

**Hamilton Project Economic Policy Innovation Prize
Winner of the Undergraduate-Level Competition**

Rural Health Care: Training and Keeping the Next Generation of Providers

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Prepared for The Hamilton Project Economic Policy Innovation Prize
October 30, 2007

Abstract

Rural hospitals face unparalleled provider and skill shortages which directly impact patient health. I propose a system of grants giving health care providers educational opportunities in rural clinics in order to address these shortages. Through various federal agencies, public universities would receive grants for developing curriculum and providing resources to connect rural clinics with coursework over video networks and the Internet. Grants directed towards rural clinics and hospitals would help build the physical infrastructure necessary to make rural clinics satellite campuses of public universities, with the capability of both delivering a full curriculum for new students and updating skills among current practitioners. Supplemented with tuition and payments from the universities to the clinics for facilities usage, the program is fiscally viable. Such a program shrinks a critical skills gap among rural providers, develops a rural health curriculum, and aids primary care by allowing telemedicine and the spread of health care information networks. Only a dedicated federal program can solve the unique difficulties presented by the rural environment.

Introduction

America's health care system faces a crisis unique unto itself. Multiple sources of funding, the absence of an overarching vision and bureaucratic inefficiencies plague public health generally, and rural areas in particular bear the brunt of these policy failures. The rural provider is asked to remain isolated from his urban colleagues and centers of health care research and education while performing a much greater variety of tasks than other providers. The rural provider treats a patient who is otherwise left behind: both by the health care system and by the infrastructural environment.

An innovative solution is required, one directed towards education as a long-term solution instead of a patchwork fix for current financial woes. I propose that the federal government create a system of financial incentives for public universities to invest in rural clinics as satellite campuses for health providers. Rural practitioners consider educational opportunity and professional community key factors in job satisfaction and retention. This new investment targets the crisis by treating rural health as its own specialty, with its own unique characteristics and difficulties. Through the Department of Health and Human Services, the Department of Education and the National Institute of Health, public universities would receive grants for developing new curricula and hiring new staff to bring rurally-focused education to rural clinics through videoconferencing and the Internet, providing several technological and personnel advantages to rural clinics essential towards moving innovation in care forward in the coming decades. Agencies would also provide grants to rural clinics and hospitals for the technological and physical infrastructure needed to interconnect and become satellite campuses. Students, both new health professionals and those continuing their education, would pay traditional or modified tuition rates to their universities, which would reimburse clinics for related expenses, diversifying clinic income. This style of reform has generational effects, producing long term impacts on the way care is envisioned and delivered.

The Problem: Unstable Service

Five factors define the rural patient. First, rural populations tend to be older, with higher activity limits and, as a result, more chronic conditions than other populations (Institute of Medicine 3); especially significant are arthritis, diagnosed diabetes, hypertension, and high blood pressure (Eberhardt and Pamuk). Among these patients, a provider must exercise not only her skills but develop an environment of care and trust to support entire families. Second, rural populations tend to be poorer, possess lower levels of education, and live longer distances from health care centers (Ormond, Zuckerman and Lhila). These constraints put particular pressure on individual hospitals and clinics, requiring greater connectivity between health care centers. Third, standard rural occupations, such as “agriculture, mining, forestry and fishing ... [present an] extraordinary threat to health” (Ricketts, “Changing” 641) different from those of urban occupations. A provider cannot remove these factors as part of treatment. Fourth, rural patients tend to delay treatment, especially when occupational demands are high (Ricketts, “Changing” 644). When the family of a self-employed farmer or roofer depends on his going to work regularly, the expense of seeking treatment is impossible to bear. Finally, rural residents are less likely to have employer-sponsored insurance, and far more likely to rely on government entitlement programs or, as is the case for one in every five rural residents, live with no health insurance at all (Ormond, Zuckerman and Lhila). In order to properly undertake a rural practice, a rural practitioner must understand all of these cultural characteristics and have the knowhow to respond to them.

Rural access to care is generally more limited than access in urban areas (Rosenthal, Zaslavsky and Newhouse 1948). Rural patients with chronic conditions currently see on average six different professionals each year, in both rural and urban settings (Institute of Medicine 148). On average, thirty percent of an isolated rural patient’s hospital and clinic visits occur in an urban area (Chan, Hart and Goodman 143). While chronic care is always expensive, the transportation and lodging costs associated with travel to urban areas make even necessary care sometimes cost-prohibitive, leading to underconsumption of preventative care and moving regular patients into costly urban emergency rooms. Traveling to urban areas for primary care puts dramatic financial pressures on patients who already have fragile insurance situations or no coverage at all.

Individual state programs do not sufficiently combat access deficiencies. The rate of insurance for rural residents varies by as much as fifteen percent state to state (Ormond, Zuckerman and Lhila). Additionally, “rural-urban differences in access and utilization are not present to the same degree in all ... states” (Ormond, Zuckerman and Lhila). Because states bear varying degrees of burden for rural health problems, a national solution should spread out the financial risks as well as take advantage of the best innovations that individual states and communities create to address these issues.

Staff and skill shortages directly impact quality of care in rural settings. The recruitment and retention of rural professionals is affected by a number of factors, including financial and lifestyle issues, a professional background in rural areas and exposure to rural health during training (Curran and Rourke 265). For physicians, the increasing pressure to specialize often rules general rural practice out. While twenty percent of Americans live in rural areas, only eleven percent of American physicians work there (Ricketts, “Changing” 640). Rural areas also bear the most significant burdens of the current nursing shortage (Ricketts, “Workforce” 42). It

seems even nurses who live in rural areas commute away from rural practice: while 719 nurses per 100,000 residents live in rural areas, only 411 nurses per 100,000 residents work there (Skillman et al 156).

In order to serve alone and provide for all her patients, a rural practitioner is truly a family doctor, one of many specialties and many patients. The rural physician must maintain competency in a variety of fields, including emergency services, obstetrics and anesthesia (Curran and Rourke 265). Smith and Hays identify a number of unique difficulties for rural physicians: geographic and social isolation, fewer resources, less access to specialist care, limited professional support, a need for greater resourcefulness, issues of self-care and confidentiality in small communities and community-driven accountability (70). Rural doctors have an increased need for population-based health initiatives, health education and information on disease prevention (Smith and Hays 70). These rural challenges require not only a targeted educational approach but special oversight by public health officials in order to ensure such a fragile environment does not fall apart.

A rural hospital's services hinge on the skills of its staff. If no doctor possesses obstetric skill, for example, the hospital has no way of delivering a baby (Ormond, Wallin and Goldenson 22). Rural clinics often do lack access to core services, including emergency paramedics, basic hospital care, long term mental care, care for substance abuse and oral or dental health (Institute of Medicine 2-3). Eighty percent of rural counties lack mental health professionals, while a full 247 counties go without a dentist (Ricketts, “Workforce” 42). Rural hospitals are forced to reduce services or even close in response to these shortages (Curran and Rourke 265). Placement of professionals ought serve as the top priority in rural care reform.

Rural clinics have faced difficulty responding to staff and service shortages because of the payment instability that comes when treating a disproportionately elderly and impoverished population. “Medicare and Medicaid are the two most important insurers in rural areas” (Ormond, Wallin and Goldenson 32). Medicare paid forty five percent of rural health costs in 1999 compared with thirty four percent of costs in urban areas (Institute of Medicine 127). Additionally, Medicare payments in rural areas are consistently lower because of the lower earnings of rural Medicare beneficiaries (Ricketts, “Changing” 646). Poor residents in rural areas are less likely than the urban poor to be covered by Medicaid (Deskins et al 368), and rural primary care physicians often cannot afford to take on new Medicaid patients because of low Medicaid reimbursement rates (Institute of Medicine 130). Even when entitlement programs pay out, they do not reliably cover the total cost of services. With increasing pressure on legislators to “solve” the financial problems surrounding Medicare and Medicaid, rural clinics and hospitals cannot expect this funding to remain stable in the decades ahead. Ultimately, rural health systems need financial stability in order to invest in new development (Institute of Medicine 141). When so much funding is dependent both on patients and on unstable federal programs, greater funding diversity is needed.

The Successes and Deficiencies of the National Health Service Corps

Traditionally, the federal government has attempted to solve provider shortages with tuition incentive programs like the National Health Service Corps (NHSC). The NHSC forgives student loans for doctors of all backgrounds who serve in urban and rural “Health Professional

Shortage Areas” identified by the Department of Health and Human Services (Holmes 1), giving a year of forgiveness for each year served (Probst et al 776). In 2006, 4200 physicians worked for the NHSC (Pathman et al 286). The NHSC has demonstrated some successes, including a slight increase in the number of rural physicians (Holmes 9) and 294 new physicians recruited by NHSC members in 20 years (Pathman et al 291). However, budget analysts have expressed concern over the NHSC for some time, “center[ed] on whether the services that an NHSC professional provides in an underserved area outweigh the value of the services that he or she would have provided in some other location” (Congressional Budget Office 202). The passion of NHSC members does not translate into systemic results.

Service in the NHSC is no guarantee of a provider’s commitment in the long term. Holmes finds that service in the NHSC actually tends to decrease the likelihood a doctor will serve in his initial practice location (1). “[T]here is no evidence that NHSC physicians continue to provide access to underserved populations after their obligation is completed” (Holmes 2). Adjusting for participants likely to work rurally without the program, participation in NHSC leads physicians to leave rural areas (Holmes 8). While placement has been successful for the Corps, rural health problems require much greater longevity in order to create trust between physician and community.

The effectiveness of NHSC volunteers is also hindered by their lack of understanding of rural cultural characteristics. Because providers do not stay in their initial practice locations for the duration of their careers, they do not develop a stake in rural care specifically (Ricketts, “Changing” 643). Sensitivity to cultural issues is not a minor concern; rural culture often gets in the way of providing basic care. “[S]ociocultural integration’ is the pre-eminent retention issue for rural practitioners” (Veitch et al 206); experience with rural norms is created only by practice in a rural environment (Institute of Medicine 25). Sociocultural tensions manifest themselves in “[b]eliefs such as fatalism, denial and fear ... identified as barriers to preventative cancer services in West Virginia” (Deskins et al 368). In the area of mental health, issues of confidentiality and potential labeling make referral to urban professionals difficult (Ricketts, “Changing” 642). Policymakers must understand these cultural issues. “A good match of physician and community is crucial” (Ormond, Wallin and Goldenson 27), and the physician misplaced in a rural community is often the first to leave. In rural areas especially, quality medical care is about trust, and a public health solution must recognize a need to create that trust.

The Solution: Location-Based Education

I propose a system of grants to state universities providing for investments in rural health distance education which take advantage of new technologies to offer education to providers directly in rural hospitals and clinics. Most importantly, educational programs will increase job satisfaction among rural providers, a factor closely related to retention (Porterfield et al 267). This investment will also produce a stronger understanding of the specific needs of rural patients, subsidize improvements in telemedicine and information networks, increase investment in the system overall and augment current rural clinic funding mechanisms.

Federal intervention is required to scale up innovation in the rural care environment. The overwhelming poverty of rural patients combined with the average age of patients and their dependency on government entitlement programs represent failures in the health care market

which “justify government's intervention to protect the public's health” (Carande-Kulis, Getzen and Thacker 228). While these market failures are manifest, any further investment in the system is dramatically hindered (Carande-Kulis, Getzen and Thacker 229). The first step in the public health crisis, therefore, is to resolve at least some of these market failures before specific programs can address chronic conditions and before the private sector will invest in public health improvements.

Educational opportunity is the most significant factor of retention for health professionals across the board. For physicians, the two critical factors for retention are a rural background and a commitment to family medicine. For the latter, students require faculty role models and medical schools with a commitment to their field (Institute of Medicine 93-4). Rural education allows physicians to serve rural areas while still receiving the guidance of a medical faculty: in this case, one specializing and focusing in rural care. Medical programs with a rural focus place one in five of their graduates in areas where professionals are in shortage; nearly half of those professionals in primary care (Evans et al 216). Through such programs, rural physicians can maintain both a rural residency and an academic connection to public health study.

For nurses, the effects of education on retention are even more significant. The two most important factors in rural nurse retention are rural background and the availability of training in a rural environment (Institute of Medicine 96). Because nurses can hold a variety of educational experience, from an associate degree to a PhD, many nurses anticipate continuing their education throughout their career. However, rural nurses are more likely to work full time (Skillman et al 155) and consequently are significantly more likely to hold only a bachelor or associate degree as their sole nursing credential (Skillman et al 152-3). Making training more accessible benefits not only the provider personally, but allows him to update his skills continuously to better serve his patients. Other possible incentives, like benefit enhancements, have mixed effects (Skillman et al 151); merely funding pay increases would be less effective. Overall, educational opportunity is the best way to take advantage of nurses who express dedication to rural public health, allowing them to serve without professional isolation.

For other health professionals, a rural focus during training can provide not only benefits to retention but reinforce specific skill sets necessary for rural effectiveness. Physical and occupational therapists cite professional isolation and a lack of educational opportunities as among the top three sources of job dissatisfaction (Meyer 158), contributing to the exodus of specialists from rural service. Education with local delivery can turn the tide. Local residency along with training in other fields have proven effective for funding and maintaining rural mental health programs (Institute of Medicine 100), while a West Virginia policy successfully maintained dental health support by combining dentistry skills with pediatrics and school nurse positions (Institute of Medicine 99). These innovations all occurred at the local level yet would require federal funding to support and develop on a national basis. They will also require most professionals to acquire new skills during their initial education or throughout their career. The program proposed here allows a continuing education process to aid innovation in care delivery.

Academic programs which target rural health train providers who grow up and work in the community they serve. Interest in the development of rural care can be envisioned as a pipeline, with constant maintenance through education required in order to keep the interest “flowing” (Tesson et al 5). Unfortunately, students from rural areas are often underrepresented in general medical school populations (Curran and Rourke 266), despite the fact that those students

are more likely to serve rurally for a long period of time (Institute of Medicine 91). Curran and Rourke find that medical schools which use selective admission for rural students, which provide a rural curriculum and which back that curriculum up with rural residency produce significantly more rural physicians (266). Maintaining the pipeline is a lifelong process, with education for medical occupations often requiring counseling beginning in primary school (Curran and Rourke 267). Rural residents who provide for their own communities understand and work around the barriers to treatment present in rural culture.

The technological network subsidized by new educational programs allows for other innovations in primary care. Telemedicine, the use of technology like videoconferencing and the Internet for patient / professional interaction, has shown promise as a new means to expose patients to a greater variety and number of professionals. Ricketts considers telemedicine the single most important way of equalizing the urban-rural resource gap (“Changing” 647). Telemedicine can provide community education, along with grand rounds for professionals and continuing education (Stamm 146). “Unfortunately, telemedicine is underused both because of the initial cost of establishing infrastructure and the lack of infrastructure which exists currently” (Institute of Medicine 163). Using videoconferencing and the Internet is significantly more costly in rural environments than in urban environments (Delaney et al 171). Federal grants can help bridge this cost, connecting clinics with each other and with universities to diversify the resources available to patients.

Information networks are becoming essential to community health. While only 13 states are currently connected by the Public Health Information Network and other national disease information systems, 40 states will be connected by 2012 (McCloskey). Increasingly, providers outside of this network will miss out on valuable information essential not only to preparation for regular community health issues but for issues related to epidemics and bioterrorism. To solve this problem, McBride recommends a cost-effective and strategic technological expansion (6). Providing federal grants and an additional purpose to technological expansion makes developing such a system cost-effective, greatly increasing the number of clinics that can participate. Through federal subsidies, technology eradicates the distance factor.

The participation of universities in the rural public health system provides the opportunity for increased investment in the system overall. Health professional schools have an obligation to the public trust (Institute of Medicine 27), which manifests itself in a commitment to the health needs of a particular area. Currently, there is little incentive for federal funding to target education and the development of broad-based rural public health initiatives. “[I]t is estimated that 95 percent of US health spending goes toward medical interventions, and only 5 percent to population-based health interventions and various research activities” (Levi, Juliano and Richardson 99). Bringing investment to a rural clinic provides both new students and new sources of funding for medical schools, both strong incentives for university participation. The University of Adelaide, for example, participates in rural outreach programs because satellite campuses produce a stable learning environment, strong potential for research, and new models of care developed in cooperation with the government (Wilkinson et al 32). In the United States, those with no academic degree are significantly more likely to demonstrate a commitment to primary care amongst rural and underserved populations (Evans et al 212). Government must aggressively meet the demand of these providers for academic resources.

By developing a unique rural curriculum, this plan creates a medical specialty of its own,

attracting more specialized professors and greater involvement from the university. “The feature which most distinguishes ... Stand Alone Rural Schools from the other models is ... curriculum content” which better understands the rural environment (Tesson et al 6). To create a strong series of programs which attract new students and also pique the interest of current professionals, rural campuses must be allowed to dynamically develop new curricula. The system of federal grants will allow individual universities to develop coursework in direct relation to its demand, producing an array of innovative and effective rural health education programs. By their presence and positive example in the community, rural satellite campuses provide the opportunity for rural students to get educations in medicine and use the connection formed with their community during their education to more effectively serve it. Because of high initial costs, targeted funding from the government is necessary to keep that curriculum development alive and reap benefits not only in physician retention but also in better care.

A long-term distance education program produces advantages over traditional university education. “The focus of health care has shifted from episodic care of individuals in hospitals to promotion of health in the community” (R. Jones et al 699); as a result, “educational contributions can extend to advancing the educational programme rather than just teaching within it” (R. Jones et al 702). The outside-the-classroom experience provides a stronger understanding of the needs surrounding community-based health care. Curran and Rourke argue that rural, hospital-based learning is essential for introducing the various kinds of contexts which family care is necessary (Curran and Rourke 269), including the social and cultural barriers to care discussed in other literature. Additionally, new technologies can compensate for a perceived lack of professional community. The academic program studied by Baker, Eley and Lasserre used message boards to allow students to share their own strategies and expand their understanding beyond their particular clinic environment. This mechanism forced students both to reflect on their experiences and to compare them with their classroom education (2). Sixty four percent of students participating contributed to the resource beyond the minimum requirement (4). The program proposed here maximizes the face-to-face clinical experience essential for a transformation of rural care over the coming decades.

Greater Murray Clinical School, a rural satellite of the University of New South Wales in Australia, demonstrates many of the positive effects of education directly administered in rural areas. “Formal teaching sessions – an integration tutorial, a weekly thematic tutorial and bedside teaching with academic staff – supplement the learning from patients. In addition, multi-professional learning days provide in-depth teaching and learning about the involvement of all health professionals in the management of common conditions ... [T]his approach helps students to understand the health care system they will become part of” (Delaney et al 169). In much the same manner proposed here, the school bridges a lack of personal access to staff with videoconferencing, audio conferencing, the Internet, and computer simulations (Delaney et al 170). Australia's “Rural Clinical Schools” have actually become popular with mature graduate students interested in rural care (G. Jones et al 272). Students cite the smaller class sizes, clean air and a friendly, supportive environment as key attractions to such an education (G. Jones et al 274). By this method, students learn by “history taking” as opposed to the rote gathering of facts (Sturmberg et al 2). Examples also exist in the United States, such as rural immersion programs sponsored by the Universities of Washington and New Mexico (Tesson et al 3-4).

Finally, federal grant and university funding offers a diverse augmentation to the

instability of Medicare, Medicaid and patient payment. Community Health Centers “must cope with the difficulties faced by all health care institutions of recruiting and retaining physicians, but their difficulty is exacerbated by their limited budgets ... [F]ederal grant levels have been stagnant over the past several years, even while costs and the number of uninsured patients have been rising” (Ormond, Wallin and Goldenson 29). Because the demand for education is high across medical fields, universities will have financial incentive to continue developing the infrastructure and curriculum connecting clinics and universities. Competition for federal grants produces innovation and investment beyond government spending. Grant funding, “[i]n addition to the use of formula-based funding for core activities,” provides the necessary income to foster innovation on the local level (Buehler and Holtgrave 152). Investing in both the education of rural health professionals and in their facilities provides critical strength to otherwise weak clinics, strength that is utilized in the implementation of broad-based public health programs.

Conclusion

The commitment of many doctors, nurses and other health care professionals to resolving the rural health crisis is both commendable and an incredible resource to policymakers. However, that commitment is lost without definite and broad federal intervention. This plan targets key factors of retention by increasing the number of providers of a rural background in rural hospitals, increasing the exposure of participating providers to a rural environment during training and creating a professional lifestyle which allows for continuing education and connects rural providers to other health professionals. In combination with the National Health Service Corps or other loan forgiveness programs, this proposal has the ability to produce long-term professionals in areas otherwise prone to continual turnover. The rural health crisis requires a long-term investment by policymakers on all levels through a variety of innovative strategies. The first step, however, must target retention of health care professionals, those on the “front lines” of rural medicine, who perform the fundamental task of caring for the injured and ill. “The consequences of the failure of a provider ... are potentially greater in rural areas ... [E]ach provider likely plays a critical part in maintaining access to health care in the community. For this reason, in most rural communities all providers should be considered part of the health care safety net” both through their care for patients and their role stabilizing health care infrastructure (Ormond, Wallin and Goldenson 1). Extending the opportunities of education to rural professionals not only invests in them as a resource to the community but allows them an equal opportunity to the tools of personal success which any other health professional has come to expect.

Acknowledgements

The author wishes to thank Fritz Nordengren, MPH; Wendy Ringgenberg, PhD; Jane Schadle, RNC MSHA; and Ernest Zampelli, PhD for their comments on early drafts of this manuscript.

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