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Empowering Patients with Telehealth

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Telehealth: A component of health care transformation

With the rapid evolution of the health care industry, health care delivery organizations are leveraging innovative solutions to meet these challenges. It is imperative that provider-centric organizations seek solutions that combine disease management, health informatics, and supporting technologies to improve access to care and health outcomes. **Telehealth—the provision of high-quality, real-time video encounters between patients and providers—is a powerful tool that can support healthier patients.** At its core, telehealth aims to provide care anytime, anywhere, on any type of device—be it a web browser, a mobile phone or tablet, or a standalone kiosk. When telehealth is fully integrated into an existing health care system, patients have access to on-demand care from an accredited provider with the touch of a button. This bypasses lengthy wait times and can avoid a high-cost urgent care visit. A patient's location and mobility does not limit the scope or quality of available care. The need to travel to a brick-and-mortar facility is no longer an assumed requirement or barrier to care. Rather, a patient can engage in a virtual visit with a provider from the comfort, security, and privacy of home—or wherever he or she may be.

Telehealth provides similar flexibility to health care providers. A clinician can be geographically remote and still provide primary care consultations, chronic disease management, mental health care, and other vital services to patients through a telehealth consult. With an extensive telehealth platform, in-demand specialists can be brought bedside in a rural clinic or into a patient's home on-demand—reducing days or weeks of waiting for local provider availability. Telehealth also enables providers to schedule appointments, creating ongoing patient-provider relationships that blend both in-person and virtual consultations.

Powered by the convenience, ease, and affordability of telehealth, providers and patients alike could no longer be burdened by office hours, or the longstanding paradigm that patients bear the responsibility of physically traveling to the care they require. A telehealth solution supports both patients and caregivers as they navigate the modern-day health care landscape together. By addressing the aforementioned challenges, telehealth gives health care systems the opportunity to achieve a more flexible infrastructure.

Patients should be the heart of a provider organization's mission. As the health care industry continues to evolve to meet patients' health care needs, providers should consider the implementation of a **telehealth solution that enhances current capabilities and extends timely, convenient, affordable, and high quality care that patients and their beneficiaries deserve.**

Patient Stories: A wide variety of telehealth use cases

Telehealth enables immediate assessment and triage

Today, Americans face a number of daunting obstacles to receiving the care they need. Not all health care systems have the capability of prioritizing the need, urgency, and modality of care for incoming appointments, leaving patients with serious medical issues in potentially life-threatening situations. Conversely, many simple ailments could be addressed with minimal time and health care resources. Even when help is available, patients may face confusion in how to properly navigate various online and in-person resources, leading to frustration or even care abandonment.

Telehealth is an immediate and cost-effective way to approach these access challenges by assessing each patient's health care needs and directing them to the appropriate level of care. When a patient first enters through a health care provider's intake system, telehealth can enable immediate assessment and triage. Minor ailments can be dealt with through an immediate telehealth consult with a primary care provider (PCP)—be it a nurse, doctor, or other appropriate health provider. For some patients, the triaging telehealth provider can perform an immediate "warm transfer" to a telehealth specialist for immediate assessment and care. More serious or complex cases can be referred for urgent or scheduled in-person treatment at a facility or at a site of the patient's choosing—with the initial triage enabling health care providers to flag which patients are in need of in-person attention (See Figure 1).

Figure 1. Telehealth Enables Triage Appropriate to a Patient's Medical Concern

Synchronous, video-based telehealth has been shown to be an extremely effective tool for assessing a wide variety of medical issues[1][2][3]. Combined with a real-time telehealth brokerage system, patients can promptly connect to an on-demand, scalable network of providers that may be geographically dispersed. While health care facilities have an existing staff of health professionals, a telehealth network offers the ability for those professionals to collectively assess the needs of patients who enter the health care network, regardless of where that patient is physically located.

An enterprise telehealth network allows for geographic and time-based load-balancing, providing an efficient utilization of existing providers across the region or even country. Thus, if there is an excess of patients in one locale, underutilized providers elsewhere can be effectively matched to provide real-time care. Indeed, leading telehealth providers regularly achieve average response times of less than three minutes.

[1] CN Rosenberg et al., "Results From a Patient-Centered Medical Home Pilot at UPMC Health Plan Hold Lessons for Broader Adoption of the Model," Health Affairs November 2012 31:112423-2431.

[2] A Darkins et al., "Care Coordination/Home Telehealth: The Systematic Implementation of Health Informatics, Home Telehealth, and Disease Management to Support the Care of Veteran Patients with Chronic Conditions," Telemedicine and e-Health December 2008, 14(10): 1118-1126

[3] L Baker et al., "Integrated Telehealth and Care Management Program for Medicare Beneficiaries with Chronic Disease Linked to Savings," Health Affairs September 2011 30:91689-1697. We will be happy to provide more citations and studies upon request

Telehealth extends and improves primary care

Once in the provider's health system, patients face the challenge of establishing and maintaining a consistent patient-provider relationship. Patients living far from accessible health care facilities or those with mobility issues may face challenges attending in-person appointments. Additionally, the traditional practice of scheduling patients for discrete physical visits for regular check-ups, acute medical issues, and follow-up creates a bottleneck that strains existing provider resources and limits availability of appropriate follow-up care.

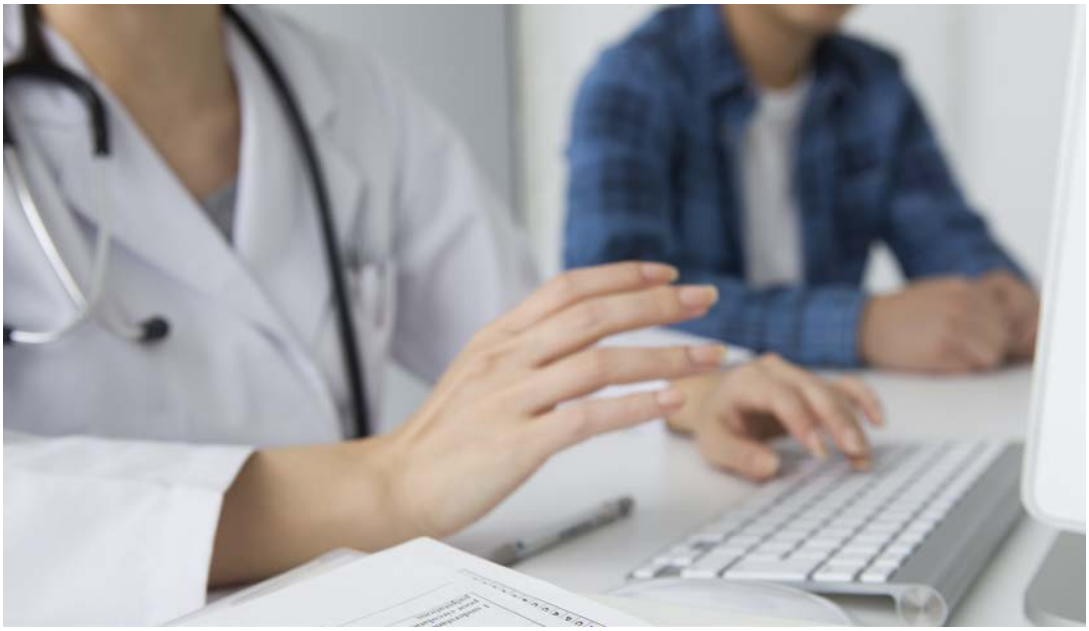

Figure 2. Telehealth enables providers to connect with patients anytime, anywhere

Telehealth technology can both extend and help establish the primary patient-provider relationship within a health system (See Figure 2). A patient with an established relationship can easily schedule follow-up appointments online or request them on-demand through a telehealth brokerage engine. Those facing barriers to establishing such a primary provider relationship can use the same brokerage engine to identify a PCP. Telehealth brings convenience and flexibility to routine, scheduled visits and checkups—enhancing treatment compliance and enabling therapy adjustments whenever that care can appropriately be provided virtually. Importantly, telehealth naturally enables care to occur via short, targeted follow-up visits that are more efficient than intermittent in-person visits alone.

Telehealth also **reduces the transit burden on patients who may have reduced mobility or limited transportation**—factors that may interfere with access to regular primary care. In addition, telehealth can uncover new insights about patients, allowing physicians to observe and interact with patients in the home setting. Lastly, extending telehealth, as part of the primary care, enables more patient choice. Patients can choose their telehealth provider and when to meet with them—instead of connecting them with a doctor on a "blind date"—which greatly enhances the patient experience.

Telehealth increases access to high-demand specialty care

Distribution of specialists throughout the country is uneven and not necessarily matched to patients' needs, especially for those residing in rural areas. Given existing intake procedures with traditional care delivery, delays can occur between identification of a specialist need and a scheduled appointment. Finally, not every health care system is well-equipped to synchronize specialty care provided by outside clinicians with that of in-network physicians.

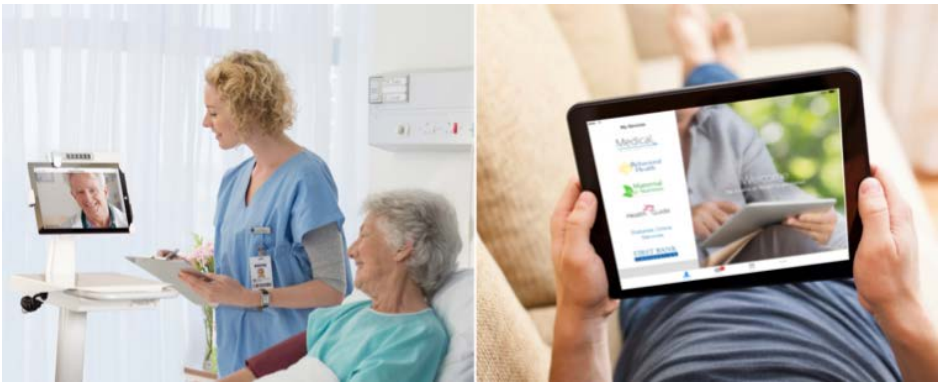

Figure 3. Specialists Can Visit with Patients in a Clinic or at Home

Direct specialist to patient telehealth consults

Telehealth offers tremendous value in addressing the challenge of providing timely access to high demand specialists across a health system. Even when providers already have video telehealth programs to extend scheduled specialty care, **a real-time brokerage telehealth platform can provide these specialty services on-demand throughout the health system and in patients' homes**. Such a real-time telehealth platform also enables health care systems to customize a priority ranking of which providers are paged first to respond to patients. This custom provider tiering can be extended to medical specialists throughout different health systems. Together, this allows for specific service levels for seeing an appropriate specialist.

Specialists to the home

With a brokerage-based telehealth platform, patients do not even need to travel to a facility. Instead, patients can receive on-demand or near on-demand specialty care from the convenience of their home, regardless of the location of the specialist—often bypassing wait times for equivalent care in a traditional clinical setting. Potential applications include post-discharge check-ups, consults with a physical therapist to discuss post-injury exercises, and post-surgical follow-ups to discuss wound closure and healing progression. **In-home telehealth visits can combine to improve the convenience, cost, access, quality, and compliance of care, especially for vulnerable populations.**

Provider to provider telehealth consults

Telehealth can also enable provider-to-provider consults in a wide variety of use cases (See Figure 4). **Remote specialists can be introduced via telehealth into patient-provider clinical workflows at facilities lacking sufficient access to such medical expertise**. For example, in outpatient or rural facilities, a nurse or physician can consult with a specialist on the fly for assistance with diagnosis and treatment. Similarly, telehealth allows specialists to participate in bedside consults and rounds without having to travel between hospitals. Even in well-staffed facilities, for many simpler consults, a PCP can choose to connect live with a specialist while the patient is still in the office and thus avoid the delay, expense, and hassle of scheduling a separate follow-up specialist visit. **Telehealth can also be used to help train and supervise residents**, especially when they may be the only in-house coverage.

Figure 4. Numerous applications for telehealth to extend provider-to-provider expertise

Telehealth facilitates behavioral health support

Another area where telehealth can streamline care delivery is in psychiatry and other behavioral health disciplines. Compliance challenges of chronic behavioral therapy can exist, whether due to travel distances or the complex burden mental illness places on a patient.

With the ability to project anytime, anywhere care for patients, telehealth is an excellent modality to enhance behavioral health support programs for patients. **Telepsychiatry from the comfort and familiarity of the home can result in better compliance, outcomes, and patient satisfaction** than traditional office visits.

Successful mental health treatment regimens often require more intensive support. Telehealth enables mental health providers the ability to offer more frequent visits to patients, either scheduled with a patient's regular therapist or on-demand with the first available behavioral health provider. Telehealth can also offer therapy visits in the comfort and privacy of a patient's own home—helping him or her overcome the public stigma that often accompanies seeking mental health care (See Figure 5).

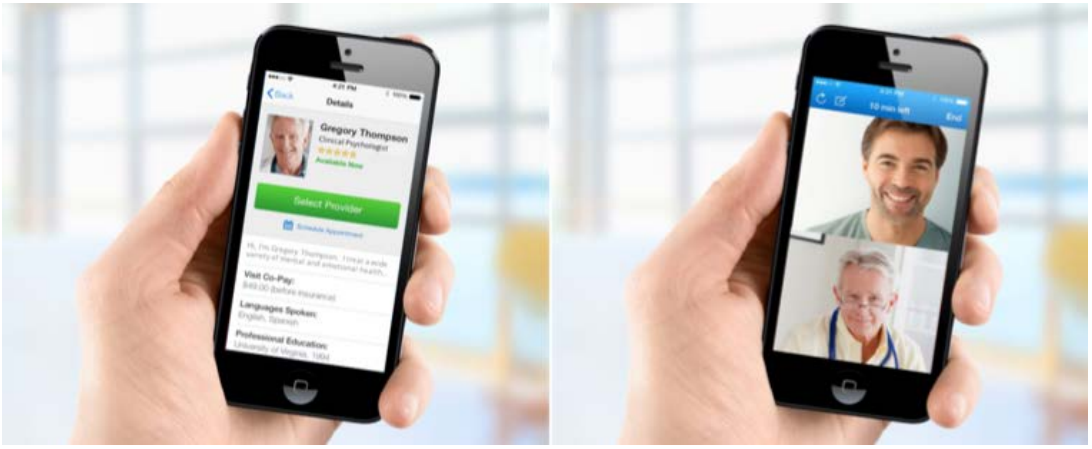

Figure 5. Telehealth enables mental health to be immediate, on-demand and intimate

Video consults offer an additional assessment tool for providers to identify if a patient suffers from behavioral health issues. Screening for potential mental health concerns can be performed at intake or at a time during a patient's journey through a health care system, while real-time brokerage enables an immediate transfer to a behavioral health therapist even at the point of triage. Finally, with a real-time telehealth platform health care systems can offer patients immediate behavioral health support when they need it most, even if they have never before presented with mental health issues.

In short, **telehealth offers a flexible option for a wide variety of behavioral health needs and treatment regimens, augmenting patients' existing mental health resources and programs**.

Telehealth advances chronic disease management and home care

Given the aging population and trends toward health expenditures on chronic disease management, health systems have a pressing need to expand their chronic care capabilities. Regular follow-up, treatment compliance, and lifestyle modifications are key factors in managing chronic disease. Resource constraints and access limitations within health care facilities further compound the complexities patients face when managing their disease.

A real-time telehealth brokerage platform can enable health care providers to enhance their support for patients suffering from diabetes, CHF, hypertension, asthma/COPD, and other chronic diseases with challenging care and lifestyle regimens.

On-demand telehealth visits help improve patient therapy compliance through more frequent visits and touch points (See Figure 6). Telehealth brings care to a safe, comfortable place for a patient—at home—enhancing trust and minimizing disruption from transportation or mobility challenges. At-home telehealth visits can incorporate data generated by health care providers existing remote monitoring hardware and programs—as well as the patient's own self-care regimen—alerting providers to intervene and giving them a more complete picture of the patient's overall health and progress.

Figure 6. Telehealth generates more frequent touchpoints with chronically ill patients

For example, rather than seeing a diabetic once or twice a year for a full clinic visit, a PCP or nurse caregiver can reach out to the patient monthly to follow-up on glucose control and lifestyle changes. Conversely, if a Congestive Heart Failure (CHF) patient notices sudden weight gain, edema or the beginning of shortness of breath, the patient can proactively consult "on-demand" with the PCP to adjust diuretic dosage or other preemptive therapeutic intervention so as to avoid later hospitalization. In such cases across numerous chronic conditions, telehealth allows for more convenient, timely, economic, and effective care than waiting (often too late) to see a provider in-person (see Figure 7).

Finally, telehealth offers a way for patients to reach out to a provider concerning questions about therapy, adherence, or medication. For instance, patients with questions about their medication at the time of administration can use online video visits to connect promptly with an appropriate provider versus having to drive to a pharmacist or wait for their provider to call them back. Similarly, questions about rashes and other dermatological issues can be answered more effectively with a brief video visit than via exchanges of emails or telephone conversations.

Figure 7. Numerous Conditions That Can Be Managed via Telehealth

Successful implementation of a Telehealth platform

The successful deployment of a telehealth solution, like any large-scale implementation, requires a well-coordinated design and execution effort. Such an implementation comprises several components: governance development, a broad needs assessment, technology assessment, information exchange, training strategy, workflow redesign, and user outreach strategy. These factors are critical to realizing the full benefits of telehealth.

Figure 8. A Connected Network of Physicians and Patients

Step 1: Governance development

A robust governance structure is important to the successful implementation of telehealth, as it will increase the probability of success by streamlining and solidifying programmatic and clinical decision-making. Establishing a robust governance structure and operating model for telehealth can occur in three steps. First, a health care system will need to examine its current program ownership and operations and map against leading practice models from other complex clinical projects, which typically include:

- An executive sponsor
- Executive committee
- Steering committee
- Program leadership team
- Clinical governing/advisory bodies
- Regional governing/advisory bodies

The health care system implementing telehealth will then propose an initial ownership and operating plan that assigns governing responsibilities to existing and potentially net-new governing bodies. Second, this plan will be socialized and additional staffing needs will be outlined. Third, the plan will be modified to incorporate feedback, initial agenda topics for governing bodies will be set, and the governing bodies will begin to govern over telehealth decision-making.

Step 2: Needs assessment to determine rollout scope, capabilities and sequencing

Completing a needs assessment is the next step to conducting a successful enterprise telehealth implementation. This step includes two analyses: a scoping analysis to determine which telehealth capabilities should be implemented in health care facilities in the short- and long-run, and a sequencing analysis to determine the order by which telehealth capabilities will be rolled out at facilities. These two analyses will directly inform all other aspects of the implementation, including compliance requirements, interoperability requirements, training and change management, and user adoption strategies.

Determine project scope

To determine which telehealth capabilities should be implemented, a health care system will first need to determine clinical and customer service requirements across the patient population. This entails gathering and analyzing patient demographics, health information, geographic information, technology and bandwidth capabilities, and patient interview and focus group insights. Equally as important, significant clinical and operational leadership feedback will need to be gathered so that scoping decisions align with and support optimal clinical operations and meet the needs of clinicians. This assessment will result in the identification of patient populations, clinical specialties, and use cases that will most benefit from telehealth capabilities. High value use cases are prioritized in the scoping analysis because they have the greatest impact on patients and promote early adoption of telehealth functionality, which will have a positive effect on the adoption of subsequent telehealth modules. The end result will be a scoping document that outlines the telehealth capabilities that should be built out in the near- and long-term.

Determine sequence of Telehealth deployment

Once these priority groups have been identified, the health care system will need to develop a strategy to determine the sequence by which locations and capabilities will go-live with both the initial operating capability and the comprehensive solution. This activation strategy will be informed by an assessment of the implementation needs and change readiness, indicating the degree to which an organization and its individual facilities are prepared to adopt a new program, in regards to infrastructure, staff willingness for change, and human capital constraints. Leadership and staff interviews and an examination of past implementations will inform this analysis. Combined with an assessment of industry leading practices in telehealth implementations, this sequencing strategy will suggest a successful order by which locations and capabilities can go-live with the system. This phased approach allows the collection of lessons learned from early implementation sites to be incorporated into later deployments.

Step 3: Technology assessment for Telehealth

Creating the infrastructure necessary for successful implementation requires selecting a robust, secure, and cutting-edge telehealth platform. This platform should take into consideration multiple components which, in combination, will provide increased access to informed, continuous, secure care for patients. These components include:

- Delivery of health care services via modalities approved by prevailing federal and state regulations, with broad capabilities that enable high quality of care (e.g. high definition, synchronous video that is fully HIPAA compliant)
- Capability of performing real-time matching of available providers with patients to deliver immediate care from a variety of medical specialties and provider types, across part or all of the network based on flexible criteria (e.g. type and acuity of illness, patient demographics, or existing PCP relationship status)
- Ability to establish a full record of the patient encounter using ICD-10 encoding standards for diagnosis, procedure, and treatment
- Facility to make the telehealth visit available to both patient and primary provider(s)
- Utilization of HL7 standard formats for exchanging patient records and encounter notes in structured data formats
- Integration with existing platform capabilities to enable the treating physician access to the patient's medical record and return medical information to the appropriate electronic health record
- Ability for patients to direct their care with access to the clinical encounter notes, share with trusted recipients, and track disclosures of patient information

Additionally, health care systems should endeavor to adopt a telehealth platform built with thorough, up-to-date standards-based security and compliance as its central organizing principles. Key security requirements to consider include:

- Meet regulations for data security and privacy and fully comply with the Health Insurance Portability and Accountability Act (HIPAA)
- PCI compliant and based on Federal Security Standards
- Meet Security and Privacy Standards for secure system hosting
- Continuous internal and external security scanning, auditing and certification of applications and networks
- Appropriately classify and segregate information
- Packets entering or exiting the datacenter, or traversing security zones, should be encrypted using the latest standards
- Stored PHI by the system encrypted using established industry standards
- Employ real-time threat management and monitoring together with leading application vulnerability and penetration testing tools

Step 4: Health information exchange

Providing seamless continuity of care is paramount to a patient's experience when seeking medical services, regardless of where or how that care is provided. The organization should utilize National Standards for Health Information Exchange to provide secure transport methods for sharing the patient information in an interoperable format. This approach can enable a seamless transition of care by making sure each clinical encounter makes it into the patient's record. The telehealth solution should integrate with existing capabilities to exchange with other network providers and integrate internally for seamless care delivery.

To provide a fully integrated telehealth solution, a health care system should utilize interoperable capabilities for sharing health information securely. Health Information Exchange (HIE) capabilities should be utilized in a service oriented architecture (SOA) model to take advantage of existing services and minimizing customization that needs to be completed. For the purpose of the telehealth solution, existing endpoints can be used to provide network providers with access to the patient's record, medical history, referral notes, and to provide a method for encounter notes to be returned to the patient's longitudinal medical record. To support a robust, cost effective solution, the organization should utilize COTS products for health information exchange capabilities and utilize SOA to minimize implementation risks.

Step 5: Physician training and support

- Providers practicing telehealth should be specially trained in the practice of telehealth and the unique issues that differentiate telehealth from brick-and-mortar practice, including appropriate clinical environment, state and federal regulations, the telehealth history and physical exam, referral practices, and emergency procedures. Furthermore, physicians should seek to employ leading practices as they evolve and are shared across the health systems, adapting their practice based on patient feedback.
- This training and support should generally fall within the following categories:

Provider training/oversight

- Developed clinical oversight process
- Robust quality management program
- Individual clinical practice training to cover prescribing policies, emergency care protocols, and referral practices for both in-person and telehealth care
- Clinical protocols for individual telehealth use cases and diagnosis along with associated workflows
- General computer skills tutorial to acquaint providers with the tools needed to effectively provide care using technology
- Training on video conferencing skills and "webside manner"
- Ongoing or periodically scheduled training to address clinical/technology updates

Appropriate modality of care delivery

- When engaging in the live delivery of health care via telehealth technologies, providers should make endeavor to interact with patients through real-time video
- Video encounters are more robust than a phone or chat encounter and more accurately mimic an in-person interaction
- Video encounters allow the provider to perform observational and interactional examinations and to assess the overall patient appearance and surroundings, thereby increasing diagnostic efficacy
- Providers who see patients in-person should solicit feedback about patient opinions on and experiences with telehealth
- Providers should educate patients to use telehealth properly and maximize the value of each video visit

Legal and regulatory compliance

- Providers who are providing direct patient care to a patient through telehealth must be actively licensed in the state in which the patient is located. This provision may be waived for provider-to-provider consultations as long as the provider responsible for direct care to the patient is licensed where the patient is located
- Before each telehealth consultation, the platform should confirm the state location of the patient and verify that the provider is licensed to provide care. The platform must comply with and automatically enforce Federal and State laws and regulations with respect to medical and other health care services provided, including prevailing regulatory restrictions applied by the state medical and pharmacy boards in the state where the patient is located relevant to prescription practice and substance(s) that may be delivered to the patient

Step 6: Patient and caregiver outreach strategy

Successful adoption of telehealth requires outreach tailored to patients and caregivers about the availability of new features and services—and how to obtain easy access to them. First, health care systems should consider the implemented and planned use cases for telehealth and what patient populations are most likely to adopt the new technology. They should carefully define the two or three attributes that motivate this “early adopter” group to utilize telehealth—these features may not be the same as those that motivate a broader patient population. They should also identify points of resistance to telehealth adoption—such as technology limitations or fear of losing privacy—and prepare to specifically address these issues in marketing messages to patients and caregivers. In some cases, it may make sense for them to consider equipping heavy health care users (such as patients with multiple chronic diseases) with telehealth-capable hardware and software. These high cost patients are the most likely to benefit from frequent telehealth consults.

After identifying and analyzing patient feedback from the initial telehealth implementation, health care systems should increase general awareness of the system’s telehealth capabilities through broad messaging to a wide audience. Such an effort will require creation of a tailored set of educational materials to support the use of telehealth by patients in general, as well as those with particular medical conditions. Messaging and materials should also be designed for caregivers who may assist patients with their care. They should also dialogue with the broader health community (including telehealth technology companies, medical centers and hospitals, health plans, medical records providers, PBMs, and other government agencies) to surface and encourage new telehealth-related innovations.

Step 7: Go-Live and stabilization

The final step in implementing telehealth in a health care system is the planning and execution of the go-live and stabilization process at individual facilities. Following the scoping and sequencing strategy outlined in Step 2, it is important to develop a tactical plan for rolling out telehealth modules at individual facilities. Key activities to be incorporated into this go-live planning are outlined in the following model go-live schedule (Figure 9).

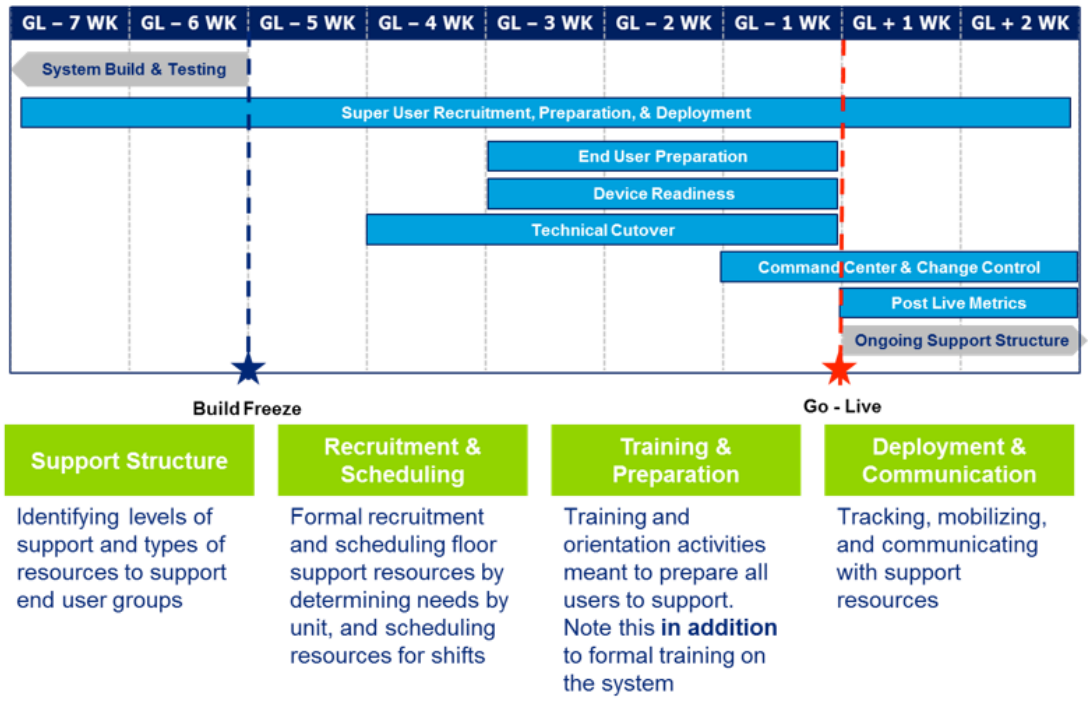

Figure 9. Key Go-live planning activities

A repeatable plan for activating telehealth modules at individual facilities promotes consistent implementation across facilities so that key considerations and leading practices are being taken into account during facility rollouts, and enable them to learn from early go-lives and incorporate these lessons learned into later go-lives.

Once a facility or group of facilities has gone live with a particular module or set of modules, it will then be necessary to provide short to medium online support for the facility, where it will supply additional training, identify and mitigate bugs, triage support requests, and otherwise support end users in their adoption of the new system. Lessons learned from this go-live will then be captured and incorporated into future go-lives.

Conclusion: Telehealth powers of tomorrow

Challenges facing care delivery in today's health care environment are considerable and will require strategies and solutions to address extending care access, improving care quality, and lowering the cost of care. Telehealth is an essential component of achieving this "triple aim" and paving the way for system-wide improvement and goal attainment. When thoughtfully implemented, a scalable, flexible telehealth system can enable health care systems to extend high quality care to patients throughout their journey across the care spectrum, from initial triage and primary care, through to specialty medicine and home care. Telehealth is also a powerful tool to help health care systems optimize the use of their clinician talent and resources, regardless of where they physically reside—providers can perform telehealth visits with patients across state boundaries, bringing expert care to a patient bedside or into a patient home when needed. Lastly, telehealth offers a means for patients and providers to connect more frequently without the geographic and mobility barriers presented by in-person visits. The option of frequent, shorter visits unlocks new ways to treat chronic disease, mental illness, and other complex health conditions.

Momentum for modern telehealth adoption is accelerating. Telehealth consultations are now legal in every state depending on the model, and 29 states and the District of Columbia have passed legislation mandating some commercial reimbursement of telehealth. As we approach the final months of 2015, nearly all state Medicaid programs now also reimburse some forms of telehealth. Hospitals and care delivery networks are rapidly becoming advocates for telehealth and incorporating it into care protocols across a vast array of use cases—be it a regional rural health system deploying a "healthy weight" telehealth program, or a nationally-known academic medical center deploying scheduled telehealth visits for multiple specialties. Health care systems now have the opportunity to implement the next phase of powerful health technology—flexible, real-time telehealth that brings care to patients anytime, anywhere.

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