

## COMMENTARY

# Preventing rural workforce by design

RC Bowman<sup>1</sup>, MP Halasy<sup>2</sup>

<sup>1</sup>AT Still University School of Osteopathic Medicine, Arizona, USA

<sup>2</sup>College of Medicine, Spine Center, Mayo Clinic, Rochester, Minnesota, USA

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## ABSTRACT

With 2.7 trillion dollars in annual health spending<sup>1</sup>, America has no excuse for designs that have failed for decades with regard to rural health workforce development. Rural workforce failure can best be understood as the inevitable result of failure by design. Designs for revenue are insufficient to support the rural clinician workforce that would resolve deficits. The designs of health professional training are not specific to rural health needs.

Those aware of rural health delivery problems such as the National Rural Health Association have noted 'the overriding healthcare problem in rural America is lack of access to a provider. Being insured makes no difference if you cannot find a doctor in your area'. A second concern noted is eliminating 'long-standing payment inequities for rural providers'<sup>2</sup>.

National designers have failed to grasp what is important for rural health care. Basic services provided by generalists and physicians remaining in core specialties such as general surgery are most important and are most neglected by

payment and training designs. Generalists delivering primary care are half of the rural workforce<sup>3</sup>. Training must produce the generalists, general surgeons, and other general specialties that are over 75% of rural workforce needs in 2013<sup>4</sup>. Designs that shape more new specialties, more in each specialty, lowest proportions entering primary care, and departures from primary care only a few years after graduation are prevention of rural workforce by design.

### Do healthcare designers understand rural health care?

Rural health problem solving requires the proper perspective. The barriers to rural health access involve distance, insurance coverage, jobs, culture, more complex health needs, and lowest revenue set by design<sup>3</sup>. The panels that recommend reimbursements for services may not see beyond the academic, hospital, subspecialty, association, government, and most urban experiences that have shaped the lives of the panelists. Decades of immersion in top concentrations of



income, people, professionals, physicians, and healthcare dollars may make it difficult to see what is important for rural health care.

Workforce solutions in practice settings outside of physician concentrations are quite different compared to solutions inside. Practices 'outside' are dominated by a few lines of revenue involving lowest paid basic services, while practices inside of locations with top concentrations of physicians benefit from all lines of revenue and the top reimbursement in each line.

Experts have claimed that 'more physician graduates' would be enough to distribute physician workforce but 30 years later rural deficits remain<sup>5</sup>. Specific workforce is required, not just more physicians. Medical education leaders have dismissed responsibility for the lack of rural workforce by listing multiple reasons why physicians will not go to rural or to underserved areas<sup>6</sup>. Specific types of physicians such as family physicians do go where needed, but more graduates most specific to primary care and to physician distribution have not been increased by national training designs<sup>7</sup>. Repeated calls for a season of social accountability have failed to address failures in generalist physicians and in access to medical care in underserved areas, rural and urban<sup>8</sup>.

Designs are still not specific to the types of physician origins and the types of specialties that will go where needed<sup>7</sup>. The designs for medical school admission (physician origins), physician training, and health spending all have a focal point involving only approximately 1000 zip codes in 1% of the land area with 10% of Americans and 45% of physician workforce. Top concentrations clustered together in a few states, counties, and zip codes will not address failures in health access for most Americans by design<sup>9</sup>.

The graduate medical education (GME) design complements the payment design to add new higher paid types of specialists with more graduates added to each new specialty. The generalists and general types of specialties most needed by rural locations and least needed by largest systems are in decline<sup>10</sup>. General surgeons are important for rural workforce

but rural general surgeons are aging and are retiring earlier. Changes in the students and career preferences may impair the recovery of rural surgical services<sup>11,12</sup>.

Fewer residents stop formal residency training after general surgery, general orthopedics, or core specialties including internal medicine. More residents are moving on to subspecialties and sub-sub specialties. The core specialties needed for rural locations are growing at 1.1% a year with subspecialties increasing at 3.8% and sub-subspecialties at 11% a year<sup>13</sup>. The rapid growth of fellowship positions consumes core specialty workforce, resulting in a net loss regarding the generalists and general specialties most needed in rural America.

Perhaps the ultimate insult is that legislation passed by Congress in 2005 failed to redirect physician workforce to three important areas: most states in need of physicians; primary-care careers; and rural specific training programs<sup>14</sup>. Recovery of health access must occur in three key dimensions: states in need of physician workforce; primary care workforce; and workforce for locations in greatest need. Payment design shapes spending and workforce in directions contrary to health-access result. Medical education is a primary example with just a few counties and a few dozen zip codes in six states receiving 250 billion dollars or nearly half of the annual economic impact derived from medical education<sup>15</sup>.

Physicians, physician assistants, and nurse practitioners follow higher payment and better support to more specialized careers<sup>16-18</sup>. Specialized physicians can perform procedures and obtain 3 to 5 times greater payment for the same time expenditures made by physicians doing cognitive services<sup>19</sup>. Designs for payment and designs for training are not specific to the generalists and general specialties most needed by rural America.

## Designs can complement or compromise healthcare delivery

The United States has had two major eras of health policy in the past 50 years. An initial era helped rebuild health care from 1965 to 1980. Then, since 1980, the focus has been



most specific to cost control. From 1965 to 1980 the early Medicare and Medicaid designs funded healthcare services for elderly and lower income patients - ideal for recovery of rural health services and workforce. Increased state and federal investments in medical education were also specific to primary care and family medicine. Training design and payment design were both specific to rural workforce recovery.

Since 1980 the priority of healthcare designers has been to limit health spending. Re-designs of hospital spending in 1983 resulted in hundreds of rural hospital closures in the next decade. Suppression of payments for physicians has led to stagnant physician pay. The rapidly rising cost of healthcare delivery has squeezed healthcare providers with thin margins. Rural and smaller hospitals do not have the highest paid services. Primary care practices, mental health practices, and general specialties have been impacted. The physicians providing these services remain lowest on the pay scales. The complexity of their work is not lowest by any means.

Access is about more basic services for more Americans in more locations, but access is defeated when much is spent on few Americans for highest cost services that are delivered in just a few locations. Pressures to keep costs low and not to add health spending to an area such as primary care can only defeat access where access is already least. Designers must constantly be reminded that in health access, designs for insufficient spending and insufficient workforce can actually worsen overall cost and quality as access worsens where access is already limited.

## More distractions from services delivered

Designer innovations include Health Information Technology (HIT) with quality focus replacing fee-for-service. The rapid implementation of HIT has required numerous adjustments by clinicians, clinical team members, and other personnel. Smaller and more independent providers have lagged behind in HIT implementation. Limited funding to defray costs has added to the problem<sup>20</sup>. Delays in cash flow, huge additional costs per provider, and rapid changes in regulations are

serious problems for smaller hospitals and practices. Rural practices may be the least prepared. The burdens have increased for family physicians and internists<sup>21</sup>. Family physicians and internists are 42% of rural workforce.

A common denominator consequence across multiple innovative changes is lower volume per clinician. Lower volume per clinician is a move toward lower access in rural areas or other locations dominated by limitations of workforce. Pay for performance has known consequences for care where needed, but this has not stopped rapid implementation. Rural and underserved populations are associated with lower income, lower employment, lower education levels, and other social determinants that shape lower health outcomes. Pay for performance designs have known consequences for providers serving underserved populations<sup>22</sup>.

Hospitals struggling to address populations with disparities may be paid even less under innovative designs<sup>23,24</sup>. Hospitals serving a disproportionate share of poor, elderly, or more complex patients are more likely to be penalized<sup>25</sup>. Designs specific to rural workforce recovery should not financially penalize providers serving locations in most need of workforce.

Studies often associate rural health care with lower quality, but the 'lower quality' association is more specific to the research being attempted. National articles in top journals have used large data collections to associate 'poor quality' with rural hospitals<sup>26</sup>. There are problems with studies attempting to use huge data sets to compare different types of hospitals. The data collection is not specific for the study being performed. Translating 'Big Data' sets to relevant findings can be a challenge. Different types of hospitals have differences in finances, personnel, services, patient populations, and patient conditions<sup>27</sup>. Another problem is that researchers can demonstrate significant differences with huge data collections, but these differences can be small and are not always relevant. Rural services are often not better or worse. They are different and often involve greater



challenges associated most specifically with the complexities of the populations being served.

Poor understanding of rural health care continues to contribute to confusion. Designers must understand that the same situations and social determinant factors that shape lower concentrations of physicians also shape lesser health outcomes, gaps in resources, higher complexity, and greater challenges regarding rural healthcare delivery.

## Listening to the outside perspective

Without an outside perspective there will be little progress towards a solution. As W Edwards Deming noted<sup>28</sup>:

*The prevailing style of management must undergo transformation. A system cannot understand itself. The transformation requires a view from outside.*

Deming noted that a focus directly upon lower cost was likely to be limited in results. Healthcare designers should acknowledge the need to design for healthcare delivery rather than designing for cost cutting. Deming also noted that quality relies upon 'the matrix of relationships', and rural health care is a prime example of numerous interacting relationships. When designers fail to include the outside perspective, focus too narrowly upon quality or value, or fail to understand the complex matrix of relationships, progress in rural workforce recovery will remain limited.

Rural hospital administrators represent an outside perspective<sup>29</sup>:

*Similarities in shortages and attributes influencing recruitment across regions suggest that major policy and program interventions are needed to develop a rural health professions workforce that will enable the benefits of recent US health reform insurance coverage to be realized. Substantial and targeted programs to increase rural healthcare professionals are needed.*

Rural health workforce experts met in 1990 at the last major rural medical education meeting of the Association of American Medical Colleges. Experts such as Kindig noted that medical education projects designed for rural workforce recovery would remain demonstration projects without substantial changes<sup>30</sup>. Over two decades later demonstration projects are still dominant. Widespread replications of rural training designs as suggested by Rabinowitz and other rural medical educators have not been adopted<sup>31,32</sup>. Training issues, payment design, market forces, and cost containment have continued to dominate workforce across the 1990s as outlined by Kindig<sup>33</sup>. Difficulties in 2014 remain much the same as in the 1980s, as outlined by Bruce and Norton in 1984<sup>34</sup> and Butler in 1992<sup>8</sup>.

## Real change for rural healthcare delivery

The health access literature is filled with health access interventions designed to address rural workforce or primary care workforce. Small tracks, small schools, and small increases in outcomes will continue to result in small change overall for a state or a nation. Primary care also has many 'solutions' except in the important area of more primary-care delivery arising from a primary care trained graduate. Designs that require three to six graduates to result in one full time equivalent for primary care over a career will not resolve rural workforce deficits<sup>35,36</sup>.

Real change is a permanent family practice position result at 90% or more for an entire career from MD, DO, NP, or PA training. There is no other significant and reliable multiplier of practice location to rural and other areas of need<sup>7,37</sup>. There is no excuse for not prioritizing family practice position result if health access deficits are to be addressed.

Real change would be schools and programs specific for rural clinicians<sup>38</sup>. Such a school should arise from rural origin students and those willing to commit to rural practice obligations of at least 6 years in length. The preparation plus training should be done in rural locations and should be specific to rural career outcomes. The 15-year life experiences across preparation, training, and obligation will



also continue to influence rural location over an entire lifetime, as noted in Japan<sup>38</sup>. Students can prepare and train locally to provide local services where needed as in Mindanao, a design specific to retention of workforce where needed<sup>39</sup>.

Rural located medical schools in the United States have demonstrated the necessary rural outcomes. Rural continuity longitudinal integrated training has been the strong point of the Minnesota Rural Physician Associates Program (RPAP) for 40 years<sup>40,41</sup>. Rural medical education continuity longitudinal training successes in Australia and other nations have shaped new models more specific to rural workforce<sup>42</sup>. The story of The Making of the Northern Ontario is a summary of the multiple interventions at multiple levels that must be integrated together for specific workforce result<sup>43</sup>. In Australia and Canada medical education has been enhanced not only in distribution potential, but also in medical education potential.

In the United States, as long as designs are not specific to the production of specific types of physicians and the support of those physicians, the rural physician workforce will continue to remain behind by design.

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