Defining and Deploying an Open-Access Telehealth Network in South Carolina

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What is an Open-Access Telehealth Network (OAN)?

The proliferation of new telehealth platforms and growth of telehealth networks across health systems has created barriers to the interoperability, clinical adoption, and technical support of telehealth services. One promising solution to these challenges is an Open Access Telehealth Network (OAN). In telehealth, an OAN can be defined as a telehealth network in which the use of the network by a health care provider is not precluded by a closed or proprietary platform with required network or telehealth technologies. Many manufacturers offer turnkey solutions for starting telehealth programs by selling closed systems and/or proprietary technologies. While these solutions address immediate needs, they also create closed or isolated networks that cannot be easily accessed or expanded and that lack interoperability with other telehealth solutions.

An OAN benefits a health care system by mitigating the need for proprietary equipment as well as the specialized staff and contracts that support such equipment. In addition, individual institutions and broader regional health care systems benefit from an OAN, as they are able to connect to a more extensive array of subspecialty providers using the same technology, thus saving space, cost, and time in the deployment of equipment. Finally, both providers and patients benefit from familiarity with standardized equipment, increasing adoption for these pivotal end-user groups.

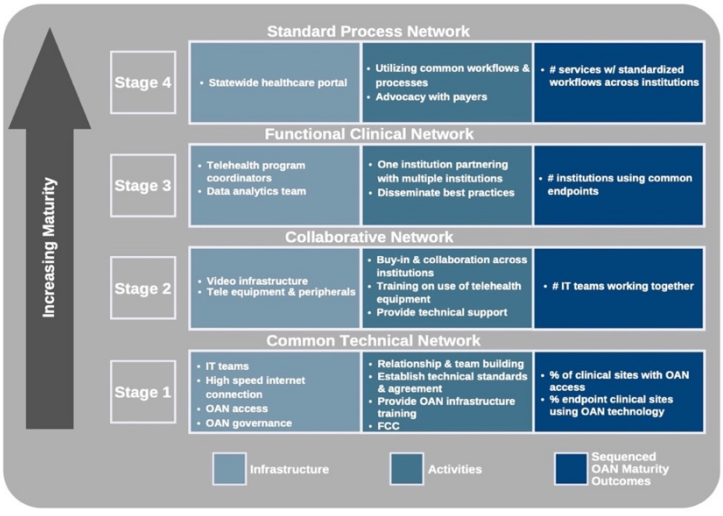
Working toward an OAN in South Carolina

In South Carolina (SC), a vision for technologic interoperability was and remains a key strategy of our state-sponsored telehealth network. The aspirational goal is to allow access to all providers wishing to leverage any deployed telehealth technology in the state. While achieving this goal is an ongoing challenge, SC has made substantial progress and learned important lessons.

Fundamentally, developing a telehealth OAN requires collaboration across health systems on clinical, administrative, and technical fronts. The model presented here describes an OAN in advancing stages of collaborative maturity and provides insights into the technical implications of making these collaborations possible

In SC, a four-stage process is being used to develop and mature a statewide OAN (Figure 1).

Figure 1: Stages of OAN Maturity



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These four stages are defined according to operational maturity, ranging from feasibility to demonstration of implementation. Each stage is associated with infrastructure and resource requirements, technical and clinical activities, and each stage has associated metrics for monitoring success.

Stage 1: Common Technical Network

In Stage 1, clinical standards are agreed upon for the OAN, and the clinical programs are designed to utilize technologies compliant with those standards. In SC, the first step was to establish a collaborative forum, achieved through the SC Telehealth Alliance (SCTA), which functions with an Advisory Council and various workgroups that operate in alignment with a formal strategic plan. Under this structure, the SCTA decided on common technical standards for the OAN based on standards outlined by the International Telecommunications Union. Broadband access was another key consideration during this stage, given the importance that the SC OAN meet the needs of rural providers. SC utilized the Federal Communications Commission's (FCC) Rural Healthcare Program (RHC), which subsidized infrastructure and broadband connectivity, to effectively create a dedicated statewide healthcare network known as the Palmetto State Providers Network (PSPN).

Stage 2: Collaborative Network

In Stage 2, collaboration is demonstrated by technical teams working together to address barriers, while clinical and administrative teams share best practices. In SC, collaboration was critical given the already large footprint of diverse equipment being used across systems. A statewide IT Workgroup was formed comprised of IT representatives from each of the major health care systems participating in the SCTA. This group worked together to address technical support needs, develop a directory of service endpoints, and address challenges presented by network security. With the IT workgroup addressing technical barriers for the OAN, other workgroups within the SCTA simultaneously worked to discuss more administrative and clinical components of a coordinated OAN (e.g. contracting, credentialing, scheduling, business planning).

Stage 3: Functional Clinical Network

In Stage 3, a functional interoperable network is demonstrated with differing institutions providing service through common telehealth endpoints at patient sites. An example within the OAN that demonstrates Stage 3 maturity is telehealth occurring within some of SC's community health centers. A number of large community health center systems are using OAN endpoints to provide their patients access to remote specialists located at larger health systems (e.g. psychiatry and nutrition). Because of the OAN, providers at these health centers are able to use this same endpoint equipment to connect to patients within their own network of community health center sites.

Stage 4: Standard Process Network

In Stage 4, optimization of the network focuses on the elements that truly make an OAN add value to the regional care system. In this stage, clinical workflows are streamlined and standardized across institutions, and economies of scale are achieved through technical and administrative innovations (e.g. common scheduling portals, standard contract language). Technical response teams are also highly coordinated at this stage. At this level of collaboration, service partnerships might also be enabled that allow otherwise competing institutions to share resources, such as common physician call pools when providers are in short supply. The SC School-based Telehealth Program may be the most apt example of a program demonstrating Stage 4 maturity, with stand-

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ard contracting and consent language being used across SC school districts and a common scheduling portal in place. The result of these innovations is a program that allows multiple health systems—from the local community health center to the large academic medical center—to collaborate in providing care to schools in a manner that is coordinated, efficient, and aims to keep care as local as possible.

Conclusion

Currently, SC has a diversity of telehealth programs operating at different levels of OAN maturity, with some programs still utilizing closed and proprietary technologies. While outpatient and school-based telehealth programs are in advance stages of OAN maturity, other programs—such as those in inpatient settings—still utilize closed and proprietary technologies due to clinical and operational needs (e.g., the need for software to rapidly obtain radiological images for telestroke consults). Telehealth is a rapidly growing component in the US health care system. For telehealth to achieve large-scale adoption and truly add value to regional care systems, policy makers and health care stakeholders must consider options, like an OAN, that cross the traditional boundaries of proprietary health care marketplaces; and, as the industry evolves, stakeholders most actively engage vendors to encourage their move toward interoperability.

To learn more about the SC Telehealth Alliance, visit their website (http://sctelehealth.org). For more information about developing an open access network, feel free to contact the MUSC Telehealth Center of Excellence (TelehealthCOE@musc.edu).

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