

## Telemedicine Considerations

Traditional medicine can limit access to healthcare for many individuals who live in rural communities with fewer healthcare providers. It can also limit access for people who cannot afford to see or wait for a specialist. In many communities, there is a deficit of both specialty physicians and nurses who can diagnose and treat certain ailments. These problems are not restricted to rural areas, as large, overpopulated cities often experience these same problems.<sup>1</sup> However, since the emergence of telemedicine, many of these problems have been minimized.<sup>2</sup> Telemedicine has benefited patients by providing greater access to healthcare services, while improving the quality of care provided in those facilities that use electronic communications to supplement physician and nursing services.<sup>3</sup>

In rural communities, there is typically a short supply of specialized providers available to treat patients.<sup>4</sup> To compensate for this deficit, some healthcare providers in these areas have begun utilizing telemedicine services through *electronic care* (e-care) companies that can diagnose patients, as well as provide treatment plans and patient monitoring, offsite.<sup>5</sup> These remote services can provide expert care for patients who may not otherwise receive it. Further, e-care companies can save lives in the *intensive care units* (ICUs) of rural hospitals, where critical care specialists are in shortest supply.<sup>6</sup> For example, the hospitals in North Carolina that have used e-care services in their ICUs have experienced a five percent decrease in mortality rate and a six percent decrease in hospital stay length.<sup>7</sup> Additionally, in the rural communities that lack adequate facilities, the telemedicine staff can determine which patients should be transferred to a better equipped facility, and which patients can remain to receive remote care.<sup>8</sup> This capability is especially useful in those facilities that lack the necessary physician manpower to make such a determination.<sup>9</sup>

One significant benefit of some telemedicine providers is their ability to care for 100 or more patients at a time, utilizing only computer screens and a few physicians and/or nurses.<sup>10</sup> Despite this large case load, each patient still receives quality care because the remote providers are able to monitor and track all vital statistics and can often spot troubling trends in those statistics that physically-present providers may miss, as noted by healthcare professionals who have utilized these e-care services.<sup>11</sup> Another advantage to using e-care services is

the around-the-clock availability of providers.<sup>12</sup> These companies are able to provide night and weekend care in rural facilities, allowing these facilities to avoid the difficulty of hiring and retaining a costly physician to be present at those times.<sup>13</sup>

Similar to rural areas, large, overpopulated cities experience a great need for healthcare services, but lack a sufficient number of available providers. For example, in Los Angeles, many poor or uninsured patients have a difficult time finding adequate care when a specialist is needed.<sup>14</sup> For many of those patients, the only viable option is to seek care in hospital *emergency rooms* (ERs) where specialists are often located, causing an excessive demand on services and a specialty physician shortage. However, the overcrowding in ERs can cause slowdowns and unnecessary expenses.<sup>15</sup> In an attempt to resolve this issue, the county of Los Angeles implemented an e-care consulting system that connects remote specialists with onsite ER physicians via web-based communication to discuss a patient's diagnosis and determine if the provision of specialty care is necessary.<sup>16</sup> The specialists generally respond to the ER physicians within three days of initial communication, and referral recommendations, if any, follow shortly thereafter.<sup>17</sup>

Beyond the benefits to rural and urban communities, telemedicine services can provide general benefits to patients. For instance, many people do not have the time or ability to leave work for a doctor's appointment. E-medicine provides an option for those individuals to have video-communication with their physicians without leaving their desk or home.<sup>18</sup> It can also make the process of obtaining a second opinion easier for patients who believe they need additional guidance.<sup>19</sup> By communicating patient health information via the internet, a second physician, in some cases, can give an opinion regarding the patient's condition in a matter of minutes.<sup>20</sup> Additionally, telemedicine may have the potential to save healthcare facilities millions of dollars in the long run, as evidenced by a South Dakota health system that saved an estimated \$70 million over ten years.<sup>21</sup>

In addition to the benefits provided to patients, physicians also experience greater efficiency and a lighter workload from telemedicine. For ERs that are overcrowded as a result of patients seeking specialty care, e-care companies can reduce the volume of ER

referrals by providing primary care physicians access to specialists on the spot, which makes care more efficient for patients who may eventually require a physical appointment with a specialist. By completing consultations prior to an actual appointment, the specialist can spend less time diagnosing a patient and, instead, can spend time ordering tests and seeing more patients. Telemedicine can also improve the quality of care provided to patients as a result of the increased communication among physicians, since the physicians communicate information among the medical team, and inform other providers about the patient's health data and needs.<sup>22</sup>

There are some concerns that patients and providers should understand when considering whether to utilize telemedicine services. Importantly, there are concerns over the safety of a patient's *protected health information* (PHI) as it passes from one provider to the next via the Internet. While this is a legitimate concern because of hackers and unsecured networks, the actual communication and transfer of information between these providers is covered by the *Health Insurance Portability and Accountability Act* (HIPAA).<sup>23</sup> Another potential concern is the misdiagnosis of health problems for patients who do not seek follow-up appointments in person, due to the lack of a physical examination.<sup>24</sup> However, early analysis suggests that this concern may be negligible, as researchers found "*very little evidence of misdiagnosis or treatment failure*" for patients who used e-care services in a national study.<sup>25</sup>

Telemedicine is not a perfect solution for the busy schedules of physicians and patients, but it does provide an additional option for people who may not normally have access to care. As technology's role in healthcare grows, the use and innovation of telemedicine will also grow, particularly as healthcare organizations increase patient-centered care initiatives to provide better quality of care.

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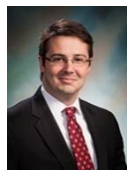
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