

# Strategic foresight, leadership, and the future of rural healthcare staffing in the United States

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## ABSTRACT

This article uses a strategic foresight tool, megatrends, to examine forces influencing long-term healthcare staffing in the rural United States. Two megatrends—exponential advances in science and technology and the continued evolution of the decentralized global marketplace—will influence and ultimately help shape the future of rural healthcare. Successful health ecosystems of the future will need to be customer-driven, more affordable, and tech-savvy. Successful evolution in an era of continuous change will require a blend of intentional engagement with stakeholders, strategic foresight, and future-focused leadership. More research is needed to fully understand not only the challenges of rural healthcare but also the emerging opportunities.

**Keywords:** healthcare staffing, future, rural, higher education, strategic foresight, global marketplace

Rural healthcare is in the midst of a major disruption, and other industries provide insights that can be used to create next-generation health-focused ecosystems and staffing models. Advances in science and technology, uncertain policy modifications, political challenges, and a massive evolution in consumer behaviors and expectations have created a need for both incremental and radical innovation. These factors, combined with a growing world population and environmental concerns, are influencing the emergence of a new economy that has implications for the healthcare industry. This is especially true in the rural areas of the United States, where depopulation, and in some cases geographic challenges, create unique circumstances that cannot be addressed using technology alone. The future of healthcare staffing in

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rural areas is complex and requires an approach that is both novel and holistic.

Exponential changes and challenges are not unique to the healthcare sector, which is one of many industries experiencing exponential transformation. Retail and education are going through similar shifts. Consumer trends are shaping both in-person and online experiences while creating a new economic reality for major industries, including healthcare. Evidence of this shift can be found in retail. Nicole Sinclair, markets correspondent for Yahoo Finance, predicts that the struggle will continue for traditional brick-and-mortar businesses as more companies like Nike and IKEA team up with Amazon to sell directly to consumers rather than using department stores to move their products and connect with customers.<sup>1</sup> She notes that large companies like Nike are tripling their investments and efforts in an economy that favors online shopping or an experience that blends virtual and in-person, which will only continue to grow as technology becomes more advanced.<sup>1</sup> This does not mean that department stores will go away but they will have to figure out how to deal with a new normal while creating a more experiential shopping model for consumers.

Companies such as Stitch Fix, an online clothing subscription service, are creating consumer engagement models based on science.<sup>2</sup> Stitch Fix has connected with and learned about consumers, including those living in rural areas, by providing customized and personalized experiences. In its infancy, Stitch Fix could have been considered an online retail provider for women who desired a robust, modern wardrobe. It has emerged as a company focused on intentionally disrupting retail by integrating data science, human stylists, and a home-based customer experience. Stitch Fix has established itself as a leader in combining artificial intelligence systems with the human experience. This unique approach to business is creating new client experiences, employment opportunities, and business models. Their 2,800 home-based stylists set their own hours and live throughout the United States.<sup>3</sup> Founder and CEO Katrina Lake was surprised that some of the first Stitch Fix customers were time-starved moms in the Midwest.<sup>2</sup> She notes that Silicon Valley

tends to tout people on the coasts as early adopters. Stitch Fix, however, found that women all over the country were eager to adopt a retail model that solved the challenges of time and access.<sup>2</sup>

An intentional disruption of healthcare also is under way. The United States spends more on healthcare than any other nation, ranks 34th globally in health outcomes, and largely trains healthcare workers the same way it has for decades.<sup>4</sup> Healthcare spending in the United States has increased more rapidly over time compared with other countries that are part of the Organisation for Economic Co-operation and Development (OECD); however, life expectancy in the United States has made only modest gains.<sup>5</sup> These complex issues create challenges and opportunities. A stronger healthcare ecosystem can be created by using a systems approach that generates innovation.<sup>4</sup> Strategic foresight and futuring provide a systems approach to innovation that can help leaders create healthcare ecosystems that have many plausible futures, including adequate, affordable access for more Americans.

### REIMAGINING THE FUTURE OF STAFFING

Primary care shortages are creating access challenges in many rural and underserved communities.<sup>6</sup> In 1981, 27% of PAs practiced in communities with populations of fewer than 10,000 people.<sup>7</sup> By 2008, this number decreased to 15%.<sup>8</sup> This decline is important to consider as PAs and NPs play important roles in providing access to healthcare in rural areas.<sup>9</sup> Declines in rural populations and in healthcare workers choosing to practice in rural areas have implications for worker training and recruitment, especially if institutions of higher education continue to focus on traditional student recruitment and teaching models. Exponential advances in technology and science, combined with consumer and provider behaviors, are changing the way healthcare is taught, delivered, and consumed. Healthcare must begin to anticipate shifts not only in the industry itself but also in student recruitment, education, and workforce development.

Higher education is going through the same exponential shifts that healthcare and retail are experiencing. Competition for students (both campus-based and virtual) will continue to increase, which means institutions of higher education must evolve to meet the changing lifestyles, needs, and demands of students.<sup>10</sup> They need to employ approaches similar to that of Stitch Fix, not only to compete but to increase student success. Further, the healthcare staffing model will struggle if it continues to rely on recruiting students from rural areas in the hopes that they will return to serve these underserved populations. The US Census indicates that 54.4% of Americans lived in rural areas in 1910.<sup>11</sup> Only 19.3% of the total population lived in rural areas by 2010.<sup>11</sup> If rural depopulation continues, the US will not have

enough rural students (in healthcare as well as other areas such as education) to recruit and return to these areas.

The point of this article is not to define rural; rather, definitions of rural should be specific to the purpose of individual programs and studies.<sup>12</sup> This article recognizes the overall decline in rural populations throughout the

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## Technologic advances have implications for staffing models of the future.

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United States and in many other countries around the world.<sup>13</sup> The purpose of this article is to ignite a discussion focused on creating opportunities in a challenging situation through the lens of strategic foresight and futuring.

### STRATEGIC FORESIGHT: A BRIEF OVERVIEW

Strategic foresight and futuring do not predict the future; rather, they help leaders better understand current and potential situations while creating a roadmap for innovation that guides inspired actions.<sup>14</sup> Futurists use strategic foresight to expand knowledge and to explore many plausible futures. Foresight acknowledges the ambiguity of the future while preparing leaders to anticipate changes and minimize surprises. Strategic foresight helps organizations plan for the future by combining the right mindset with methodologies that actively seek new business opportunities.<sup>15</sup>

No one can predict the future. However, having a future orientation has been identified as a key leadership competency.<sup>16</sup> Futuring is different than forecasting in that it relies on two key assumptions:

- the future consists of many possible outcomes rather than one predetermined future
- people have some capacity to influence outcomes through their beliefs, mindsets, and behaviors.<sup>14</sup>

Entire industries are pivoting in the new economy. Healthcare training and staffing models must do the same.

### HEALTHCARE, HOLOGRAMS, AND HUMANITY

Megatrends can be defined as global shifts that influence society, the economy, and the environment and serve as strategic foresight tools that can be used to plan for the future.<sup>10</sup> Two megatrends that are shaping the future of rural healthcare staffing are exponential advances in science and technology and the continued evolution of the

decentralized global marketplace in which stakeholders serve as cocreators.

### EXPONENTIAL ADVANCES

The \$3 trillion healthcare system that some believe is focused on sick care rather than healthcare is being disrupted by innovative partnerships and advances in technology.<sup>17</sup> Technologies such as artificial intelligence (AI) are being used to predict cancer, provide access to healthcare data, and diagnose lung cancer. Sensors and robots can be used to monitor vital signs and perform surgeries. Everything from prosthetics to cells and organs are being produced through 3D printers. Driverless vehicles and ambulances will enable transportation for

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## The role of healthcare workers will change as technology and consumer patterns evolve.

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all, including older adults. Jill Watson, an AI-powered graduate teaching assistant chatbot at the Georgia Institute of Technology, can answer student questions with 97% accuracy.<sup>18</sup> Some futurists predict that vehicles will evolve to become personal assistants and pods of healthcare that monitor vital signs, determine a patient's health status, and even provide health-focused recommendations.<sup>19,20</sup>

Partnerships are driving change and the growth of exponential technology. A partnership between Case Western Reserve University, the Cleveland Clinic, and Microsoft helped advance the use of holograms in medical education and training. Next-generation holograms have the potential to educate healthcare professionals and patients. Physicians may even make virtual hologram house calls in the future.<sup>21</sup> These technologic advances have implications for healthcare providers and staffing models of the future. Scientists at Stanford University have developed a lab-on-a-chip platform that can be printed with an inkjet printer for 1 cent and be used by untrained personnel.<sup>22</sup> This low-cost diagnostic tool can be produced in 20 minutes and is advancing the areas of precision health, lab-on-a-chip technology, and access to clinical diagnostics.

Exponential advances in areas of science such as epigenetics, an emerging field of science exploring links between the environment, beliefs, and behaviors on cell expression, are helping society better understand connections between the brain, body, human microbiome, and the complex relationships between healing and health. A

greater understanding of the human microbiome, which is the accumulative presence of bacteria and other microbes inside and on the body, will change the future of healthcare. Researchers will continue to advance the understanding of relationships between the human microbiome, disease, and health outcomes. This increased understanding has the potential to diagnose and treat diseases as well as lead to breakthroughs in personalized healthcare, nutrition, and healthcare outcomes.<sup>23,24</sup>

People are living longer and creating unprecedented strain on the global healthcare system.<sup>25</sup> Life expectancy in 35 industrialized countries is projected to increase through 2030, barring major unexpected changes.<sup>26</sup> These projections indicate a need to consider increases in longevity when planning for the future.

Scientific and technologic advances have implications for humanity and will change healthcare in America. These advances will influence staffing models in two ways: the types of positions needed in healthcare and the entities providing healthcare. Rural healthcare staffing needs and opportunities have the potential to be transformed by exponential advances in science and technology as well as another megatrend, the decentralized global marketplace.

### THE DECENTRALIZED GLOBAL MARKETPLACE:

Consumers are becoming more savvy and demanding about their healthcare, and businesses need to adapt to the age of empowered consumers who decide how and what they want to buy and experience.<sup>10,25</sup> Industries must adapt to consumers who demand technology-based and mobile solutions that fit their needs, desires, and lifestyles. This fundamental shift in consumer access and behavior, combined with a multitrillion dollar marketplace, has attracted both startup entrepreneurs and large tech companies like Amazon, Google, and Facebook to the healthcare industry.

Amazon is selling medical supplies and is rumored to be investing in the pharmaceutical industry.<sup>27</sup> Google's parent company, Alphabet, is investing millions into healthcare and is recruiting top talent from the healthcare industry.<sup>28</sup> Detailed plans about Google's potential growth in healthcare are still under wraps. Facebook also is investing in healthcare to improve areas like patient engagement and organ donation.<sup>29</sup>

Healthcare staffing and business models will be disrupted by investments, experiments, and partnerships that are only beginning or do not even exist, as evidenced by the recently announced partnership between Amazon, JP Morgan Chase, and Berkshire Hathaway.<sup>30</sup> Companies like Doctor on Demand are providing access to urgent care physicians and mental health professionals 24 hours a day, 7 days a week using online and mobile technologies. Companies such as Nomad Health address healthcare staffing with a gig-economy approach, in which healthcare

workers take “gigs” rather than traditional part-time or full-time positions. The growth of on-demand and gig-economy options has implications for rural healthcare staffing. Imagine the use of more temporary and part-time employees who can meet immediate needs of rural communities.

Using a blend of high-tech analytics and high-touch styling, Stitch Fix uncovered an untapped demand for fashion delivered to the doors of women living in rural communities. What opportunities are unrecognized in the rural healthcare sector? If healthcare organizations do not uncover and create emerging opportunities and innovative partnerships, outside entities will. Eventually, these organizations will not have to be based in the United States to reach rural areas of the United States. The global race to connect everyone to the Internet will provide direct access to consumers, employees, and companies around the world.

The role of healthcare workers will change as technology and consumer patterns evolve. Technology will provide many solutions; however, healthcare workers will still need to provide in-person expertise, especially in critical situations. The healthcare system of the future should be developed with technology in mind but also by listening to and understanding stakeholders who use and work in the system.<sup>25</sup> Consumers, students, employees, and other stakeholders (communities, startups, and tech companies) should be engaged as cocreators in the evolution of rural healthcare.

Providers and patients need more than technology. People still desire, and benefit from, a human connection. Technology will provide some solutions; however, more healthcare professionals are still needed in rural communities. Increased capacity will require paradigm shifts in both healthcare recruitment and training.

In the United States, traditional student recruitment focuses on young adults in high school making college and career decisions in their late teens. Expecting high school students to choose and pursue healthcare positions, attend college for several years, and then return to rural communities to practice is unrealistic. This antiquated thinking does not make sense. Only 29.3% of people ages 18-24 years are enrolled in colleges and universities.<sup>31</sup> If rural depopulation continues, too few rural students will be available to recruit for healthcare professions. Further, Bader found that students with longer training programs are more likely to default on service obligations.<sup>32</sup> These obligations can include returning to rural communities to practice. Short-term healthcare worker shortages require a new educational and staffing paradigm: perhaps recruiting and supporting a new type of student—people who are already living in rural communities and are looking for a new career or opportunity. This model may include educating and training traditional primary care providers as

well as employing more community health workers and other types of related healthcare professionals who can improve the health outcomes of rural residents.<sup>33</sup>

Two factors significantly influence the production of rural PAs: location of training programs in rural areas and mission statements designed to address rural issues.<sup>7</sup> These findings demonstrate a need to teach and train more nontraditional students, such as women and men in midlife, who already live in rural communities. Access to education and training will be essential to increasing the number of healthcare professionals in rural areas. More online and distance learning programs are needed to increase educational opportunities. The Physician Assistant Education Association program directory lists 256 PA programs.<sup>34</sup> Only 12 of the programs have a distance or online component. Of these, eight programs were accredited, one was provisional, two were proba-

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tionary, and one was developing but not yet accredited. Offering access and opportunities to nontraditional students in rural communities will require adopting and using additional distance learning and online technologies as well as new partnerships and student-support paradigms. Strategic foresight and futuring provide decision-making tools; however, future-focused leaders are needed to foster inspired innovation while creating a proactive rural healthcare system that will be continuously disrupted.

#### A NEED FOR FUTURE-FOCUSED LEADERS

Future-focused leaders are needed to reimagine the future of healthcare staffing in the United States, especially in an era of exponential change. The two megatrends presented in this article—exponential advances in science and technology and the continued evolution of the decentralized global marketplace—will influence and ultimately help shape the future of rural healthcare. Customized, online, and on-demand education and training will continue to become more commonplace for both employees and patients. The same is true for access to healthcare. New technologies that enable remote, on-demand care and access to patient data will continue to disrupt the healthcare system, including rural staffing models. However, humans are still needed for patients who do not have



access to or know how to use technology. People also will be needed to provide the human touch in emergencies and for many other aspects of healthcare in the foreseeable future.

Technology is not a stand-alone solution but a tool that can help provide increased access and assistance. The evolution of rural healthcare will require future-focused leadership and new collaborations that are both customer-driven and tech-savvy. Consumers, employees, and communities should be engaged in an effort to cocreate a continuously evolving healthcare system designed to provide access to not only healthcare but also related and emerging professions. The need for rural healthcare workers is predicated on the fact that they will be either able to create or find employment in rural communities. Rural healthcare staffing models will change dramatically if rural hospitals continue to close.

Rural healthcare must lead its own disruption with a dose of future-focused leadership. Exponential changes in rural healthcare will require experimentation and the execution of novel solutions. Leaders must be open to innovative possibilities such as training more non-traditional healthcare students who live in rural communities and creating positions that do not exist. Strategic foresight and futuring provide tools to help future-focused leaders make plans; however, innovation only happens when leaders implement ideas. Imagine collaborating with tech companies, startups, and other partners to:

- Employ entrepreneurial healthcare workers who focus on diversifying profit centers by combining in-person healthcare with online sales of new products and services. This type of innovation will be increasingly important in a society who wants to “add to cart” for anything and everything, including access to healthcare.
- Create platforms designed to engage and assist customers beyond appointments. Who should your organization partner with to stay connected with customers using podcasts, social media channels, and online marketplaces like Amazon? How can your organization create new customer-focused experiences that blend in-person and online care?
- Connect and assist patients via wearables, on smartphones, and by using in-home devices such as Amazon’s Echo and Google Home. Imagine being the entity that increases patient engagement and improves outcomes by providing encouragement on wearables. How can your organization find partners to create and provide on-demand answers to basic health questions and give patients daily, personalized reminders via Echo? Would your organization benefit by automatically filling prescriptions via connected tools like Google Home? Patients and their caregivers will continue to seek their own answers. How can you meet their needs and become part of the solution?

- Help rural communities become catalysts for advancing accessible and affordable healthcare by partnering with organizations to use holograms and in-person house calls to help patients.

- Become hubs of community healthcare and vitality that foster positive innovation. Imagine online and in-person engagement designed to help rural hospitals partner with other healthcare providers (including those in alternative and preventive medicine), businesses, schools, and communities openly innovate with one another in both physical and virtual worlds to discover and implement novel solutions.

- Invent solutions to improve the lives of patients and employees by using a blend of big data, human sciences, and personalized well-being. How can data science be

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## Can your organization create experiences that blend in-person and online care?

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more intricately linked to human science and well-being so that positive outcomes are the norm, rather than the current intervention-based model? Can big data help develop personalized diet, exercise, and mental health plans that prevent disease, injury, and employee burnout?

- Train new audiences of nonprofessionals who can provide diagnostic, critical, and emergency care. For example, community health workers may play an increasingly important role in improved rural access and healthcare outcomes as well as community engagement initiatives. What other opportunities exist in this space?

Healthcare has an opportunity to create a future for rural residents and places that is both high-touch and high-tech if it is willing to embrace a Stitch Fix, Amazon-like approach to business. This type of approach will require new partnerships, paradigms, and future-focused leadership. Hospitals and other healthcare providers serve as major employers and economic drivers in rural communities and regions. These organizations need customers (patients) and employees in order to succeed, which means business and training models need to evolve.

### CONCLUSION

The disruption of rural healthcare can be used to create next-generation health-focused ecosystems that benefit both people and the planet. Leaders can use strategic foresight and futuring as tools to foster a future with not only positive healthcare outcomes but with social,

ecological, and agricultural benefits as well. More research is needed to fully understand not only the challenges of rural healthcare but also the emerging opportunities. **JAAPA**

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