

Connected Care: Electronic Data Exchange Essential to Intel's Innovative Accountable Care Model

Authors Synopsis

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As a preeminent leader in worldwide technology commerce, Intel's interest in interoperability of health information technology (health IT) is natural. By leveraging the company's purchasing power as a large employer, Intel has acted as an accelerator for the use of health IT and for the interoperability of health IT systems to benefit employees, their families, and the communities where they live and work, through the Connected Care model. This paper describes Intel's efforts to improve the health and the healthcare experience of employees and dependents in five separate regions of the country. A critical component of Intel's success in launching these innovative, employer-led accountable care models has been the technology firm's consistent support for interoperable health information exchange (HIE).

This white paper is the third in a series focused on Intel's innovative, value-based model of healthcare for employees and family members.

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Electronic health information exchange is required, supported, and measured by Intel as an important part of the innovative connected care healthcare plans, now offered through delivery system partners to employees in five regions of the U.S.

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Background

Since 2013, Intel Corporation has been investing in an innovative approach for providing healthcare to employees and their families, under an employer-sponsored and facilitated accountable care program known as Connected Care. Connected Care health plans are now offered in five regions of the country where Intel has large employee populations: Rio Rancho, New Mexico; Hillsboro, Oregon; Chandler, Arizona; Folsom, California; and Santa Clara, California. At each site, Intel has contracted with one or two large healthcare organizations to deliver a high-touch, highly coordinated healthcare experience to Connected Care members; these organizations are known as Intel's Delivery System Partners (DSPs).

“One of the biggest challenges was the ability to get information about a patient; either the fax machine was down, or records might languish in the mailroom. When health information is available electronically, the patient-centered medical home model becomes so much more effective.

We think Connected Care allows providers to wrap their arms around their patients, understand their needs, and define better care plans.”

- Heather Wilson, Greater Americas Health & Wellness Program Office Manager

“We created innovative ways to disrupt the status quo in healthcare delivery, and as a result, we’re seeing big improvements.

With over 94% retention of employees selecting Connected Care plans for their 2018 healthcare services, we hope Intel is giving other employers tools and ideas to start to do more direct contracting in their local communities, and to partner up and start making similar changes.”

- Julie Weller, Benefits Strategist, Intel Corporation

In each Connected Care region, Intel has focused on:

- 1. Enhancing the patient experience** with patient-centered medical home models of care, enabled by secure, interoperable health IT to ensure that the right information about a member's health is available to the right provider, so the right care is delivered at the right time.
- 2. Improving quality and outcomes for Connected Care members** with accurate and complete information maintained in electronic health record systems (EHRs), including patient visit summaries; lab results; problem lists; specialty referrals; medications; allergies; immunizations; and care plans.
- 3. Improving population health and healthcare quality** through data analytics, using clinical, financial, and process-level data. Measures used include health status, screening and preventative care, access-to-care, member satisfaction, and rates of electronic data exchange between provider organizations involved in care.

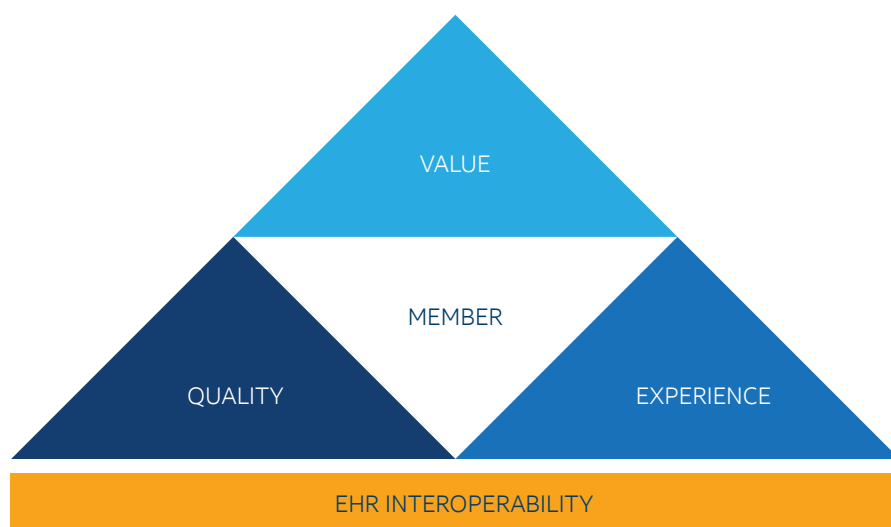


Figure 1. Employer-driven Triple Aim approach founded on Interoperability

Intel has set requirements for using technology to improve care coordination in four of the Connected Care regions, and has acted as a partner in helping the DSPs create workflows to ensure that health information moves effectively between providers caring for Connected Care members. These unique steps on the part of an employer are impacting healthcare delivery across the communities where the company's employees live and work, resulting in recognition for the Connected Care program as a model for an employer-led accountable care model. Intel is proving that better health outcomes can be achieved at a lower cost, through realignment of business drivers.

Preparation Led to Results

Understanding the business, regulatory, and technical factors in a regional healthcare market is a crucial first step to planning for an innovative, employer-led, accountable healthcare program. Implementing new technologies and adopting new workflows—required steps in all accountable care arrangements—will present challenges for any healthcare organization; the Connected Care DSPs have experienced their fair share. It is important for employers looking to replicate aspects of Intel's Connected Care model to begin their journey with optimistic pragmatism, and with the right resources available. Change can be slow at first, and progress toward meeting program goals will be impacted by variables that are difficult to foresee and, at times, impossible to control.

Connected Care in Oregon saves Intel an average of \$1.8 million per month in avoided healthcare costs, compared to the costs for a similar population of employees with traditional health plan coverage.

Despite those caveats, over the past five years, Intel has demonstrated that healthcare spending inflation can be controlled through direct purchasing from healthcare delivery systems, rather than going through an intermediary. Intel has also shown that large employers can leverage their position as buyers to require measurable improvements in health outcomes for the populations they cover, and in doing so, healthcare delivery across a geographic region can be positively impacted.

Two years of data (2016, 2017) have demonstrated that Connected Care members in Oregon are saving money on their average out-of-pocket costs, in comparison to their colleagues who selected traditional health plan options, with better health outcomes for measured conditions. Intel garnered substantial savings on the healthcare costs of the Connected Care population as well; an average of 17% less per member per month (\$1.8M/month) compared to a risk-adjusted population of Oregon employees covered by the two traditional health plan offerings.

Connected Care members are also experiencing better health outcomes (Table 1) and high satisfaction (Figure 2) from Intel's model of high-touch, coordinated healthcare.

Table 1. 2017 Connected Care results

INCREASED ENGAGEMENT	HbA1c testing compliance: 91% Connected Care members in compliance vs. 88% non-Connected Care employees
IMPROVED HYPERTENSION MANAGEMENT	Average rate of Connected Care hypertensive patients within good control: Increased from 71% to 87% from 2016-2017
IMPROVED DIABETES MANAGEMENT	Average rate of Connected Care diabetic patients within good control: Increased from 69% to 78% from 2016-2017
DECREASED SYSTEM WASTE	Low back pain imaging is more likely to be avoided for Connected Care members: 87% of the time vs. 81% for non-Connected Care employees



Figure 2. Connected Care member experience and retention rates

“Organizations won’t be successful in new models like Connected Care unless they embrace possibility thinking.

First and foremost, care delivery integration needs to be tightly coupled with data integration.”

- David Ryan, General Manager,
Health And Life Sciences Sector,
IoT Group, Intel Corporation

“My favorite part was being able to eliminate sending multiple faxes and making multiple phone calls.

Patients no longer have to wait for information to be received by the community specialist before getting a referral appointment scheduled. This change has made a significant difference for our patients and our providers.

Intel employees expect the most advanced technology and assume healthcare providers are all connected to each other. They love when we can get their records to the specialty doctor they are seeing in a timely and efficient manner.”

- Wendy Woodward, Manager of two Intel
Health For Life Centers In Oregon,
Premise Health employee

Connected Care: Four Years and Five Regions

New Mexico

After two years of planning, Intel introduced Connected Care for employees based in New Mexico on January 1, 2013. During the planning phase, Intel had sought local solutions to serve employees working at their Rio Rancho, New Mexico facilities with a more coordinated healthcare experience. After a review, Intel contracted with [Presbyterian Healthcare Services](#) to manage the onsite Health for Life Center on the Rio Rancho campus, and to serve as the first Connected Care DSP.

Presbyterian has been successful in improving healthcare delivery and health outcomes, with regular depression screening and care management services for members with diabetes, and has scored well on process and access measures, such as nurse call time. Connected Care members in New Mexico have been very satisfied with their Presbyterian providers, though healthcare costs in New Mexico's Connected Care plan have been largely unchanged, due in part to a significant decrease in the site's overall worker population. Nevertheless, important lessons were learned and later applied for the Connected Care programs in other regions.

Oregon

Building on learnings in New Mexico—particularly the importance of regional healthcare market differences—Intel sought to award two contracts for Connected Care healthcare services in Oregon, and through an RFP process, selected Kaiser Permanente and Providence. Collaboration and competition were both very much at work when planning kicked off in early 2014, with a go-live date for both plans set for January 1st, 2015.

In addition to adding a second DSP contract, the Connected Care implementation in Oregon differed from that of New Mexico in that the operations of the two on-site primary care clinics (Health for Life Centers) on Intel's expansive Oregon campuses is managed by Nashville-based [Premise Health](#). The Oregon DSPs were required to develop plans to provide a coordinated experience of care for the Connected Care plan members when they moved between receiving care at the Health for Life Centers and other clinics within each of the DSP's networks. Successful care coordination was defined by Intel in two ways: implementing electronic data-sharing using two national standards, and developing corresponding workflows for coordinating care between the DSPs and the Health for Life Centers, focused foremost on the patient's experience of care.

The electronic data exchange standards selected in 2014 by Intel for the Oregon Connected Care program were:

1. [eHealth Exchange™](#) standards for query and retrieval of health records prior to scheduled appointments, and
2. [Direct messaging](#) standards for securely pushing health records from a primary care clinic to a specialist when a patient is referred for additional treatment.

Two industry groups coordinating governance of electronic health standards, [The Sequoia Project](#) and [DirectTrust](#), stipulated the policy frameworks for data exchange agreements between organizations, and an Oregon-based consulting firm, CedarBridge Group, was contracted by Intel to provide strategic advice and serve as project manager for the interoperability effort.

By spring of 2014, Kaiser Permanente and Providence had both successfully onboarded to the eHealth Exchange, and both organizations had demonstrated data exchange with the Social Security Administration through eHealth Exchange standards, on different instances of the Epic EHR™. Premise Health (using the Greenway Health™ Prime Suite EHR) and [The Portland Clinic](#), a multi-specialty group included in Kaiser Permanente's Connected Care network (on its own instance of the Epic EHR) began the legal and technical processes to onboard to eHealth Exchange, and successful testing of electronic data exchange via eHealth Exchange was completed by all organizations in early 2015. Simultaneously, all organizations demonstrated success sending [consolidated continuity of care documents](#) (C-CDAs) using [DirectTrust-accredited Health Information Service Providers](#) (HISPs).

Intel's Five Requirements for Connected Care DSPs:

Right care:

Use of evidence-based medicine

Right time:

Same-day access to care

Right price:

Material decrease in the cost of care

Best life:

Rapid return to productivity for the member

Best outcome:

Patient satisfaction 100% of the time

The Epic EHR capability to do batch queries through the eHealth Exchange proved enormously helpful to the Oregon DSPs, as they could run queries each night based on the next day's schedule of patient appointments, and Intel patient records would be pulled from the Health for Life Center's Greenway system without an additional manual step. Initial issues in return rates for health records from the queries conducted via eHealth Exchange were worked through with the assistance of the Connected Care plan enrollment team and the Health for Life Center staff, who collaborated to ensure that nicknames weren't being substituted for given names of patients in the EHR, and took other steps to ensure data quality was maintained and to enhance patient matching results when queries were conducted.

In 2017, the rate of queries returning a patient record had increased to 97%, with over 86,000 patient records exchanged. This number reflects a 53% increase in electronic data exchange since 2015, as shown in Figure 3.

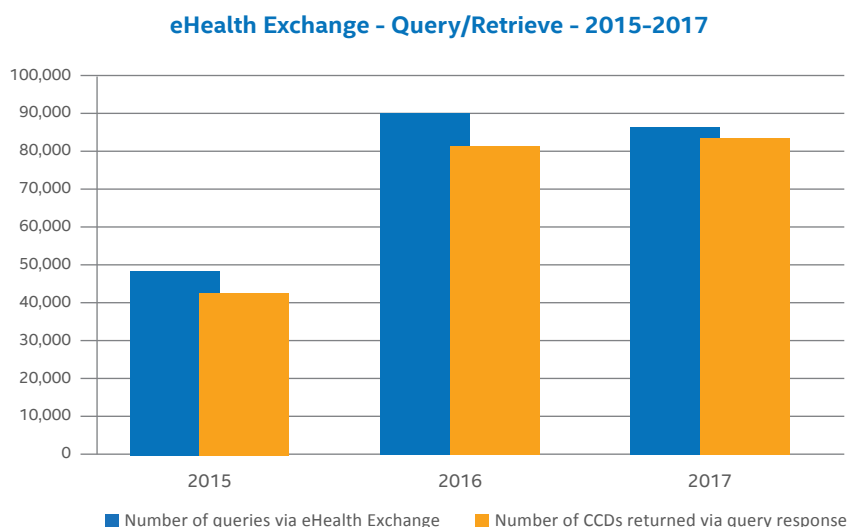


Figure 3. Sequoia Project's eHealth Exchange utilization metrics

Premise and the Oregon DSPs also established a process allowing a staff person to serve in a critical role for each organization; this position became known as the concierge. When the Intel Health for Life Centers were still on the Greenway EHR system (Premise moved the Intel sites to Epic in early 2018), the concierge would do manual eHealth Exchange queries for incoming patients and also send health records via Direct messaging whenever possible. The concierge staff at each organization would also quickly pick up the phone to coordinate care referrals and provide high-touch service for Connected Care members, so often, in fact, that individuals in these roles established working friendships and reported increased job satisfaction as a result of the model of care they were providing.

With approximately 5,000 Kaiser Permanente Connected Care members and just over 10,000 Providence Connected Care members signing up in the inaugural year, Intel had two population groups of statistically significant size to compare with other regions of the country, and with the two other health plans offered to Oregon-based employees. For Providence in particular, the significant number of employees selecting the Connected Care option, combined with [Oregon's Medicaid transformation](#) efforts, provided a tipping point for the organization to embrace a new approach to connecting providers and improving patient care through information exchange.

As discussed later in this paper, the increase in the number of Direct messages being sent between Health for Life Centers and the Oregon DSPs (Figure 4) is a sign of the commitment Providence made to using Direct messaging as part of their overall HIE strategy for connecting providers in the Portland, Oregon region.

Measuring Progress:

Between 2015-2017, the percentage of queries resulting in documents returned in Oregon increased from 84% to 97%.

In Arizona, the percentage of queries resulting in documents returned increased from 12% to 46% in a year.

“Share as much information with your partners as you can, with a shared understanding of why you are doing this. Both sides need a strong understanding of what is possible and who is accountable.”

- Heather Wilson, Greater Americas Health & Wellness Program Office Manager, Intel Corporation

“Successful partnerships require commitment, accountability and collaboration from all sides.

Intel has been the driving force in their successful partnerships with delivery system partners in the Connected Care program.”

- Prashant Shah, Director of Engineering for Health and Life Sciences, Artificial Intelligence Products Group

Arizona

While Oregon's two Connected Care organizations were working out the kinks in their interoperability efforts, Intel immediately began planning for its next Connected Care launch, in Chandler, Arizona. In early 2015, Intel selected the region's DSP and started going through the paces to offer a Connected Care model.

Intel quickly realized there were differences in the healthcare ecosystem in Arizona that required adjustments to the Connected Care interoperability model being used in Oregon. The Kaiser Permanente integrated delivery system and the narrow network offered by Providence in Oregon had streamlined the number of EHR systems in use by primary care practitioners and specialists in Oregon. The Arizona ecosystem was on the other end of the spectrum— over 125 different EHR systems were in use by providers in the DSP network, in addition to the Cerner® EHR system used by hospital-owned facilities. In an effort to manage the diverse technical environment of the network and give providers appropriate access to patient information, the hospital system was in the throes of implementing the Cerner (health information) Exchange Platform* (CEP). A good deal of time in 2015 was spent in planning efforts between the DSP, the local hospital system, and Premise Health, examining options for the Chandler campus Health for Life Centers to use CEP, and for the DSP providers to use Direct message standards, for electronic data exchange to occur between providers caring for Connected Care members in the Arizona region.

Arizona was also different than Oregon in that there was a mature statewide HIE entity, [HealthCurrent](#). Because HealthCurrent was in the midst of a full-scale

CCDs pushed via Direct - 2015-2017

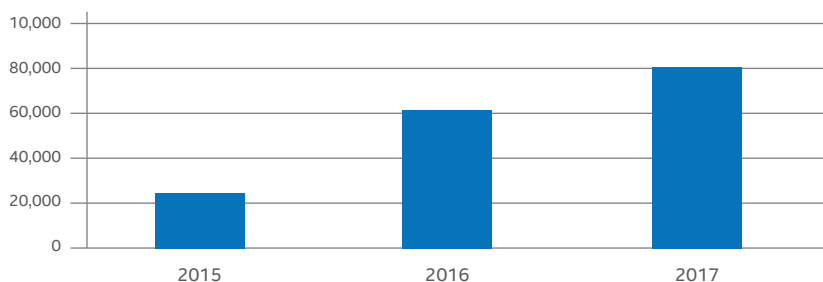


Figure 4. Direct messages sent

technology infrastructure change in 2015, when Intel initiated planning for the Arizona Connected Care model, the Arizona DSP and Premise Health postponed the decision about using HealthCurrent for Connected Care data exchange. Thus, when the Arizona Connected Care plan was launched on January 1st, 2016, care coordination and the high-touch services often relied on phone calls and data exchange via fax machine. By early 2016, however, other electronic data exchange services were enabled by the local hospital system, providing significant value to Connected Care providers in the DSP's network and at the Chandler facility Health for Life Centers. Most notable of those improvements were electronic notifications for hospital events (emergency department visits, as well as inpatient admits, discharges, and transfers), sent from local hospital system facilities when a primary care physician was listed on the Connected Care member's electronic chart. These electronic notifications have created opportunities for quick follow-up with patients after a hospital event.

Later in 2016, with the new HealthCurrent HIE platform in place, the local hospital system adjusted their interoperability strategy in the Arizona market with the decision to become a data-sharing participant with HealthCurrent. With the local hospital system making this shift, the DSP followed suit and began a process to provide onboarding support for their affiliated provider practices to connect with HealthCurrent. By this time, Premise Health had made the decision to move the Intel clinics from Greenway's PrimeSuite EHR to Epic, a commitment that, during 2017, diverted most of Premise's technical resources away from the

“Employers considering a program like Connected Care should hire someone from the healthcare industry who knows the c-suite perspective.

Healthcare executives are under pressure to perform with value-based payment arrangements, and the right leadership on the part of the self-insured employer will help both sides develop and reach mutual goals.”

- Jennifer Esposito, Worldwide General Manager, Health and Life Sciences Group, Intel Corporation

“Many of our partners are fierce competitors—what we did was to take an Intel member-centric view and carefully designed care-coordination workflows. We baked health information exchange through standards-based interfaces right into the contracts. Our partners shared our vision, and that led them to be in the same room talking to each other and sharing the best practices for what worked and what hasn’t worked for them.

Having collaboration between competition—that happens when you have great leadership and financial incentives in place. Cooperation among competition meant these large groups were doing the right thing for their patients.”

- Prashant Shah, Director of Engineering for Health and Life Sciences, Artificial Intelligence Products Group

Connected Care interoperability initiatives. Again, Intel used contractual leverage to ensure Premise renews the interoperability efforts in Arizona as soon as the Epic implementation was completed in early 2018, and agreements were put in place for Premise to also become a member of HealthCurrent and use the Arizona statewide HIE services to improve care for Connected Care members.

California

The Intel Connected Care program continued to expand, and by early 2016, planning commenced in two California regions—Santa Clara, home of the company’s corporate headquarters, and Folsom, a community located near Sacramento. Unlike the other three Connected Care regions, neither Intel site in California is currently served by an onsite primary care clinic. This difference is just one of many where the Connected Care California plans stand in contrast to the initiatives in other regions.

In Folsom, the regional DSP partnered with a large independent physician association (IPA) whose member practices are serving as the provider network for the Folsom Connected Care members. When planning discussions began, many of the IPA practices used a hosted version of the NextGen® EHR system, with a smattering of other EHR systems in use by IPA-affiliated practices. The IPA was in the process of selecting a new EHR vendor to host on behalf of member physician practices; by mid-2016, a concerted effort was underway to move the IPA physician practices onto a shared instance of the Epic EHR.

It’s easy to imagine how large employers like Intel can be catalysts to accelerate interoperability across healthcare information systems by including requirements for demonstrated electronic data exchange by the providers in their contracted networks. In the Sacramento region, with the DSP facilities using the Cerner EHR system, and the IPA Physicians migrating practices to Epic, there are great opportunities to advance data sharing between users of the two leading EHR technology vendors, driven by the Connected Care model of care for Intel’s Folsom campus employees and their families.

With numerous facilities located close to Intel’s headquarters and across the San Francisco Bay region, a large bay area health system was selected as the DSP for Connected Care for Santa Clara. With its strong, integrated network of primary care and specialty clinics all operating on a single instance of the Epic EHR system, the Santa Clara DSP will rely heavily on Epic’s Care Everywhere® capability to share health information among other Epic system users in the region, as well as non-Epic systems like the Folsom DSP. In fact, the Folsom DSP is the fifth largest exchange partner with the Santa Clara DSP. This experience is like the Oregon DSPs. The Santa Clara DSP was an early adopter of [the Sequoia Project’s Carequality®](#) program and has pioneered some of the latest HIE technology with the Folsom IPA and the Folsom DSP, resulting in rapid growth in sharing, particularly with the Folsom IPA practices. Despite this high volume of exchange and the Santa Clara DSP’s strong network for Connected Care members, there are still additional opportunities similar to the Oregon DSPs. Yet even with the Santa Clara DSP’s strong network for Connected Care members, there are many opportunities to improve patient care through better availability of health data, and Intel has continued to push for interoperability and data exchange beyond the capability of a single EHR vendor.

When it came to interoperability in the California regions, Intel deliberately selected technical and legal frameworks that had already demonstrated broad adoption and the capability to scale. The Folsom and Santa Clara DSPs are both active participants in national interoperability initiatives; both organizations serve in governance capacities for Carequality initiative. With Intel’s data exchange requirements for Connected Care, and inspired by the 2016 results from Connected Care in Oregon, there is little doubt both the Folsom and Santa Clara DSPs will demonstrate strong leadership in advancing interoperability in California.

“When the business case is aligned between organizations, you don’t have to spend time convincing each other it should be worth their while to make changes.

Direct messaging for securely sharing information in a referral is improving care for patients; we’re now working on closed-loop referrals, which will have multiple benefits across the board.”

– Andrew Zechnich, MD, Regional Chief Medical Informatics Officer, Providence Health And Services

“It’s rewarding to see the use of Direct messaging catch on across the community, and to experience the positive collaboration between Providence and other local healthcare practices in making healthcare work better for patients.

Everyone we’ve worked with to set up Direct messaging workflows with providence is excited and motivated because it’s easy to see the potential of direct to streamline communication in healthcare.”

– Ben Warnke, Operational Efficiency Project Manager, Providence Medical Group

Case Study: Providence Health & Services

In early 2014, Providence Health & Services responded to Intel’s RFP for Connected Care and was awarded a contract to provide healthcare services as one of the health plan choices available to Oregon employees.

In the early years of testing a new healthcare payment and delivery model, there may be insufficient data for complete cost modeling. In advance of annual open enrollment, healthcare organizations offering a new type of coverage like Connected Care must estimate how many lives they will be covering over the next year and attempt to calculate the overall health risk of the population that may select the new offering, prior to having sufficient historical data on the overall health status of the group. With two Connected Care program offerings for Oregon Intel employees, the uncertainty during the planning year about the eventual number of members each DSP would enroll for coverage on January 1, 2015 was more acute than in the other regions. Intel worked hard to create a supportive environment with each of the DSPs around the performance measures selected, and in the workflow design for electronic data exchange between each DSP and the Health for Life Centers.

The annual performance measures for each DSP are developed through a collaborative but rigorous process. National measures are used as a starting point and are evaluated and improved upon through an agile methodology. First, baseline metrics are developed for the DSPs, and the improvement goals are set together with Intel. Measures are tied to a set of principles known as Intel’s Five Requirements. Within these requirements, several measures are mutually agreed upon by Intel and each DSP. When performance measures are exceeded, the DSP will receive a bonus payment, and if a metric falls short of its target threshold, the DSP could end up owing Intel a penalty payment. Each of these quality measures is evaluated and selected based on relevancy, feasibility, and measurability criteria.

By mid-2017, with claims and member survey data, as well as clinical quality data from each of the Oregon DSPs scrubbed and validated for the 2016 calendar year, it was clear that Intel’s second Connected Care region was exceeding company expectations. Health outcome measures showed improvement, and significant cost avoidance was demonstrated in a side-to-side comparison to employees with similar demographics and health statuses who were receiving care under other health plan offerings.

Connected Care members, when compared across risk categories, are showing **better results** from the care being provided, and employees with Connected Care plans are **overwhelmingly satisfied with their access to timely, high-quality healthcare**.

The experience of Providence in coordinating referrals among unaffiliated provider groups proved to be advantageous in adapting to the new data exchange models required by Connected Care. This speaks to the importance of cultural readiness and organizational commitment to support providers in using new technology features and adopting workflow changes in new value-based care models.

In early 2015, Providence launched an effort to quickly advance health information exchange capabilities between the Providence-owned facilities and unaffiliated practices in the Portland region. Providence reached out to several independent primary care and specialist practices with an offer to extend the Providence-hosted Epic system, replacing the existing EHRs in those practices. Most of the non-affiliated practices declined the Providence offer, and thus the organization took a bold step to reconsider their health data exchange and interoperability strategy.

In January 2016, in a conference room at Providence’s Portland-area administrative campus, representatives from Intel, Providence, Premise Health, and CedarBridge Group were introduced to the new Providence HIE strategy by Andrew Zechnich, MD (Regional Chief Medical Informatics Officer, Providence Oregon). Much to Intel’s delight, Providence was building on prior work with Premise Health, using Direct messaging to send structured clinical data to support transitions of care—discharges and referrals.

“Employers have a lot of leverage to go to large integrated health systems and insist upon quality and interoperability expectations of how their patients will be cared for and how efficiently the health system manages their health records.

This market pressure causes health systems to hold their EHR vendors accountable for supporting full interoperability capabilities across vendors and products.”

- Rachel Lieber, (Former) Director of HIE,
Providence Health & Services NW

“Integral to the development of an impactful pay-for-performance scorecard is strong collaboration between the client and supplier.

Thoughtfully designed metrics coupled with strong strategic alignment create a performance scorecard that not only drives outcomes, but innovation.”

- Allison Jackson, Health Analytics Program
Manager, Intel Corporation

After seeing opportunities to improve the patient referral process through Direct messaging from their work with Intel's Health for Life Centers, the Providence team designed workflows using Direct messaging in a way that leveraged clinic support staff, rather than clinicians. Providence chose to use the Portland, Oregon region as a testbed for a new interoperability strategy, with the Intel Connected Care contract serving as one impetus for Providence to work with unaffiliated practices to coordinate referrals using the Direct messaging standards. Providence developed a list of independent practices, primary care practitioners, and specialists throughout the Portland area identified as being most ready to use Direct for referral coordination. A project schedule was drawn up, a technical specialist was identified on the team, and a methodology was developed for engaging practices and assisting them with the technology and workflow components necessary for cross-organizational interoperability to be successful.

At the beginning of 2018, at least 28 clinics throughout Northwest Oregon were exchanging CCDs via Direct with Providence facilities, due to the efforts of Ben Warnke (Operational Efficiency Project Manager, Providence Medical Group) and other members of the Providence team, and to the commitment by Intel for the use of national interoperability standards by Connected Care DSPs. Providence is now making similar outreach efforts in other communities where they operate healthcare facilities, and the Providence team has been a partner to Intel in sharing strategies with other Connected Care regions about using Direct messaging as one method to improve patient care and meet Intel's interoperability goals.

Providence would like to implement workflows that use Direct to “close the loop” with referring primary care providers after specialty visits. To inform and accelerate the development of Epic functionality, Dr. Zechnich established and is leading an Oregon Regional Epic User Group focused on providing customer feedback to Epic developers on desired improvements.

Providence has embraced Intel's data exchange and interoperability expectations, and through their leadership in the [Oregon Health Leadership Council](#), a private-sector group primarily comprised of hospital and health plan executives, Providence was a sponsor and an early implementer of the [Emergency Department Information Exchange \(EDie®\)](#) solution, providing critical and time-sensitive information about patients' opioid prescriptions to emergency physicians. Providence has also rolled out the PreManage ED® event notification services, an EDie sister product, to many of their ambulatory practices; the services deliver electronic messages to providers when their patients are seen in a hospital emergency room, or admitted or discharged from an acute care setting. Both [EDie](#) and [PreManage ED](#) are products of Utah-based Collective Medical Technology (CMT). With encouragement from Providence, Premise Health has been working with CMT to implement the PreManage ED service for the Oregon Health for Life Centers. Through this service, Intel's Oregon onsite clinics will soon receive electronic notifications when their attributed patients are seen at any Oregon hospital.

The Providence team continues to work down their list of prioritized Portland-area clinics, spreading the word about using Direct messaging to share electronic information around referrals. Providence and the Oregon Regional Epic Users Group are working with Epic to improve the system's Direct functionality, not only as part of their EHR upgrade cycle, but also with a more rapid rollout of the most critical feature changes needed for priority use cases like closing the loop with referring providers. Providence clinical improvement leaders continue to build on quality and cost achievements by bringing coaching tips and sharing best practices for applying ongoing quality improvement strategies and further improving the quality of care delivered across their network of provider practices.

Providence plans to continue testing various technical approaches to interoperability, in addition to using Direct messaging and the eHealth Exchange standards. Providence facilities in Southern Oregon, and in the Columbia Gorge east of Portland, are participating with [Reliance eHealth Collaborative](#), a regional health information exchange organization, and as an Epic EHR user, the Providence technical team is paying close attention to the work being done by The Sequoia Project's Carequality initiatives.

“Intel is a national leader on the cutting edge of transforming healthcare delivery through Connected Care.

The Intel model of collaboration and accountability can be adopted by employers across the country to drive better, more affordable healthcare in the U.S.”

- Carol Robinson, CEO, Cedarbridge Group
(Contracted by Intel to support four years of Connected Care planning and implementation)

With its experience and success in improving health outcomes and reducing cost trends for Intel Connected Care members, the Providence organization is well-positioned to work with other self-insured employers across the country in designing and implementing other new and pioneering models of accountable care.

Conclusion

Intel, as a motivated and innovative employer, set an audacious goal of having the healthiest workforce in the country, and has been working to achieve that goal through a variety of strategies. By contracting directly with healthcare delivery systems, requiring and measuring the use of information technology to exchange health data across care teams, and working in partnership with delivery systems to improve quality of care, Intel is proving:

- Healthcare can be delivered in a more coordinated way, when purchasers like Intel use their roles and contracting power to facilitate innovation.
- Health outcomes can be measured and improved when collaboration and trust are developed as part of the process for structuring risk-sharing contracts. Intel's culture is known for setting a high bar when it comes to goal-setting and driving continuous improvement, yet a highly collaborative culture has also been demonstrated by the combined data analytics team in Oregon, as metrics are set each year for the coming year and scorecards are evaluated. Developing quality measures with partners helps ensure cooperation while carrying out those measures.
- Healthcare spending can be controlled by the purchaser when business interests and goals are aligned between the purchaser and the delivery system. To create alignment, it is essential for healthcare delivery organizations to understand that they, too, will share in the derived savings.
- Consumers can be highly satisfied with the care they receive under accountable care arrangements when programs are designed with the patient at the center. High member satisfaction ratings have been a key component of the Connected Care program's success because expectations for highly coordinated care are built into the metrics of success.
- Success will breed success when improvements made under an employer-sponsored accountable care arrangement spread to improve health and healthcare across a region, and the lessons learned by healthcare delivery systems participating in models like Intel's Connected Care can spread from community to community, and from region to region.
- Having a combination of outside expertise and strong leadership on an employer's team can help drive success in any new healthcare program that might be undertaken. Consultants with expertise in HIE and interoperability offered the organizations in each Connected Care region technical assistance, strategic advice, and subject matter expertise on issues including privacy and security requirements; patient consent for data sharing; ways to improve patient matching; trust agreements for data sharing; technical options and trouble-shooting vendor issues; onboarding to eHealth Exchange, improving the use of Direct messaging in workflows; policy and contract considerations; and more.

There's no better time than the present to begin an effort like Intel's Connected Care initiative. By leveraging purchasing power in a constructive way, employers can make a significant difference in the delivery of quality, cost-effective healthcare services.

