

Motivation, Extent, and Vision for the Dignity Health Telemedicine Network

The Future of Telehealth at Dignity Health



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About Dignity Health

Dignity Health is made up of more than 60,000 caregivers and staff whose mission is to deliver excellent care to diverse communities in 21 states. Headquartered in San Francisco, Dignity Health is the fifth largest health system in the nation and the largest hospital provider in California, comprised of medical groups, ambulatory surgery centers, clinics, physician offices, more than 40 hospitals and medical centers.

Excellent, affordable health care, delivered with compassion, is what Dignity Health stands for. Since their founding in 1986, Dignity Health has made it their goal to create environments that meet each patient's physical, mental, and spiritual needs. They believe this healing philosophy promotes the wellbeing of their staff and the places they serve.

The Dignity Health Telemedicine Network (DHTN) started as a means to expand services at a small, suburban hospital lacking full-time stroke care, and has since grown to include several service lines at more than 35 partner sites throughout California.

Why Telehealth?

As the sixth largest health system in the U.S., and the largest non-profit, Dignity Health began to explore telehealth as an additional means to deliver high-quality, cost-effective care across all of their hospital centers without duplicating services.

In 2008, Mercy Stroke Center in Sacramento proposed the formation of a telehealth program using a \$500K philanthropic grant from the Elliott Homes Foundation. The foundation set out to improve stroke care at Mercy Hospital of Folsom, a small, suburban hospital with a single neurologist on staff whose availability was limited. By connecting through telehealth to a high-quality, core group of stroke experts in the heart of the city, the outlying facility was able to have full-time stroke coverage.

Traditionally, hospitals in the Sacramento area worked independent of each other. With the success of their groundbreaking telehealth program, Dignity Health began to leverage this first relationship between Mercy Stroke Center and Mercy Hospital of Folsom, connecting two thirds of their hospital centers and creating a collaborative ecosystem where participating Dignity Health partner sites had access to specialty services.



Dignity Health.

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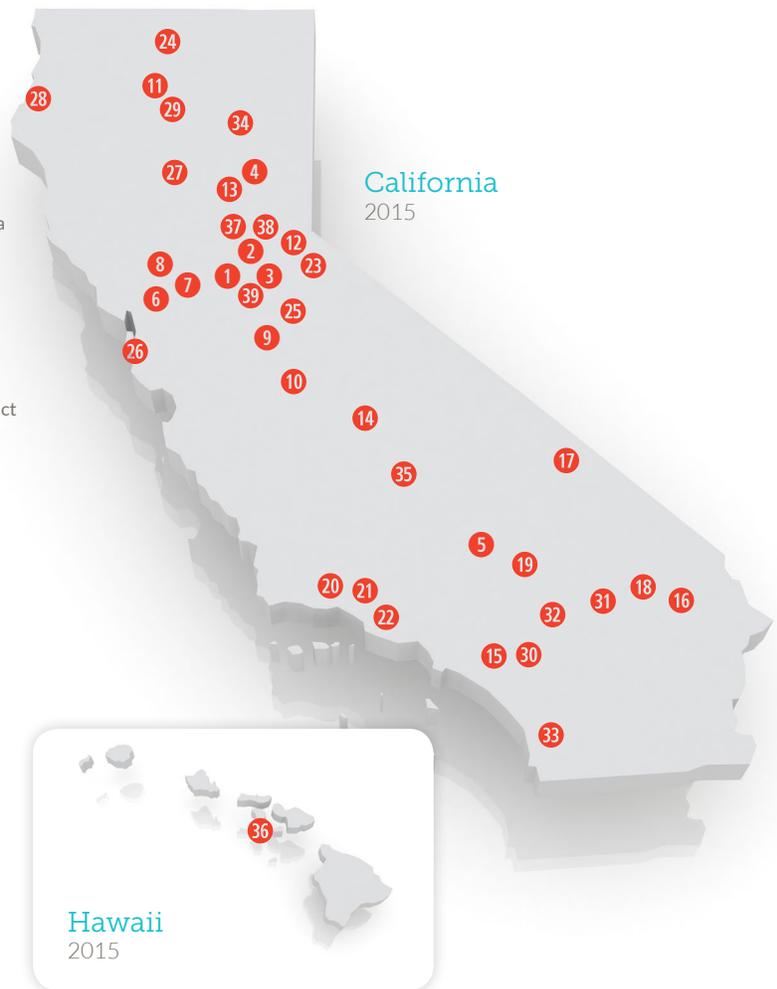
Telehealth Program Service Expansion

The Dignity Health Telemedicine Network began with a single service line—stroke care—and within two years, expanded to serve three additional sites, with 130 consults per year.

To establish the program at each new partner site, Director of DHTN, Jim Roxburgh, met in person with physicians and nurses, and then connected them to a telehealth team neurologist via the InTouch system. Through these experiences, trust was built, and the partner sites began to recognize the potential. By 2012, they started to expand usage in the ED. The obvious need was mental health services, and the program quickly grew to include both stroke and psych services. Soon after, the relationship with the Pediatric Critical Care Unit gave partner sites a third use case for the InTouch telehealth system.



- | | |
|---|---|
| 1. Mercy General Hospital | 22. Mark Twain Medical Center Clinic |
| 2. Mercy San Juan Medical Center | 23. Mercy Medical Center -- Mt. Shasta |
| 3. Mercy Hospital of Folsom | 24. Oak Valley Hospital |
| 4. Sierra Nevada Memorial Hospital | 25. Sequoia Hospital |
| 5. Bakersfield Memorial Hospital | 26. St. Elizabeth Community Hospital |
| 6. NorthBay Medical Center | 27. St. Joseph Hospital Eureka |
| 7. NorthBay VacaValley Hospital | 28. Redding Medical Group Clinic |
| 8. Woodland Healthcare | 29. St. John's Regional Medical Center |
| 9. Methodist Hospital of Sacramento | 30. Tehachapi Valley HealthCare District |
| 10. St. Joseph's Medical Center | 31. St. Mary Medical Center |
| 11. Mercy Medical Center Redding | 32. Mercy Downtown Hospital |
| 12. Mark Twain Medical Center | 33. Oroville Hospital |
| 13. Sierra Nevada Medical Group Clinic | 34. Madera Community Hospital |
| 14. Mercy Medical Center Merced | 35. Kona Community Hospital and Kohala Hospital |
| 15. California Hospital of San Bernardino | 36. HCR Manor Care, Citrus Heights |
| 16. Kern Valley Healthcare District | 37. Rosewood Post Acute Rehab, Carmichael |
| 17. St. Bernadine Medical Center | 38. Asbury Park, Sacramento |
| 18. St. John's Pleasant Valley Hospital | |
| 19. Arroyo Grande Community Hospital | |
| 20. French Hospital Medical Center | |
| 21. Marian Regional Medical Center | |



Word of the telehealth program's success grew, and without any concerted marketing effort additional system hospitals began to sign on. By 2014, 25 facilities had joined the Dignity Health Telemedicine Network.

Welcoming Telehealth Physicians

Recognizing the unfamiliarity of “beaming in” for a consultation, the telehealth leadership team set up strict criteria for participation in the program. Dr. Alan Shatzel, Medical Director for DHTN, and Jim Roxburgh, RN, along with experienced telehealth physician peers, developed a certification program for prospective telehealth physicians with standards beyond the existing in-person credentialing. In addition, on-site physician and nurse participants received in-person training to integrate remote physicians into their workflow.

Reduced Response Times

The leadership team created a “Transfer Center” to route all telehealth requests, resulting in an astonishing reduction in response times over several service areas:



| ICU | Mental Health | Nephrology | Neurology |
|-------|---------------|------------|-----------|
| 5 min | 10 min | 5 min | 3 min |

By creating an interconnected delivery network, Dignity Health is able to fulfill their mission to provide timely access to high-quality specialists and services for patients and partner hospitals, beyond acute care and with the best outcomes possible. Having determined the great value of telehealth, Dignity Health is better managing their resources. Beyond patient services, their integrated telehealth network has expanded to provide:

1. Program Implementation
2. Program Support 24/7
3. Technical Implementation
4. Technical Support 24/7
5. Provider Credentialing
6. Physician and Staff Education
7. Recruiting and Retention Programs
8. Physician Resource Allocation across the entire system of care
9. Policy Review and Development
10. Clinical Pathway Development and Support
11. Operational and Clinical Workflow Management
12. Participation in Physician and Leadership Meetings and Distribution of Knowledge
13. Development and Management of Quality Indicators
14. Sustainable Practice Model

Why InTouch?

InTouch launched the telehealth program with Dignity Health as a partner, providing all-encompassing services— workflow design, training, go-live and monitoring and program management in support of DHTN partner sites.

Regardless of the location of the health system, InTouch allows a facility to grow their clinical services without investing in infrastructure. Dignity Health is able to add services they need, as they need them. The InTouch Telehealth Network connects anywhere, supporting more than 1,200 clinical sites with over 12,000 encounters every month in more than 110 health systems. Their cloud-based network enables connectivity across enterprises to any location. InTouch monitors the connections 24/7, ensuring that the systems are available as needed.

“Our service is an end-to-end solution. We don’t just put a cart there and have a specialist beam in every now and then. You have to think about the service. You have to think about the complete solution. InTouch is a big part of that.”

— Jim Roxburgh, RN, MPA
Dignity Health Telemedicine Network

Financial Benefits

| | Metrics | Cost/Day/Site | Value/Day/Site |
|------------|---|---------------|----------------|
| Acute | <ul style="list-style-type: none"> Door to Eval Interventional Transfers LOS Mortality Leakage Access to Specialists | \$113 | \$23,500 |
| Ambulatory | <ul style="list-style-type: none"> Readmissions LOS Access to Physicians | \$10 | >\$600 |
| Home | <ul style="list-style-type: none"> Readmissions Patient Satisfaction Clinician Satisfaction Access to Physicians Population Management | \$10 | >\$600 |

DHTN Acute Opportunity Metrics

| Service Line | Metric | Base | Goal | Incremental Value / Session | Total Value Opportunity |
|--------------------|---|----------|----------|-----------------------------|-------------------------|
| Mental Health | Loss/ED Visit | \$1,600 | \$497 | \$1,463 | \$234M |
| | LOS | 360 Mins | 10 Mins | | |
| Neurology | Door to Eval | 60 Mins | 4.8 Mins | \$8,300 | \$53M |
| | tPA | 3% | 23% | | |
| | Interventional Transfers | 0 | 2400 | | |
| ICU | ICU Patient Mortality | 14.4 | 6 | \$9,262 | \$305M |
| | ICU Patient LOS | 9.3 | 6.1 | | |
| | ICU Patient Days | 120 | 160 | | |
| | Readmits | 1.8 | 0.9 | | |
| | Case Mix Index | 1.19 | 1.41 | | |
| Infectious Disease | Sepsis Survival Rate | 45% | 19% | \$4,505 | See ICU |
| | Patient Days Time to Antibiotics Capacity | 6.36 | 5.89 | | |

Telemedicine Network Benefit Summary

The return on telehealth is increasingly more robust than Dignity Health leadership had ever imagined, with benefits that include:

1. Cost avoidance
2. Integrated delivery system of care
3. Interdependent relationships in which hospitals are working together, rather than competing
4. Smart growth – putting physicians where they're needed and can succeed
5. Improved patient access to care and patient/family satisfaction
6. Provider satisfaction
7. Providing the right care, at the right time, in the right place, at the right price

Keys To Success

Having launched telehealth services at more than 25 facilities, DHTN leadership has determined several keys to program success:

1. Each potential new partner site must be operationally sound, exhibiting attention to detail and customer service and prepared to take on the program. The site must be able to integrate the new telehealth workflow.
2. Once launched, a strong relationship between physicians “beaming in”, and physicians and nurses at the new partner site is essential. The DHTN team, including three RN coordinators, builds and supports these relationships both in person, and on the InTouch system.
3. Each new site has access to DHTN’s “Round and Respond” model for telehealth patients in place of traditional ICU rounding. The “Round and Respond” model is inclusive, making the InTouch system available to everyone in the ICU. If a change occurs in a patient’s condition, a nurse calls the Transfer Center and within ten minutes, a specialist beams in to respond.
4. The Transfer Center, which routes all telehealth service requests, is a key component to DHTN success, effectively distributing the workload and ensuring a reliable and fast response for patients who need decisions made quickly.

Support for the telehealth program at partner sites is bolstered over time by the knowledge that their work is backed by InTouch Health’s effective and reliable technology.

The Future of Telehealth at Dignity Health

Dignity Health continues to expand their telehealth program, not only to increase access, but also to improve the care delivery model beyond the acute care environment. Bolstered by the InTouch Network’s expansion capabilities, Dignity Health is extending telehealth services into skilled nursing facilities, mental health centers, urgent care centers, and the home, to support population health initiatives. By following the patient over time, and managing risk, DHTN expects to improve quality of care, patient satisfaction, and reduce readmissions.