limited computer literacy to begin with.

- The Partnership’s investment in systems and processes to address technical issues with Career Connect did make a positive impression on provider staff. This demonstrates the value for future projects of extensive testing that involves front-line staff, creating help desks and ticketing procedures, strong communication with the SDC, and devoting sufficient staff resources to technical support.

- As noted in the implementation study, the number of data systems that were to interface with Career Connect were reduced drastically over the course of the project as the technical, resource, and political difficulties in creating system interfaces became more apparent. Ultimately, Career Connect only interfaced with IWDS at the time of Go Live. It is therefore not surprising that the outcomes study found little to no difference in the number of data systems used between baseline and post-implementation. Future projects should carefully consider the goals of integrated management information systems projects in the future—should interfacing with multiple systems be a goal to begin with? If so, plan with a full understanding of the significant time and resources it will take to get it off the ground.

- Future projects, when setting goals, should consider how these goals may be add odds with each other and prioritize which is more important. For example, Career Connect aimed both to reduce time on data entry tasks as well as to improve data comprehensiveness and quality. It takes time to increase the amount of data you enter and make sure it’s done well. Some changes can be made around the edges to make the process of data entry slightly faster, but increasing data elements may eat up those time gains.

- When designing future trainings, The Partnership as well as future projects should consider how to tailor curricula to staff members who are at very different levels of comfort and computer literacy. When observing trainings, evaluators saw some staff who picked it up very quickly and some who quietly struggled, and trainers tried to help the ones falling behind but ultimately had to move on to cover everything. This variability is evidenced across study sites in how they spent different amounts of time performing tasks. Going forward, doing some assessment of where staff are in the learning process—through advance surveys or focus groups—before developing curricula and tracking staff into trainings that are appropriate to their expertise level could be valuable to ensuring that training is as effective as possible.
Appendix A: Detailed Evaluation Methodology

OUTCOMES STUDY
The outcomes study is a quantitative pretest-posttest design, consistent with the knowledge base in the field around MIS work in workforce development.

Research Questions
1. Does Career Connect change efficiency and administrative burden for workforce development providers?
2. Does Career Connect change end user experience/satisfaction with Management Information Systems?
3. Does Career Connect change the ability of case managers to assess client needs?
4. Does Career Connect give providers the tools to make more data-informed decisions?

Participants, Population, and Units of Analysis
In the long-term, Career Connect is expected to yield better client-level outcomes due to it facilitating greater efficiencies and improved service provision once fully implemented with WIA providers and then with non-WIOA and potentially even with non-Cook County providers in the future. Within the timeframe of the WIF grant and this evaluation, however, the outcomes that will be assessed are at the WIOA provider-level, not the client-level. This is based on the theory that realizing provider-level outcomes is the necessary precursor to realizing improved client and workforce system outcomes.

Therefore, the project and evaluation population is WIOA workforce providers in Cook County. Five of these WIOA providers were participants in the evaluation, referred to as “study sites.” These organizations were selected by The Partnership and the evaluation team in order to achieve a diverse range of provider sizes, populations served, funding streams represented, and geographies served, as well as for their participation in the implementation of Career Connect as “early adopters.”

The unit of analysis for this evaluation is the organization represented by provider staff (i.e., Career Connect end-users) at the study site organizations. Due to the long period of time between baseline data collection and post-implementation data collection caused by delays in Career Connect implementation, there was significant staff turnover at the study sites (approximately 40 percent of the staff present at baseline were present during post-implementation). Therefore, the baseline study population and the post-implementation study population are treated here as independent samples, and statistical analysis methods for independent samples (rather than paired samples) were used. Baseline data were collected in August – September 2014 and post-implementation data were collected in September – November 2017, 3.5 – 5 months after Career Connect Go Live. An initial round of baseline data collection occurred in March – April 2014, and then evaluators decided to conduct a second round when it became clear implementation of Career Connect would be delayed. Evaluators decided to only use data from the second round of baseline data collection in this outcomes study so as not to overstate the findings from staff present in both baseline periods, as well as because the second baseline period took place closer to the same time of year as the post-implementation data collection, reducing variability due to seasonal differences in the work.
Variables
This project’s expected outcomes are operationalized into measurable variables below. For most outcomes, the evaluation intentionally includes measures of provider perceptions in addition to the variables that can be measured with more rigor. When designing a new data system, the way a system’s users feel about the system is almost as important as the functionality and design of the system, since the best system in the world will fail if perceptions about the system are negative.

Outcome 1: Level of information on client assessment, service usage, and outcomes is improved (relates to research questions 3 and 4)
When the project began, workforce providers had no comprehensive, cross-funder system of record. This means that their client data were spread over multiple databases, Excel files, and paper files, none of which contained a complete account of any given client. In order for staff to understand a client’s full set of needs, service utilization, and outcomes, they had to comb through multiple databases and Excel files, never fully knowing if they indeed had the full picture they needed to make decisions about future services and follow-up. Similarly, Cook County WIA providers did not use a standard intake and assessment process and therefore did not collect directly comparable data, limiting system-wide data aggregation and analysis. Career Connect aimed to improve providers’ ability to access information about client assessment, service usage, and outcomes.

Variable 1a: Number of client assessment, service usage, and outcome data points present in native client files but not in the WIOA MIS
Measuring which elements from native client files are also in the WIOA MIS is important for understanding the potential for Career Connect to be used as the system of record and as a client management and performance management tool. Importantly, this variable is about understanding the elements in the paper file that are not possible to track within the WIOA MIS, not how well providers are doing at entering required information. A decrease in the number elements that are present in the native files but not the WIOA MIS is evidence of Career Connect success in this regard.

Variable 1b: Perceptions of comprehensiveness of information on clients in the WIOA MIS
Measuring staff perceptions about the comprehensiveness of information on clients in the WIOA MIS is an important indication that Career Connect is meeting one of its fundamental goals, which is to be integrated so that providers can use it as a client and performance management tool. Furthermore, staff perceptions of this is important to understand since if reality changes but perceptions do not, there may be need for more training or design tweaks. Increases in favorable frontline worker perceptions of the comprehensiveness of information on clients are evidence that Career Connect is successful in this regard.

Outcome 2: Providers’ access to desired information increases (relates to research questions 1, 2, 3, and 4)
The WIA MIS active at the baseline period was characterized by inflexible and cumbersome reporting and query tools that did not easily yield the information providers needed to engage in performance management and to complete grant reports. Providers also reported that the interface itself was confusing, and even long-time system users reported frustration in trying to navigate to the exact
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information they were seeking. Additionally, since there was no comprehensive, cross-funder system of record, when providers wanted to pull data for reporting and managing purposes, they had to manually match records from a variety of sources. These realities resulted in inefficiencies and likely inaccuracies in reporting.

Variable 2a: Time spent locating desired information on a client in the WIOA MIS
Measuring the time spent locating desired information on clients is important for understanding if Career Connect is more navigable than IWDS and saves time. If time spent locating desired information on a client decreases, there is evidence that Career Connect is successful in this regard.

Variable 2b: Time spent using tools outside the WIOA MIS to create meaningful reports
Measuring the time spent using tools outside the WIOA MIS, like Excel and Word, to create usable reports is important to help understand if Career Connect has the potential to be a performance management tool or if it will continue to be simply an input system with little meaningful, day-to-day value for providers. If there is a decrease in the time spent outside the WIOA MIS in trying to prepare usable and meaningful reports, there is evidence that the WIOA MIS does indeed have potential to be used as a performance management tool.

Variable 2c: Perceptions of ease of use of the WIOA MIS
Measuring staff perceptions of how well the WIOA MIS facilitates their access to the information they need is important for understanding how the end user is experiencing the system and may uncover potential training needs. An increase in positive perceptions of the ease of use of the system is evidence that Career Connect is successful in this regard.

Outcome 3: Duplicative data entry into multiple databases is reduced (relates to research questions 1 and 2)
The many funder-specific/mandated databases providers must use results in the obvious reality of providers entering the same client’s information into several databases. Furthermore, since no single one of these databases is robust enough to serve as a true cross-stream system of record, providers all keep their own Excel files to house data that don’t fit into the funder-mandated systems but that are important for the program to know. The result is a confusing labyrinth of databases and Excel files that all contain slightly different versions of data on a client and a data entry workflow that is complex, redundant, very time consuming, and potentially error-ridden.

Variable 3a: Number of databases/spreadsheets into which client data are entered
Measuring the number of databases and spreadsheets into which client data are entered is a critical indicator for understanding if the Career Connect increases efficiencies. A decrease in the number of databases/spreadsheets into which client data are entered is evidence of the Career Connect project’s success in creating a truly integrated database that automates data entry into the multitude of funder-required databases.

Variable 3b: Percent of total clients with records in the WIOA MIS
Since there is no comprehensive, cross-funder system of record for workforce providers, no one system contains the full body of data for any given client, and not all workforce clients
are in the WIOA MIS—only those receiving WIOA funded services are. In order for Career Connect to be maximally valuable to providers, the system must make space for all of a provider’s clients, not just their WIOA clients. Otherwise Career Connect simply becomes another redundant database and another administrative burden for providers. An increase in the percent of total clients with records in the WIOA MIS is evidence of Career Connect being truly integrated and being able to function as a case and performance management tool.

**Outcome 4: Program administrative burden is reduced (relates to research question 1 and 2)**

During the baseline data collection period, the state of duplicative data entry logically resulted in many staff hours being spent entering data into databases and tracking tools. Some of this entry was obviously necessary and not at all a bad use of staff time. However, the redundancy associated with entering the same data into multiple places leads to administrative burden—time entering redundant data that could, in theory, be spent doing other programmatic tasks.

**Variable 4a: Number of hours spent on data entry**

Measuring the time spent entering client data across all data systems is important for understanding if entering client data into Career Connect saves time over entering client data into multiple systems. If time spent entering data decreases overall, there is evidence that Career Connect is successful in reducing administrative burden.

**Outcome 5: Quality of data is improved (relates to research questions 3 and 4)**

There were several layers of concerns over the quality of the data in IWDS. First, there was confusion among providers as to which indicators are the important ones for mandated reporting purposes. Second, there was not agreement about which indicators aside from the mandated ones are important for understanding client outcomes. Third, even for the indicators that were mandated to be reported, there were significant differences among providers in how these indicators are defined and therefore reported. Finally, federal and local guidance, both formal and informal, combined with fear over being disciplined for not meeting data requirements, had created a state of confusion and apprehension during the data entry process that likely led to lower quality data. Because of these issues, there was a high level of distrust in the quality of many indicators in IWDS. If data quality does not improve, providers will not use the data system as a client or performance management tool, and any system-wide data aggregation and analysis will be suspect.

**Variable 5a: Percent of best practice-recommended employment data collected and tracked the same way across providers.**

Measuring the consistency with which data are collected and the manner in which they are tracked is important for understanding the possibility of workforce providers and funders to measure barriers and outcomes across funding streams. Increases in consistency of data collection and tracking are evidence of improved ability to measure workforce outcomes across the field.

**Variable 5b: Perceptions of quality of data in the WIOA MIS**

Measuring how staff perceive data quality is important for understanding if they are likely to trust the data enough to use the WIOA MIS as their system of record and as a client and performance management tool. Increases in positive perceptions of data quality are evidence of this.
Data Sources and Collection
While there was little precedent for an outcome evaluation of this type of intervention, these data sources are consistent with and build upon the body of literature on evaluations of system integration efforts.\(^1\) Data were collected through a combination of native client file reviews, staff surveys, time-motion studies, staff logs, and client file tracking.

*Variable 1a: Number of client assessment, service usage, and outcomes data points that are present in native client files but not in the WIOA MIS*

*Variable 3b: Percent of total clients with records in the WIOA MIS*

**Data Source:** Native client files and WIOA MIS

**Sampling Plan:** The sample for 1a is limited to WIOA clients, since at baseline non-WIOA clients were not entered into the WIOA MIS. Evaluators worked with provider staff at each study site to randomly select 10 active WIOA client files, for a total of 90 - 100 client files across all sites. To collect baseline data related to variable 3b, each study site received a survey.

**Data Collection:** Based on these sampled files, evaluators assessed elements contained within the paper files that cannot be collected or housed in the WIOA MIS. To collect baseline data related to variable 3b, evaluators assembled a brief survey asking for the total workforce client caseload and the number of those that are WIOA clients.

To collect intervention data related to variable 3b, evaluators asked in the same survey for the percent of total client records (variable 3b) existing as active clients in the WIOA MIS.

**Timing:** Data collection occurred at baseline in August – September 2014 and post-implementation data were collected in September – November 2017, after the prototype Career Connect was implemented across delegate agencies.

**Analysis:** Evaluators reported on the pre- and post-implementation percentages of non-WIOA clients present in the WIOA MIS and the percentage change between periods. The sample was not sufficiently large enough to conduct tests of statistical significance. Evaluators used qualitative analysis methods to identify how client assessment, service usage, and outcomes data points that were present in native client files but not the WIOA MIS changed over time.

**Limitations:** During the intervention period, the Career Connect may have contained data on non-WIOA clients, but since the WIOA MIS at baseline only housed data for WIOA clients, the analysis for variables 1a excluded non-WIOA clients. Though WIOA client records may differ in some unknown way from non-WIOA client records (perhaps due to one set of clients having more complex barriers, for instance, that influences how well data are entered into WIOA MIS) it is more likely WIOA client

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records will offer good insight into completeness since federal WIOA data requirements are most stringent.

Variable 1b: Perceptions of comprehensiveness of information on clients in the WIOA MIS

Variable 2c: Perceptions of ease of use of the WIOA MIS

Variable 5c: Perceptions of quality of data in the WIOA MIS

Variable 5a: Percent of best practice-recommended employment data collected and tracked the same way across providers.

Data Source: Frontline staff and management staff

Sampling Plan: Management were asked to generate a list of all staff at their organization and categorize their use of WIOA MIS as none, limited, moderate, or heavy. Evaluators selected a purposive sample of all staff with moderate or heavy WIOA MIS use since they were best equipped to answer questions about WIOA MIS. There was significant staff turnover between the baseline and post-implementation data collection periods (approximately 40 percent of staff were present in both periods), so the two samples are being treated as independent rather than paired. The response rate for the baseline survey was 76 percent (n = 61) and the response rate for the post-implementation survey was 60 percent (n = 29).

Data Collection: Evaluators developed a provider survey, which included sections on data comprehensiveness, ease of use of WIOA MIS, data quality, and indicator definitions. For each section, a series of questions were developed, which were informed by evaluator conversations with the SRC, The Partnership, providers on the Advisory Council, and the Systems Requirement Document. The survey was administered using online survey software with email invitations. This method of data collection has been proven comparable with paper surveys and an early Career Connect project effort by the SRC to survey all Cook County WIOA provider staff yielded a 52 percent rate. The survey was open for approximately six weeks during both data collection periods.

Timing: Data collection occurred at baseline in November 2014 and post-implementation data were collected in November 2017, after the prototype Career Connect was implemented across delegate agencies.

Analysis: The survey questions in the comprehensiveness, ease of use, and data quality sections were largely in the form of Likert scales. Questions on collecting and tracking best practice data were multiple choice. Change from baseline to intervention period was assessed for each question since each will represent a certain dimension of comprehensiveness, ease of use, or data quality. Evaluators first tested to determine if the data met the conditions for parametric tests and assessed whether the data were normally distributed by conducting a Shapiro-Wilk test for normality. Since the conditions were not met, evaluators conducted Mann-Whitney U tests to test for differences in means (for Likert scales) and Fisher’s exact tests to test for differences in distributions (for multiple-choice tests). A confidence interval of 95 percent was used to assess significance.

Limitations: People’s perceptions of any given thing are subject to numerous influences that may or may not be related to the intervention. By itself, a measure of perception is limiting and lacks rigor,
but combined with more rigorous measures it can add valuable understanding and context. Engaging staff on their perceptions of the new system has the added benefit of communicating respect and establishing relatedness with staff. Establishing relatedness has been demonstrated to enhance motivation in the workplace, which could have smoothed the transition to the new Career Connect processes. Additionally, just because a person knows that best practices dictate data should be collected, assessed, and tracked in a certain way does not mean they actively do so the same way with each customer. That is why this notion of consistency within and among providers on this is being measured in several ways. Together, changes across the different related variables can substantiate or invalidate each other. In addition, Career Connect had not been fully implemented at the time of post-implementation data collection, which means that the perceptions measured are not based on Career Connect’s full functionality.

Variable 2a: Time spent locating desired information on a client in the WIOA MIS

Variable 2b: Time spent using tools outside the WIOA MIS to create meaningful reports

Data Source: Frontline staff and management staff

Sampling Plan: Management were asked to generate a list of all staff at their organization and categorize their use of WIOA MIS as none, limited, moderate, or heavy. Evaluators selected a purposive sample of up to 4 staff from each organization, two with moderate and two with heavy WIOA MIS use, for a total of up to 20 staff across all providers.

Data Collection: Evaluators conducted a time-motion analysis with the sampled staff at each organization. This involved the evaluators developing a series of tasks that mimicked those staff may routinely engage in while using WIOA MIS. Task development was informed by evaluator conversations with the SRC, The Partnership, and providers on the advisory committee. Evaluators passively observed staff performing these tasks and documented the steps they take to complete the task. While evaluators attempted to time the staff performing these tasks, they found that it was frequently not possible to do so during the baseline period due the inability of performing some tasks with a “dummy” client or up-front work required before the task could be performed. Therefore, the time analysis was dropped from the study.

Timing: Data collection occurred at baseline in August – September 2014 and post-implementation data were collected in September – November 2017, after the prototype Career Connect was implemented across delegate agencies.

Analysis: Content analysis was conducted to qualitatively assess the motions staff take to complete each task and how they changed from baseline to post-implementation.

Limitations: Though necessary to control for comparability between data collection periods, pre-defined, non-real world tests have the drawback of still being somewhat artificial, and so the steps spent on a task may not truly reflect the steps staff would spend on the real associated task. Additionally, the nature of this method of data collection, involving direct observation as it does, may lead research participants to have conscious or unconscious reactions that impact their speed. The data collection methods were presented to participants in a way that emphasizes that this was not a test and that data would never be reported to their supervisors or anyone else. Additionally, since this will likely occur during each data collection time frame, it at least will be a consistent source of error. Another limitation involves staff experience. Staff with more or longer WIOA MIS experience may perform tasks more quickly. Similarly, once Career Connect is implemented, the program will be new to all staff and so efficiency spent doing tasks may actually decrease due to lack of familiarity with the system. These realities are somewhat uncontrollable, but the evaluators documented them as contextual pieces and interpreted results through this lens.

Variable 3a: Number of databases/spreadsheets into which client data are entered

Variable 4a: Number of hours spent on data entry

Data Source: Frontline staff and management staff and paper client files

Sampling Plan: Management were asked to generate a list of all staff at their organization who touch client paper files or use client databases/spreadsheets. Evaluators selected a random sample of all staff from the list. There were 1,490 paper client files included in the baseline data collection and 1,587 paper client files included in post-implementation data collection. There were 3,095 tasks from 45 staff in the staff logs during the baseline period and 2,290 tasks from 42 staff in the post-implementation period.

Data Collection: Evaluators developed logs for staff to track their use of various data systems. The log tracked time spent in minutes, which database was being used, and what task was being completed (e.g., data entry, lookup). Evaluators also developed cover sheets for paper client files that every staff (regardless of if they are in the sample logging their hours) needed to fill in every time the file was touched. The form had fields for staff initials, time spent, task performed, and data system used.

Timing: Data collection occurred at baseline in August – September 2014 and post-implementation data were collected in September – November 2017, after the prototype Career Connect was implemented across delegate agencies. The data collection time periods lasted for one month. The one-month data collection time periods were intended to smooth out any week-to-week or month-to-month anomalies in data entry (caused by an audit, for example).

Analysis: Evaluators took the logs and aggregated the number of data systems used and time spent by task by provider. Similarly, evaluators took the cover sheets and aggregated the number of data systems used and time spent by task by provider.

Evaluators first tested to determine if the data met the conditions for parametric tests and assessed whether the data were normally distributed by conducting a Shapiro-Wilk test for normality. Since
conditions were not met, evaluators conducted Mann-Whitney U tests to test for differences in means (for Likert scales) and Fisher’s exact tests to test for differences in distributions (for multiple-choice tests). A confidence interval of 95 percent was used to assess significance.

Limitations: Data collected through staff logs and cover sheets may suffer from a variety of potential error due to human behavior. Staff were instructed to track data systems on an ongoing basis, throughout each day, but may have forgotten to track until the end of the day or week (leading to potential recall problems) or forgot to track entirely (leading to missing data that evaluators likely won’t even know is missing). This potential error source should have at least been consistent across data collection time frames. Also, since Career Connect was in its preliminary stages during the intervention evaluation phase, some key functionality in Career Connect was not yet up and running, which means that the outcomes measured are not based on Career Connect’s full functionality.
Appendix B: Career Connect Project Logic Model

**GOAL:** An Integrated Workforce Information System (IWIS) that functions as a case management and performance management tool and facilitates greater work efficiencies and cost effectiveness.

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Activities</th>
<th>Outputs</th>
<th>Impact</th>
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</thead>
<tbody>
<tr>
<td>Systems Requirement Contractor’s (SRC) expertise on the context of workforce development across funding streams &amp; public agencies, particularly in Illinois</td>
<td>Research best practices and lessons learned from the field related to systems integration work</td>
<td>Functional data sharing agreements are in place with DCEO, IDHS, IDES</td>
<td>Workforce clients and employers have better economic outcomes</td>
</tr>
<tr>
<td>The SRC’s relationships with local workforce providers</td>
<td>Gather input from workforce development stakeholders about system requirements and functionality (stakeholder engagement)</td>
<td>A prototype Integrated Workforce Information System (IWIS) is functional and is based on stakeholder needs</td>
<td>Cook County realizes broader economic gains</td>
</tr>
<tr>
<td>The Chicago Cook Workforce Partnership (the Partnership) and the SRC’s Relationships with the Illinois Department of Commerce and Economic Opportunity (DCEO), the Illinois Department of Human Services (IDHS), and the Illinois Department of Employment Security (IDES) agency staff</td>
<td>Identify priority indicators and common definitions</td>
<td>A standardized client intake and comprehensive assessment process is a functional component of IWIS</td>
<td>Workforce development field becomes better coordinated and less siloed</td>
</tr>
<tr>
<td>WIF funding</td>
<td>Map out IWIS requirements (function categories, measures, and definitions) and prioritize them</td>
<td>A regularized client intake and comprehensive assessment process is a functional component of IWIS</td>
<td>Long Term</td>
</tr>
<tr>
<td>The Partnership’s reform agenda</td>
<td>Develop IWIS and conduct early stages of testing</td>
<td>Staff from five “early-adopter” providers are equipped to use IWIS</td>
<td></td>
</tr>
<tr>
<td>System Requirement Developer’s (SRD) expertise and technical skill in database design</td>
<td>Create buy-in with DCEO, IDHS, and IDES around IWIS and how IWIS will interface with existing systems</td>
<td>Providers’ ability to run customized reports and queries increases (1,2,3,4)</td>
<td></td>
</tr>
<tr>
<td>The SRC’s relationships with local workforce providers</td>
<td>Create buy-in with private funders around IWIS and how IWIS will interface with existing systems</td>
<td>Duplicative data entry into multiple databases is reduced (1,2)</td>
<td></td>
</tr>
<tr>
<td>Develop IWIS training for five “early-adopter” providers</td>
<td>Develop IWIS and conduct early stages of testing</td>
<td>Program administrative burdens are reduced (1,2)</td>
<td></td>
</tr>
<tr>
<td>Develop data definitions manual/users guide</td>
<td>Create buy-in with DCEO, IDHS, and IDES around IWIS and how IWIS will interface with existing systems</td>
<td>Quality of data entered is improved (3,4)</td>
<td></td>
</tr>
<tr>
<td>Address legality and privacy issues related to data sharing and system integration</td>
<td>Develop standard client intake and comprehensive assessment process and build it into IWIS</td>
<td>Staff from five “early-adopter” providers are equipped to use IWIS</td>
<td></td>
</tr>
<tr>
<td>Develop a governance and sustainability plan for IWIS</td>
<td>Develop standard client intake and comprehensive assessment process and build it into IWIS</td>
<td>IWIS is fully implemented, after a rolling implementation period, at all WIA agencies</td>
<td></td>
</tr>
<tr>
<td>System Requirement Contractor’s (SRC) expertise on the context of workforce development across funding streams &amp; public agencies, particularly in Illinois</td>
<td>Develop standard client intake and comprehensive assessment process and build it into IWIS</td>
<td>IWIS is used as a case management and performance management tool</td>
<td></td>
</tr>
<tr>
<td>The SRC’s relationships with local workforce providers</td>
<td>Develop standard client intake and comprehensive assessment process and build it into IWIS</td>
<td>Agencies outside the WIA system use IWIS</td>
<td></td>
</tr>
<tr>
<td>The Chicago Cook Workforce Partnership (the Partnership) and the SRC’s Relationships with the Illinois Department of Commerce and Economic Opportunity (DCEO), the Illinois Department of Human Services (IDHS), and the Illinois Department of Employment Security (IDES) agency staff</td>
<td>Develop standard client intake and comprehensive assessment process and build it into IWIS</td>
<td>IWIS becomes a rich data set for future research and evaluation</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C: Changes to Project Timeline and Scope

The table below summarizes the high-level original timeline compared to the revised, actual timeline.

<table>
<thead>
<tr>
<th>COMPONENT OF WORK</th>
<th>ORIGINAL TIMELINE</th>
<th>REVISED/ACTUAL TIMELINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Chicago Cook Workforce Partnership (The Partnership) is awarded the WIF grant</td>
<td>July 2012</td>
<td>No change.</td>
</tr>
<tr>
<td>Systems development contractor procurement and contract negotiation</td>
<td>August 2013 – December 2013</td>
<td>August 2013 – January 2014: while mostly on track, the contract negotiations with the SDC took a little longer than expected.</td>
</tr>
<tr>
<td>Evaluation begins</td>
<td>October 2013</td>
<td>No change</td>
</tr>
<tr>
<td>Career Connect development, internal testing, and user testing</td>
<td>January 2014 – December 2014</td>
<td>February 2014 – May 2016: development is seriously delayed by challenges related to developing interfaces with other systems and the passage of WIOA, among other things.</td>
</tr>
<tr>
<td>Career Connect is implemented for Early Adopters, a small group of providers selected to use the system first</td>
<td>January 2015</td>
<td>May 2015 – October 2015: instead of implementing all of Career Connect with a small group of Early Adopters, The Partnership decided to implement a Phase I, comprised of business services functionality, to all delegates. Early Adopter agencies served as testers before the launch. Adult and dislocated worker delegates began using Career Connect business services first in May and then youth delegates began using it in October.</td>
</tr>
<tr>
<td>Phased Career Connect implementation to the rest of the WIA/WIOA delegates</td>
<td>February 2015 – June 2015</td>
<td>June 2017: instead of implementing all of Career Connect with a small group of Early Adopters and then rolling it out with the rest of the delegates, The Partnership implemented Phase I – Business Services to all delegates over several months in 2015 and then implemented Phase II – Case Management services to all delegates in June 2017. Training for the phase II – Case Management launch occurred in May 2017.</td>
</tr>
<tr>
<td>WIF grant ends</td>
<td>June 30, 2015</td>
<td>June 30, 2017: The Partnership’s no-cost extension from DOL, approved in February 2015, extended the grant to June 2017 to allow for Career Connect to include WIOA changes and for the evaluation to be completed.</td>
</tr>
<tr>
<td>Evaluation ends</td>
<td>June 30, 2015</td>
<td>March 31, 2018: Due to the delay in the implementation of Career Connect to June 2017, the full evaluation was not completed until March 2018.</td>
</tr>
</tbody>
</table>
PROJECT SCOPE

The original project logic model, represented in narrative here in the left column and visually in Appendix B, articulates the Career Connect project’s intended scope, activities, outputs, short-term outcomes, and long-term outcomes at the time the project got started in 2013. The right column summarizes how the scope changed and why.

<table>
<thead>
<tr>
<th>ORIGINAL SCOPE</th>
<th>CHANGES/REVISED SCOPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The following are inputs into this project and represent the resources that together facilitate the completion of all project activities:</td>
<td>No changes.</td>
</tr>
<tr>
<td><strong>Systems Requirement Contractor’s (SRC) expertise on the context of workforce development across funding streams and public agencies, particularly in Illinois:</strong> SRC member Marty Miles is a lead researcher on the Benchmarking Project, which seeks to collect and better understand workforce outcomes among community-based organizations operating across multiple funding streams. Chapin Hall, another SRC member, has studied the local workforce context extensively through various research and projects. Together, the SRC team possesses a wealth of expertise on the unique barriers and extreme fragmentation that exists in the Illinois workforce development system.</td>
<td>No changes.</td>
</tr>
<tr>
<td><strong>The SRC’s relationships with local workforce providers:</strong> As a respected workforce policy and advocacy organization, the Chicago Jobs Council, the final member of the SRC team, is closely engaged with local workforce providers, which will contribute to an authentic and efficient stakeholder engagement process.</td>
<td>No changes.</td>
</tr>
<tr>
<td><strong>The Partnership’s and the SRC’s relationships with the Department of Commerce and Economic Opportunity (DCEO), the Illinois Department of Human Services (IDHS), and the Illinois Department of Employment Security (IDES) agency staff:</strong> The Partnership and the SRC team have access to public agency staff through formal and informal connections, which increases the likelihood of The Partnership being able to successfully obtain the data share agreements that will establish a truly integrated management information system where the new Career Connect “pushes” data into other mandated systems.</td>
<td>Illinois elected a new governor midway through the project, and as a result there was a lot of state agency leadership turnover, necessitating new relationship building and re-creating buy-in for the project. The Partnership was able to successfully build those new relationships.</td>
</tr>
<tr>
<td><strong>WIF funding:</strong> A $3 million grant from the Department of Labor’s Workforce Innovation Fund is intended to encourage innovative approaches to workforce development services and delivery systems and is funding this project.</td>
<td>In addition to the WIF funding, The Partnership secured a $469,375, 3-year private foundation grant to fund a technical project manager position, sustainability work, and communications. A private funder also contributed an AmeriCorps VISTA volunteer to help better align the private funder community’s needs and contributions with Career Connect development.</td>
</tr>
<tr>
<td><strong>The Partnership’s reform agenda:</strong> The Partnership is a recently formed consolidation of three local workforce investment boards and a city-established research and policy nonprofit with a mandate to become more responsive to local</td>
<td>No changes, though the passage of WIOA in the middle of the project created an additional compelling reason for the project.</td>
</tr>
</tbody>
</table>


employer needs and streamline the delivery of workforce services. In order to implement this reform agenda, a better and more integrated data system is required, which provides the impetus for the Career Connect project.

**Systems Development Contractor (SDC) expertise and technical skill in database design:** Bringing on an SDC with a high degree of expertise and technical skills will be essential to building a Career Connect that reflects stakeholder needs and maintaining system development consistent with the project timeline.

The Partnership chose Geographic Solutions, Inc. as the SDC because they have an established and robust off-the-shelf product that works across federal workforce funding streams but is also flexible and can be configured to local realities. They have experience interfacing with legacy data systems and the staff have both workforce and technology expertise.

These inputs together support all project activities, which together will yield the desired project outputs and outcomes:

<p>| Research best practices and lessons learned from the field related to systems integration work: As part of their systems requirement work of identifying technical and process lessons learned from those who have pursued similar efforts, the SRC will conduct a review of relevant literature, speak with experts in the field, and interview those who have spearheaded similar integration efforts. | No changes. |
| Gather input from workforce development stakeholders about system requirements and functionality (stakeholder engagement): The SRC will conduct focus groups, interviews, and surveys with frontline staff, provider leadership staff, private funders, and public funders to collect data on ideal system requirements and functionality and to build consensus on Career Connect. | No changes. |
| Map out Career Connect requirements (function categories, measures, and definitions) and prioritize them: Establishing priority indicators and common definitions will facilitate systems-wide aggregation of data. Further, since Career Connect will likely not be able to accommodate all stakeholder requests, the SRC team will have to distill these into tiers of priority, beginning with functionality mandated by funding streams. Later iterations of Career Connect may be able to accommodate additional stakeholder requests. | The prioritization happened, but the priority indicators and common definitions work was largely dropped as being an explicit area of work due to the difficulty in reaching consensus on common definitions among stakeholders on an inadequate timeline. The Partnership may revisit common definitions in the future, after Go Live. |
| Develop Career Connect and conduct early stages of testing: Early stages of testing will consist of four to five providers using Career Connect alongside their current systems to identify missing functionality, identify system bugs, and provide feedback on their experience as a primary system user. The sample size is based on the feasibility of providing responsive user support to providers during the testing phase. | No changes, though testing happened twice, once for Phase I and the other for Phase II. Over 10 providers assisted with the testing. |
| Create buy-in with DCEO, IDES, and IDHS around Career Connect and how it will interface with existing systems: An effective integration effort rests on the ability of Career Connect to interface (push data to or receive data from) with the systems of large public agencies that fund most local workforce providers. | Over the course of the systems development process, all the public system interfaces were dropped from the scope except for the IWDS interface, leaving DCEO as the lone state agency partner. This was due to a combination of insufficient staff resources, the enactment of WIOA during the project, and to the technical difficulty of developing and maintaining interfaces. |
| Create buy-in with private funders around Career Connect and how it will interface with existing systems: An effective integration effort rests on the willingness of private funders to accept the key performance measures captured in Career Connect. Additionally, where private funders have their own data systems, Career Connect should interface (push data to or receive data from) with those systems. | Over the course of the systems development process, all the private system interfaces were dropped from the scope. |
| Develop Career Connect training for the “early-adopter” providers: A Career Connect user training will be developed to | The notion of “Early Adopters” evolved over the life of the project. While Early Adopters were identified and |</p>
<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Develop data definitions manual/users guide:</strong></td>
<td>The Partnership developed a number of procedures guides and training materials and distributed them in advance of phase II training. There is not a comprehensive data definitions manual, however.</td>
</tr>
<tr>
<td><strong>Address legality and privacy issues related to data sharing and system integration:</strong></td>
<td>Since Career Connect will contain data for clients outside of The Partnership’s jurisdiction, The Partnership will have to work out the relevant legal and privacy concerns with the appropriate entities.</td>
</tr>
<tr>
<td><strong>Develop standard customer intake and comprehensive assessment process and build it into Career Connect:</strong></td>
<td>Career Connect includes a common intake form, though it does not include a full jobseeker standardized assessment and it was not rolled out prior to Career Connect’s full launch. As a result of WIOA, there are state and regional efforts to develop a common intake and assessment process across the core WIOA partners.</td>
</tr>
<tr>
<td><strong>Develop a governance and sustainability plan for Career Connect:</strong></td>
<td>The Project Team drafted an initial sustainability plan in April 2016, which resulted in a 90 day sustainability plan that was in place for Go Live in June 2017. The Partnership does not have a sustainability plan beyond 90 days.</td>
</tr>
<tr>
<td><strong>Functional data sharing agreements are in place with DCEO, IDHS, IDES:</strong></td>
<td>All interfaces except DCEO’s IWDS interface were dropped from the scope of the project and The Partnership does not currently have a formalized data share agreement with DCEO to share data, though it is in the process of developing one.</td>
</tr>
<tr>
<td><strong>A prototype Career Connect is functional and is based on stakeholder needs:</strong></td>
<td>Career Connect was fully implemented (within the parameters of the project’s refined scope of work) during the WIF grant period because the WIF grant period was extended by 2 years.</td>
</tr>
<tr>
<td><strong>A standardized customer intake and comprehensive assessment process is developed and is a functional component of Career Connect:</strong></td>
<td>Career Connect includes a common intake form, though it does not include a full jobseeker standardized assessment and it was not rolled out prior to Career Connect’s full launch.</td>
</tr>
<tr>
<td><strong>Staff from “early-adopter” providers are equipped to use Career Connect:</strong></td>
<td>The notion of Early Adopters using the system before others evolved, and by the time Career Connect was launched, all delegate agencies began using it at once.</td>
</tr>
</tbody>
</table>
There are several short-term outcomes and several long-term outcomes associated with this project's work, which are both represented in the logic model. The project is focused on realizing the short-term outcomes in the WIF funding timeframe, and so the evaluation will focus on measuring just the short-term outcomes. The short-term outcomes directly relate to the outcome study's research questions, indicated by the research question number in parentheses.

### SHORT-TERM OUTCOMES

<table>
<thead>
<tr>
<th>Outcome</th>
<th>No change to desired outcome.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level of information on customer needs, service usage, and outcomes is improved (research questions 3, 4):</strong></td>
<td></td>
</tr>
<tr>
<td>This outcome is an expected result of the improved assessment data that will be collected, the cross-program data that is expected to be available if data across multiple funding streams is being entered and data can be shared among providers, and the inclusion of interim progress toward outcomes in Career Connect.</td>
<td></td>
</tr>
<tr>
<td><strong>Providers' access to desired information increases (research questions 1, 2, 3, 4):</strong></td>
<td></td>
</tr>
<tr>
<td>This outcome is an expected result of Career Connect being built in a manner that reflects provider needs, since a major need that local workforce providers currently report is the ability to run reports based on the data they are entering into the systems they are mandated to use. The ability to run relevant reports is a precursor to realizing the longer-term outcome of using Career Connect as a customer and performance management tool.</td>
<td></td>
</tr>
<tr>
<td><strong>Duplicative data entry into multiple databases is reduced (research question 1, 2):</strong></td>
<td></td>
</tr>
<tr>
<td>This is an expected outcome of Career Connect interfacing with other databases providers are mandated to use as a condition of their funding, thereby reducing the amount of systems providers must enter the same data into.</td>
<td></td>
</tr>
<tr>
<td><strong>Program administrative burdens are reduced (research question 1):</strong></td>
<td></td>
</tr>
<tr>
<td>This is an expected outcome of Career Connect interfacing with other databases, and the result of providers spending less staff time on data entry, which will free them to devote more time to the provision of services.</td>
<td></td>
</tr>
<tr>
<td><strong>Quality of data is improved (research question 3, 4):</strong></td>
<td></td>
</tr>
<tr>
<td>This is an expected outcome of Career Connect user training, the distribution of a detailed data definitions manual, and the work of the SRC to come to some common definitions on priority indicators.</td>
<td></td>
</tr>
</tbody>
</table>

### LONG-TERM OUTCOMES

<table>
<thead>
<tr>
<th>Outcome</th>
<th>No change to desired outcome.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Career Connect is fully implemented, after a rolling implementation period, at all WIA agencies:</strong></td>
<td></td>
</tr>
<tr>
<td>This is an expected outcome of the systems development process but will happen after the WIF funding timeline is completed.</td>
<td></td>
</tr>
<tr>
<td><strong>Career Connect is used as a case management and performance management tool:</strong></td>
<td></td>
</tr>
<tr>
<td>This outcome is expected to result from providers’ ability to use Career Connect to run reports and extract data to be used in structuring case management workflow as well as the ability for funders to view standardized aggregate provider level data to better understand customer outcomes and make data-informed decisions.</td>
<td></td>
</tr>
<tr>
<td><strong>Agencies outside the WIA system use Career Connect:</strong></td>
<td></td>
</tr>
<tr>
<td>This outcome is expected to result from Career Connect’s ability to interface with data systems used by DCEO, IDHS, and</td>
<td></td>
</tr>
</tbody>
</table>

(with the exception of the Phase I Business Services launch, which was staggered over a few months with youth only delegates coming on board later).
IDES and providers’ ability to enter data required by private funders. Providers will have the ability to enter data required by private funders due to the requirements discussed during the gathering of stakeholder input on Career Connect requirements.

**Career Connect becomes a rich data set for future research and evaluation:** This is an expected outcome of Career Connect capturing a more comprehensive set of information on workforce program customers across funding streams and across programs.

Though they are outside of the scope of this evaluation, there are high-level impacts expected to emerge from full implementation of this project:

**Workforce customers and employers have better economic outcomes:** This impact is expected to emerge as a result of an improved customer assessment process, which can lead to better service provision to customers and better matching to employers, as well as less administrative burden on providers so more time can be spent on service provision.

**Cook County realizes broader economic gains:** This impact is expected to emerge as a result of a more streamlined, efficient, and data-driven workforce system that better supports customers and matches them to employers based on employer need.

**Workforce development field becomes better coordinated and less siloed:** This impact is expected to emerge from the continued engagement of workforce stakeholders sharing common measures and systems, as well as the integrated data that is available in Career Connect.

<table>
<thead>
<tr>
<th>No change to desired outcome.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No change to desired impact.</td>
</tr>
<tr>
<td>No change to desired impact.</td>
</tr>
<tr>
<td>No change to desired impact.</td>
</tr>
</tbody>
</table>
Appendix D: Interfaces Explored but not Pursued

The interfaces described below were considered at various points in the planning and development processes, but were ultimately not pursued. They may be considered for integration in the future.

**Data system:** Integrated Eligibility System  
**System owner/operator:** IDHS  
**Relationship to Career Connect:** IDHS developed IES in order to comply with provisions of the Affordable Care Act. It is used to determine individuals' eligibility for Health Insurance Exchange subsidies, as well as eligibility processing for Illinois Comprehensive Health Insurance Plan, Medicaid, Supplemental Nutrition Assistance Program, and Temporary Assistance for Needy Families. IES was listed as a “future interface” in the systems development RFP—meaning that the Career Connect would need to be compatible with these systems, but that interface development was not in the scope of work.  
**Why it’s not being pursued:** This interface was considered by the SRC Team but was not pursued because IDHS was launching their IES just as The Partnership was entering the development stage of Career Connect. IDHS did not have the capacity to interface with an external system while they were implementing and stabilizing IES.

**Data system:** Chicago City Span and Enterprise Case Management System (ECM)  
**System owner/operator:** Chicago Department of Family Support Services (DFSS)  
**Relationship to Career Connect:** DFSS mandates that all the agencies it funds to provide youth workforce services throughout Chicago use City Span to document their services and report back to DFSS, while DFSS-funded providers of human infrastructure services (including some workforce programs) use the Enterprise Case Management System to document services and report on outcomes. Many Partnership delegate agencies also operate DFSS-funded workforce programs, and City Span/Career Connect and ECM/Career Connect interfaces would in theory allow them to use just one system for their caseloads. At the start of the Career Connect project, ECM was still in its early stages and was not fully implemented for DFSS-funded workforce programs. Like, IES, ECM was listed as “future interface” in the systems development RFP.  
**Why it wasn’t pursued:** The Partnership decided early on to exclude City Span from the project scope due to budget and timeline constraints. The lack of strong relationships between The Partnership /its precursors and DFSS, which are necessary to facilitate data share and interface buy-in, likely affected the decision as well. The Partnership is in discussions with DFSS about using Career Connect for managing some youth workforce programs jointly administered by DFSS and The Partnership.

**Data system:** Data and Information System Illinois (daisi)  
**System owner/operator:** Illinois Community College Board (ICCB)  
**Relationship to Career Connect:** Community colleges are key partners of the WIA/WIOA workforce system. Many are approved WIOA-training providers, meaning that WIOA-approved jobseekers can use their designated training funds, called an Individual Training Account or ITA, at approved community colleges for approved WIOA trainings. A daisi/Career Connect interface would provide a more integrated experience for WIOA providers, most of whom refer to or accept ITA-funded training completion verification from one or more community colleges. Referrals and training verifications
could be sent electronically in one system should the two data systems interface.

**Why it wasn’t pursued:** The daisi/Career Connect interface was not pursued in earnest largely because community colleges are but one, though admittedly a large one, training provider. In lieu of exploring this specific interface in-depth, The Partnership instead focused its efforts on exploring the feasibility of adding a module to Career Connect that could facilitate all ITA-funded training provider verifications and payments. While the contract with the SDC developer includes the development of a module to track ITA vouchers, The Partnership decided in May 2016, not to pursue the development of this module before the launch of Career Connect, because The Partnership’s fiscal department would not be able to plan and implement the necessary business process changes in time. Since The Partnership is already paying for this development work, they can return to the SDC contractor at a later date to get it set up.

**Data system:** Chicago Housing Authority – Salesforce
**System owner/operator:** Chicago Housing Authority
**Relationship to Career Connect:**
**Why it’s not being pursued:** This interface was considered by the SRC Team but was ultimately not recommended to be immediately pursued because of timeline, budget, and scope considerations.

**Data system:** EdLink (manages payments for training/tuition/supportive services and voucher payments)
**System owner/operator:**
**Relationship to Career Connect:**
**Why it’s not being pursued:** This interface was considered by the SRC Team but was ultimately not recommended to be immediately pursued because of timeline, budget, and scope considerations.

**Data system:** Illinois workNet
**System owner/operator:** DCEO
**Relationship to Career Connect:** Illinois workNet is a workforce training and development system that is also maintained by DCEO. Illinois workNet is meant to serve as an online “resource hub” or portal that provides job seekers, businesses, and other parties access to information regarding a variety of training and skills development opportunities. Illinois workNet also serves as a platform for connecting job seekers to career advisors and other workforce support services.
**Why it’s not being pursued:** This interface was framed as a required component of Career Connect in the initial Request for Information, but was ultimately not pursued. The Partnership and the SDC concluded in October 2015 that a WorkNet interface was not in the scope of the SDC’s contract.

**Data system:** Illinois Department of Human Services mainframe system
**System owner/operator:** IDHS
**Relationship to Career Connect:** The IDHS mainframe-based customer data system in Springfield is used in a variety of capacities, including access to the Social Security Administration’s State Online Query and State Verification and Exchange System for the purposes of social security number verification.
**Why it’s not being pursued:** This interface was framed as a required component of Career Connect in the RFI, but was ultimately not pursued because of timeline, budget, and scope considerations.
Data system: Social Solutions – Efforts to Outcomes (ETO)
System owner/operator: Local Initiatives Support Corporation (LISC)
Relationship to Career Connect: Software developed by the Local Initiatives Support Corporation (LISC) for outcomes reporting by the providers that they fund. ETO is a cloud-based application that provides a suite of case and performance management and reporting tools geared toward non-profit, community-based, and public sector organizations. ETO is used by LISC and other Cook County workforce agencies as well.
Why it’s not being pursued: This interface was considered by the SRC Team but was ultimately not recommended to be immediately pursued because of timeline, budget, and scope considerations.

Data system: mPowr
System owner/operator: 741 Collaborative
Relationship to Career Connect: The 741 Collaborative is a consortium of seven nonprofit organizations supporting four Chicago neighborhoods that is focused upon identifying employment opportunities for job seekers through a combination of recruiting as well as job placement services.
Why it’s not being pursued: This interface was considered by the SRC Team but was ultimately not recommended to be immediately pursued because of timeline, budget, and scope considerations.
### Appendix Table 1

**Number of tasks per data system, by agency, baseline (staff logs)**

<table>
<thead>
<tr>
<th>Data system</th>
<th>Number of tasks, Study Site 1</th>
<th>Number of tasks, Study Site 2</th>
<th>Number of tasks, Study Site 3</th>
<th>Number of tasks, Study Site 4</th>
<th>Number of tasks, Study Site 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cityspan</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Datatel</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Edlink</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Excel spreadsheet</td>
<td>14</td>
<td>0</td>
<td>29</td>
<td>67</td>
<td>15</td>
</tr>
<tr>
<td>IBIS</td>
<td>3</td>
<td>0</td>
<td>21</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Illinois JobLink</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>IWDS</td>
<td>95</td>
<td>227</td>
<td>1119</td>
<td>962</td>
<td>31</td>
</tr>
<tr>
<td>LinkedIn</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>my agency's job board (electronic)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>My own agency's data system</td>
<td>0</td>
<td>0</td>
<td>170</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other data system or tracking tool</td>
<td>8</td>
<td>0</td>
<td>20</td>
<td>128</td>
<td>6</td>
</tr>
<tr>
<td>PACIS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Word</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

### Appendix Table 2

**Number of tasks per data system, by agency, post-implementation (staff logs)**

<table>
<thead>
<tr>
<th>Data system</th>
<th>Number of tasks, Study Site 1</th>
<th>Number of tasks, Study Site 2</th>
<th>Number of tasks, Study Site 3</th>
<th>Number of tasks, Study Site 4</th>
<th>Number of tasks, Study Site 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Connect</td>
<td>75</td>
<td>352</td>
<td>821</td>
<td>720</td>
<td>71</td>
</tr>
<tr>
<td>Cityspan</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Edlink</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Excel spreadsheet</td>
<td>0</td>
<td>2</td>
<td>32</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>IBIS</td>
<td>0</td>
<td>2</td>
<td>57</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Illinois JobLink</td>
<td>0</td>
<td>11</td>
<td>3</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>IWDS</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>my agency's job board (electronic)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>My own agency's data system</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Other data system or tracking tool</td>
<td>0</td>
<td>5</td>
<td>42</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Salesforce</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Appendix Table 3

| Number of tasks per data system, by agency, baseline (cover sheets) |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                 | Study Site 1    | Study Site 2    | Study Site 3    | Study Site 4    | Study Site 5    |
| Ablenet                         | 0               | 0               | 16              | 0               | 0               |
| CNAregistry                     | 0               | 0               | 0               | 0               | 1               |
| DataTel                         | 0               | 0               | 0               | 0               | 8               |
| EdLink                          | 0               | 0               | 3               | 0               | 5               |
| Email                           | 0               | 0               | 2               | 0               | 0               |
| Excel                           | 0               | 0               | 4               | 1               | 2               |
| IBIS                            | 0               | 0               | 0               | 0               | 18              |
| Internal tracking system       | 0               | 0               | 3               | 1               | 1               |
| IWDS                            | 48              | 17              | 337             | 168             | 12              |
| IWP                             | 0               | 0               | 1               | 0               | 0               |
| Study Site 5                    | 0               | 0               | 0               | 0               | 1               |
| TARA                            | 2               | 4               | 1               | 0               | 0               |

Appendix Table 4

| Number of tasks per data system, by agency, post-implementation (cover sheets) |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                 | Study Site 1    | Study Site 2    | Study Site 3    | Study Site 4    | Study Site 5    |
| Career Connect                  | 41              | 34              | 369             | 222             | 70              |
| CNAregistry                     | 0               | 0               | 0               | 0               | 1               |
| Ed Assist                       | 0               | 0               | 0               | 0               | 1               |
| EdLink                          | 0               | 0               | 5               | 1               | 0               |
| Email                           | 0               | 0               | 10              | 1               | 0               |
| Excel spreadsheet               | 0               | 0               | 26              | 7               | 30              |
| IBIS                            | 0               | 1               | 0               | 0               | 5               |
| IL WorkNet                      | 0               | 0               | 1               | 1               | 0               |
| IWDS                            | 0               | 0               | 5               | 0               | 0               |
| My own agency's data system     | 0               | 0               | 3               | 10              | 11              |
| Other data system or tracking tool | 0           | 0               | 0               | 0               | 1               |
| Salesforce                      | 0               | 0               | 1               | 2               | 0               |
| TAMS                            | 0               | 0               | 0               | 4               | 0               |
### Appendix Table 5

Average time spent per task overall, in minutes, as recorded in staff logs, baseline and post-implementation data collection periods

<table>
<thead>
<tr>
<th>Type of Task Completed</th>
<th>Average time spent per task, in minutes, baseline</th>
<th>Number of observations, baseline</th>
<th>Average time spent per task, post-implementation</th>
<th>Number of observations, post-implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added new inquirant/registrant**</td>
<td>34.1</td>
<td>201</td>
<td>38.0</td>
<td>170</td>
</tr>
<tr>
<td>Added/updated information**</td>
<td>15.1</td>
<td>1659</td>
<td>10.6</td>
<td>1326</td>
</tr>
<tr>
<td>Looked up information/auditing</td>
<td>9.3</td>
<td>816</td>
<td>12.7</td>
<td>556</td>
</tr>
<tr>
<td>Other**</td>
<td>36.1</td>
<td>69</td>
<td>23.6</td>
<td>41</td>
</tr>
<tr>
<td>Ran a report</td>
<td>14.9</td>
<td>242</td>
<td>12.8</td>
<td>197</td>
</tr>
<tr>
<td>Total**</td>
<td>15.3</td>
<td>2987</td>
<td>13.6</td>
<td>2290</td>
</tr>
</tbody>
</table>

**statistically significant change at p<0.05.

### Appendix Table 6

Average time spent per task overall, in minutes, as recorded in cover sheets, baseline and post-implementation data collection periods

<table>
<thead>
<tr>
<th>Type of Task Completed</th>
<th>Average time spent per task, in minutes, baseline</th>
<th>Number of observations, baseline</th>
<th>Average time spent per task, post-implementation</th>
<th>Number of observations, post-implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added documentation**</td>
<td>6.1</td>
<td>387</td>
<td>5.5</td>
<td>465</td>
</tr>
<tr>
<td>Added new inquirant/registrant</td>
<td>65.0</td>
<td>4</td>
<td>24.6</td>
<td>20</td>
</tr>
<tr>
<td>Added/updated information**</td>
<td>5.9</td>
<td>206</td>
<td>8.7</td>
<td>275</td>
</tr>
<tr>
<td>Looked up information/auditing</td>
<td>6.9</td>
<td>174</td>
<td>10.0</td>
<td>212</td>
</tr>
<tr>
<td>Other</td>
<td>6.9</td>
<td>8</td>
<td>7.5</td>
<td>2</td>
</tr>
<tr>
<td>Ran a report</td>
<td>8.5</td>
<td>2</td>
<td>5.0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>6.5</td>
<td>781</td>
<td>7.8</td>
<td>975</td>
</tr>
</tbody>
</table>

**statistically significant change at p<0.05.
### Appendix Table 7

Average time spent on all tasks, as recorded by staff logs, by study site

<table>
<thead>
<tr>
<th>Study Site</th>
<th>Average minutes spent, all tasks, baseline</th>
<th>Number of tasks, baseline</th>
<th>Average minutes spent, all tasks, post-implementation</th>
<th>Number of tasks, post-implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Site 1</td>
<td>8.2</td>
<td>141</td>
<td>9.2</td>
<td>75</td>
</tr>
<tr>
<td>Study Site 2</td>
<td>10.1</td>
<td>227</td>
<td>3.3</td>
<td>373</td>
</tr>
<tr>
<td>Study Site 3</td>
<td>15.4</td>
<td>1364</td>
<td>14.8</td>
<td>963</td>
</tr>
<tr>
<td>Study Site 4</td>
<td>15.2</td>
<td>1179</td>
<td>12.0</td>
<td>776</td>
</tr>
<tr>
<td>Study Site 5</td>
<td>43.0</td>
<td>76</td>
<td>54.1</td>
<td>103</td>
</tr>
<tr>
<td>Total</td>
<td>15.3</td>
<td>2987</td>
<td>13.6</td>
<td>2290</td>
</tr>
</tbody>
</table>

### Appendix Table 8

Average time spent on all tasks, as recorded by cover sheets, by study site

<table>
<thead>
<tr>
<th>Study Site</th>
<th>Average minutes spent, all tasks, baseline</th>
<th>Number of tasks, baseline</th>
<th>Average minutes spent, all tasks, post-implementation</th>
<th>Number of tasks, post-implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Site 1</td>
<td>5.1</td>
<td>52</td>
<td>1.8</td>
<td>46</td>
</tr>
<tr>
<td>Study Site 2</td>
<td>3.5</td>
<td>38</td>
<td>2.6</td>
<td>40</td>
</tr>
<tr>
<td>Study Site 3</td>
<td>7.3</td>
<td>444</td>
<td>10.9</td>
<td>476</td>
</tr>
<tr>
<td>Study Site 4</td>
<td>6.3</td>
<td>192</td>
<td>5.2</td>
<td>284</td>
</tr>
<tr>
<td>Study Site 5</td>
<td>4.0</td>
<td>55</td>
<td>5.7</td>
<td>130</td>
</tr>
<tr>
<td>Total</td>
<td>6.5</td>
<td>781</td>
<td>7.8</td>
<td>976</td>
</tr>
</tbody>
</table>

### Appendix Table 9

Average time per task, by agency and task type, baseline (staff logs)

<table>
<thead>
<tr>
<th>Type of task completed</th>
<th>Study Site 1</th>
<th>Study Site 2</th>
<th>Study Site 3</th>
<th>Study Site 4</th>
<th>Study Site 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average minutes</td>
<td>n</td>
<td>Average minutes</td>
<td>n</td>
<td>Average minutes</td>
</tr>
<tr>
<td>Added new inquirant/registrant</td>
<td>14.5</td>
<td>19</td>
<td>27.0</td>
<td>7</td>
<td>29.3</td>
</tr>
<tr>
<td>Added/updated information</td>
<td>8.0</td>
<td>78</td>
<td>12.4</td>
<td>87</td>
<td>15.3</td>
</tr>
<tr>
<td>Looked up information/auditing</td>
<td>5.7</td>
<td>19</td>
<td>6.3</td>
<td>108</td>
<td>8.8</td>
</tr>
<tr>
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<td>5</td>
<td>0.0</td>
<td>0</td>
<td>35.8</td>
</tr>
<tr>
<td>Ran a report</td>
<td>5.5</td>
<td>20</td>
<td>14.0</td>
<td>25</td>
<td>28.4</td>
</tr>
</tbody>
</table>
### Appendix Table 10

**Average time per task, by agency and task type, post-implementation (staff logs)**

<table>
<thead>
<tr>
<th>Type of task completed</th>
<th>Study Site 1 Average</th>
<th>Study Site 1 n</th>
<th>Study Site 2 Average</th>
<th>Study Site 2 n</th>
<th>Study Site 3 Average</th>
<th>Study Site 3 n</th>
<th>Study Site 4 Average</th>
<th>Study Site 4 n</th>
<th>Study Site 5 Average</th>
<th>Study Site 5 n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added new inquirant/registrant</td>
<td>35.7</td>
<td>6</td>
<td>22.5</td>
<td>6</td>
<td>45.6</td>
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<td>32.6</td>
<td>79</td>
<td>38.3</td>
<td>9</td>
</tr>
<tr>
<td>Added/updated information</td>
<td>6.2</td>
<td>48</td>
<td>2.6</td>
<td>233</td>
<td>11.1</td>
<td>488</td>
<td>8.9</td>
<td>507</td>
<td>65.3</td>
<td>50</td>
</tr>
<tr>
<td>Looked up information/auditing</td>
<td>8.3</td>
<td>21</td>
<td>3.0</td>
<td>104</td>
<td>12.5</td>
<td>275</td>
<td>12.6</td>
<td>122</td>
<td>46.8</td>
<td>34</td>
</tr>
<tr>
<td>Other</td>
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<td>0</td>
<td>5.0</td>
<td>1</td>
<td>21.2</td>
<td>29</td>
<td>9.0</td>
<td>5</td>
<td>50.0</td>
<td>6</td>
</tr>
<tr>
<td>Ran a report</td>
<td>0.0</td>
<td>0</td>
<td>5.9</td>
<td>29</td>
<td>15.8</td>
<td>101</td>
<td>10.7</td>
<td>63</td>
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</tr>
</tbody>
</table>

### Appendix Table 11

**Average time per task, by agency and task type, baseline (cover sheets)**

<table>
<thead>
<tr>
<th>Type of task completed</th>
<th>Study Site 1 Average</th>
<th>Study Site 1 n</th>
<th>Study Site 2 Average</th>
<th>Study Site 2 n</th>
<th>Study Site 3 Average</th>
<th>Study Site 3 n</th>
<th>Study Site 4 Average</th>
<th>Study Site 4 n</th>
<th>Study Site 5 Average</th>
<th>Study Site 5 n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added documentation</td>
<td>7.5</td>
<td>2</td>
<td>4.0</td>
<td>12</td>
<td>6.8</td>
<td>225</td>
<td>5.7</td>
<td>115</td>
<td>3.1</td>
<td>33</td>
</tr>
<tr>
<td>Added new inquirant/registrant</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>65.0</td>
<td>4</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Added/updated information</td>
<td>5.2</td>
<td>47</td>
<td>4.2</td>
<td>5</td>
<td>6.5</td>
<td>111</td>
<td>5.6</td>
<td>22</td>
<td>5.3</td>
<td>21</td>
</tr>
<tr>
<td>Looked up information/auditing</td>
<td>2.7</td>
<td>3</td>
<td>3.0</td>
<td>21</td>
<td>7.4</td>
<td>97</td>
<td>7.9</td>
<td>52</td>
<td>5.0</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>5.0</td>
<td>5</td>
<td>10.0</td>
<td>3</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>Ran a report</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>8.5</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Appendix Table 12

**Average time per task, by agency and task type, post-implementation (cover sheets)**

<table>
<thead>
<tr>
<th>Type of task completed</th>
<th>Study Site 1 Average</th>
<th>Study Site 1 n</th>
<th>Study Site 2 Average</th>
<th>Study Site 2 n</th>
<th>Study Site 3 Average</th>
<th>Study Site 3 n</th>
<th>Study Site 4 Average</th>
<th>Study Site 4 n</th>
<th>Study Site 5 Average</th>
<th>Study Site 5 n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Added documentation</td>
<td>11.0</td>
<td>45</td>
<td>11.1</td>
<td>23</td>
<td>14.2</td>
<td>139</td>
<td>15.9</td>
<td>183</td>
<td>11.0</td>
<td>76</td>
</tr>
</tbody>
</table>
### Results of tests of statistical significance, staff logs

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test used</th>
<th>Samples</th>
<th>p-value</th>
<th>result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference in distribution of data systems used</td>
<td>Fisher's exact test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.008791</td>
<td>Statistically significant difference at p &lt; 0.05</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (all tasks)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.000126</td>
<td>Statistically significant difference at p &lt; 0.05</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (Added new inquirant/registrant)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.0136</td>
<td>Statistically significant difference at p &lt; 0.05</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (Added/updated information)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>2.25E-12</td>
<td>Statistically significant difference at p &lt; 0.05</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (Looked up information/auditing)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.1427</td>
<td>No statistically significant difference at p &lt; 0.05</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (Other)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.007372</td>
<td>Statistically significant difference at p &lt; 0.05</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (Run a report)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.8369</td>
<td>No statistically significant difference at p &lt; 0.05</td>
</tr>
</tbody>
</table>

### Results of tests of statistical significance, cover sheets

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test used</th>
<th>Samples</th>
<th>p-value</th>
<th>result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference in distribution of data systems used</td>
<td>Fisher's exact test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.7852</td>
<td>No statistically significant difference at p &lt; 0.05</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (all tasks)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.3563</td>
<td>No statistically significant difference at p &lt; 0.05</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (Added new inquirant/registrant)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.3116</td>
<td>No statistically significant difference at p &lt; 0.05</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (Other)</td>
<td>Mann-Whitney U test</td>
<td>All study sites,</td>
<td>2.703e-05</td>
<td>Statistically significant</td>
</tr>
</tbody>
</table>

Appendix Table 13

Appendix Table 14
<table>
<thead>
<tr>
<th>tasks (Added documentation)</th>
<th>Whitney U test</th>
<th>baseline to post-implementation</th>
<th>difference at p &lt; 0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference in mean time spent on tasks (Added/updated information)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.00309</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (Looked up information/auditing)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.536</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (Other)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>0.4561</td>
</tr>
<tr>
<td>Difference in mean time spent on tasks (Run a report)</td>
<td>Mann-Whitney U test</td>
<td>All study sites, baseline to post-implementation</td>
<td>1</td>
</tr>
</tbody>
</table>