Transform your health and social program paradigm

How IBM helps you coordinate care delivery by integrating your social services network
Everyone knows a Victor

For most social service agencies, this is an all-too-common story. Despite the fact citizens who have received services from multiple programs outnumber those who received services from only one program by nearly 50 percent,¹ many still slip through the social services safety net.

Sometimes the only consequence is a young boy who struggles to stay awake in class. Other times, the consequences are more severe—a child who doesn’t make it to school at all, one who is injured and requires medical treatment or, as the County of Los Angeles discovered, even one whose injuries prove fatal.²

No matter the outcome, some things are consistent. First, the lack of insight increases the health and safety risks to the very people social service agencies are created to serve. Second, the failure to understand a client’s complete situation ultimately raises the overall cost of services.

Sometimes that higher cost is due to replicated services. Other times, it’s because the consequences of clients falling through the social safety net costs more to correct than to prevent.

For example, providing a vaccination costs much less than treating the resulting disease. And this preventive care doesn’t consider the indirect cost savings due to the vaccinated individual’s productivity and quality of life.

Yet these programmatic inefficiencies are rarely a reflection on social services staff. More often than not, they’re a reflection on the systems the staff use—and how difficult it is for staff to collect, process and see a client’s complete situation.
Our social services challenge

Most cities and regions contain numerous information systems, each designed to serve one or two specific social programs. And each system is usually operated by a different agency.

These systems are also typically created and operated through separate funding channels. So each system must comply with channel-specific funding and regulatory requirements.

As a result, a region ends up with a mix of home-grown systems and commercial-off-the-shelf (COTS) products. This collection of systems stores data in multiple relational databases and generates reports in numerous formats.

In addition, these systems vary in size, complexity, technology used, operational flexibility, age and planned replacement. More importantly, they have diverse architectures—so they represent customers and service flows in very different ways.

This collection of systems, each with different funding sources, regulatory requirements and technological foundations, creates a double challenge. First, regions must conquer the technological obstacles to allow data sharing—all while accommodating the regulatory and policy requirements that protect that data.

Then, once the information is viewable as a cohesive, holistic picture, the caseworkers must have automated tools to process that picture to extract actionable insights for a particular client and that client’s case. Only then can they take steps to reduce the health and safety risks for their most vulnerable citizens—like Victor and his family.

And, as figure 2 shows, the majority of the cost factors are affected by elements that only actionable insights on a holistic client view can address. When caseworkers have that view and those insights, they can begin to truly address the total cost of a client’s care—and ultimately, that helps reduce the region’s total health and social program spend.

Figure 1. Example of social systems and their holistic system insights.

Figure 2. Determinants for total cost of care.3
The promise of a better future

Unfortunately, even creating a brand-new, from scratch system today won’t give caseworkers the holistic view they need. Evolving agency expectations, funding sources and the associated regulatory demands eventually create disconnects between a regional system’s capabilities and the region’s service requirements.

But the County of San Diego, California is pioneering a new approach that promises to overcome these obstacles. Its new approach is called Live Well San Diego.

The Live Well San Diego vision is to improve the health, safety and well-being of all county residents. And a key step to help realize that vision involves building a better service delivery system that improves the quality and efficiency of service delivery the county and its partners provide to residents.

So the County of San Diego teamed with IBM to develop and deploy the technology required to successfully execute that strategy. The goal was a cost-effective system that broke down existing silos between various social service agencies, and gave providers a more comprehensive view of their clients and those clients’ challenges.

To date, the team has been pleased with both the results and the key developments. And now that IBM has replicated the technology as the IBM® Health and Human Services Connect360 solution, other regions can take advantage of the County of San Diego’s pioneering work with their own holistic system integration and insight tool.

A recipe for success

With so many individual case management systems, designing and deploying a data model that allows a comprehensive, collaborative view of clients proved difficult. But the bigger challenge was accommodating the different privacy levels and access rules used by the various case management systems.

To overcome these difficulties, the County of San Diego established a collaborative service delivery environment known as ConnectWellSD. As the foundational technology for ConnectWellSD, IBM Health and Human Services Connect360 harnesses cross-program data to support collaboration and provide actionable information at the point of care.

This IBM solution achieves these goals by placing a unifying data management and coordination layer over the county’s existing case management data systems. Normally, an extra layer can add complexity—but sometimes, more is less.

The system’s design and technology allows non-invasive access to the various case management data systems using each data system’s own permissions. IBM Health and Human Services Connect360 then applies sophisticated matching algorithms to those data stores to gather data into a cohesive whole.
The result is the County of San Diego gains a holistic view of the client, family and community from a lifestyle, social and clinical perspective. And that holistic view goes a long way to preventing situations like Victor’s.

For system managers and county leaders, the benefits don’t end there. By using each data system’s security controls, IBM Health and Human Services Connect360 maintains compliance with applicable laws and regulations for the storage and access of client data—so no additional compliance issues arise.

And the current case management systems operate much as they did before. This approach allows existing infrastructure to remain and the in-place operational support programs to operate as they always have.

**Coordinated client support**

Giving caseworkers from multiple social service agencies the same cohesive view of a client can pay huge dividends. Beyond preventing situations like Victor’s, coordinated client support also helps to break down existing institutional barriers.

These invisible walls are not necessarily politically created. Instead, these barriers generally result from siloed data that functionally resides within multiple programs—each complying with different data standards.

Using a capability unique to IBM Health and Human Services Connect360, the elaborate access control layer intelligently shares case notes and coordinates Live Well San Diego’s multidisciplinary teams. Ultimately, this capability can help trigger the shift from program-centered service to person-centered service.

**Fast, actionable client insights**

Cohesive data access and the ability to share case notes are just two necessary components for person-centered service. Without the ability to act intelligently on that data, nothing happens.

For example, in Victor’s situation, the caseworkers for the various social support programs undoubtedly knew his single mother was supporting him and his sister. They also probably knew the details of his father’s situation, and that it meant his grandmother was helping his mother raise Victor and his sister.

But without data insights, they may not have recognized the single-point-of-failure risk posed if Victor’s grandmother experiences a health-related issue. So data without insights would not achieve the County of San Diego’s goal for regional, person-centered service.
To achieve that goal, the IBM solution uses an event-driven architecture for ConnectWellSD. The architecture integrates IBM software to deploy and operate a rules-based alert system. And in the future, the architecture could incorporate IBM Watson® technology to provide cognitive-based alerts as well.

For ConnectWellSD, the County of San Diego helped develop the rule-based alert capabilities for multiple use cases. Using these rule-based alerts, IBM Health and Human Services Connect360 allows them to take advantage of the entire service network to better connect families like Victor’s with needed support. Then, the solution goes further, and provides caseworkers with analytics for diagnostic support, data-driven care pathways and operational reporting.

Finally, caseworkers from multiple agencies can use the embedded, shared platform to access the decision-making, planning and assessment tools. So when circumstances change, such as when Victor’s grandmother was hospitalized, caseworkers from any program can automatically be alerted with updated data and insights that they can immediately act on. This information allows them to:

- Assess the client’s need with greater accuracy
- Identify appropriate services, gaps or redundancies in existing services
- Support a more proactive approach to delivering services

The system’s stroke of brilliance
With so much private data flowing through a regional system, it’s possible some data sharing could be allowed within the system while other data sharing may be prevented. This mixture of authorization levels impedes the system’s ability to deliver person-centered service.

To mitigate this issue, the County of San Diego developed an innovative data authorization model. As a result, ConnectWellSD lets the individual clients decide what data is shared among departments and caseworkers for his or her own benefit.

This capability was crucial for the County of San Diego to bring the client into the decision-making process. The reason—providing a multi-option client authorization model empowers the client, provides flexibility and enables compliance with laws and regulations.

Client-based consent management also helps the system comply with data security and protection relative to the volumes of data privacy regulations that various public agencies and organizations must comply with. But without the rules-based engine in IBM Health and Human Services Connect360, this data authorization model could not be implemented.

The art of the possible
As recently as a decade ago, the Live Well San Diego vision of improved safety, health and well-being for all county residents would have been an impossible dream. But the ConnectWellSD team and IBM Health and Human Services Connect360 are transforming that impossible dream into reality.

Now imagine a different outcome for Victor and his family. This time, they live in a region that has deployed an IBM Health and Human Services Connect360-based system.
Once his grandmother is admitted to the hospital, the community’s IBM-based system ingests that new data point. With a holistic client view, the system recognizes Victor and his sister might be at risk and automatically alerts caseworkers.

Using already-established programs, caseworkers assemble an after-school plan that provides care for Victor and his sister until their mom arrives home from work. The result—Victor and his sister have a warm meal and a normal bedtime.

Just as important, these proactive actions pay real money dividends. By investing a small amount in upstream interventions, the downstream costs are ultimately reduced—all while delivering better health and social outcomes to the region’s residents.

For the County of San Diego, this is the future county leaders envision. And IBM Health and Human Services Connect360, combined with the efforts of the public and private partners in the Live Well San Diego program, are making it happen.

**Why IBM?**

At IBM, we think turning these visions into reality is a better way to serve the public. For over 100 years, we have supplied the technology, expertise and organizational resources to improve the lives of millions of citizens, in thousands of communities, on six continents.

IBM delivered the technology platform that the YukonBaby project used to raise awareness about available pregnancy and newborn care resources throughout the Yukon Territory.4 And IBM recently helped the New York City Human Resources Administration save 64,000 hours annually by streamlining the application and interview process for new and recertified supplemental nutrition services.5

What’s more, IBM project successes are not limited to public agencies. IBM technology allowed the Evangelical Lutheran Good Samaritan Society to increase its senior care and social services data visibility, while reducing document access and review times by over 50 percent.6

Finally, IBM’s community commitment covers more than discrete community-based projects. The IBM Cúram Research Institute collaborates with policy makers, academia, think tanks and non-governmental organizations to innovate service delivery models for enhanced community social and economic potential.
For more information
To learn more about how IBM and IBM Health and Human Services Connect360 can help transform your community’s social service system, please visit the following website:
ibm.com/industries/government/government-social-programs.html

About the authors
Subhankar Sarkar is the Executive Architect for the IBM Health and Human Services Connect360 platform and for the ConnectWellSD project at the County of San Diego.

Jan Gravesen is an IBM Distinguished Engineer and the Client Technical Leader for the State of California.

Additional Contributors: Allen Sheldon is the IBM Partner for the County of San Diego and California Public Sector; Ken Wolsey is the IBM Program Manager for the County of San Diego ConnectWell Project; Walter Szyperski is the IBM Partner for US Public Sector Social Services.