# Assessing the Unintended Consequences of Health Policy on Rural Populations and Places

Prepared by the RUPRI Health Panel

Keith J. Mueller, PhD
Charlie Alfero, MA
Andrew F. Coburn, PhD
Jennifer P. Lundblad, PhD, MBA
A. Clinton MacKinney, MD, MS
Timothy D. McBride, PhD
Paula Weigel, PhD – Guest Author

December 2018



#### Acknowledgements

This report was supported by the Rural Policy Research Institute through a cooperative agreement with the Federal Office of Rural Health Policy (FORHP), Health Resources and Services Administration (HRSA), US Department of Health and Human Services (HHS), under cooperative agreement/grant #U18RH30805. The information, conclusions and opinions expressed in this report are those of the authors and no endorsement by FORHP, HRSA, or HHS is intended or should be inferred.

The Health Panel would like to thank Erin Mobley for research assistance and Susan Nardie for editing this document.

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#### Introduction

The purpose of this paper is to illuminate the unintended consequences of health policy so that past is not prologue to future. We explore a series of health policies that have affected, or had the potential to affect, rural people, places, and/or providers in ways counteractive to policy intent. Two realities drive the need for this analysis: 1) Rural health care systems are living with the legacy of policies having unintended consequences because the full impact of such policies on rural stakeholders was neither predicted nor understood; and (2) Policymakers have recognized the need to apply a rural lens to new and ongoing programs and policies to inform the pathways by which equitable rural health status and health care can be achieved, as articulated by the Centers for Medicare & Medicaid Services (CMS) Rural Health Council in its first explicit Rural Health Strategy. We conclude with a framework for health policy evaluation that considers potential and unintended rural impacts.

#### **Background**

Researchers, stakeholders, and policymakers have long been concerned about the unintended consequences of policy, or the unforeseen repercussions of shifting regulatory levers that have been designed around an "average" policy target. <sup>2,3</sup> Health policies are designed to achieve a particular objective or effect a desired outcome, but often have unanticipated negative consequences. This is particularly likely when policies have not considered place-related fundamentals (e.g., poor underlying economic characteristics, low numbers of providers, or very low population densities or patient volumes) that can act as impediments to achieving health policy goals (e.g., ensuring access to high-quality and affordable health care to all citizens in rural settings).

In the process of developing and implementing health policy, there must be thoughtful consideration of how policy changes will impact rural people and communities (both positively and negatively). Of special concern is impact on local access to essential health services. That concern makes the impact on local providers important to understand, including the ability of providers and networks of providers and public agencies to transform the organization and delivery of services. The definition of rural, too, must be clarified; for example, it has been

conceptualized in a number of ways for distinct purposes by different government entities, including the U.S. Census Bureau, the Office of Management and Budget, and the Economic Research Service within the U.S. Department of Agriculture.<sup>4</sup>

The primary rural-relevant question to ask in policy analysis is "What are the key characteristics of rural people, places, or providers that are central to the policy objective?" Relevant characteristics might be remoteness from larger urban centers, travel time or distance to closest hospital, supply or availability of providers, or population density. While straightforward conceptually, the task becomes complex with the recognition that not all rural areas are the same, nor will they be affected in the same way by policy or policy adaptations given variation on a number of important policy-relevant dimensions. To this point, the Rural Policy Research Institute (RUPRI) Health Panel has called attention to the impact of unintended consequences of policy changes on rural communities for decades, from in-depth analyses of major legislative policies (i.e., Balanced Budget Act of 1997, the Patient Protection and Affordable Care Act of 2010 [PPACA]) to analysis of reform efforts in public payer programs to rapid responses to new rules and regulations via Comment Letters. 3,5,6,7,8

One example of a potential unintended consequence impacting rural populations and providers occurred after passage of the PPACA and new rules affecting beneficiary assignment to Medicare Shared Savings Program Accountable Care Organizations (ACOs). CMS was given authority to assign Medicare beneficiaries to ACOs based on where beneficiaries obtained a plurality of their primary care physician services. Basing attribution of beneficiaries to ACOs solely on physician-provided primary care services could exclude rural beneficiaries who receive the plurality of their primary care from rural physician assistants (PAs), nurse practitioners (NPs), or certified nurse specialists (CNSs), and not primary care physicians. The RUPRI Health Panel called attention to this unintended consequence via a Comment Letter in 2011. The attribution process now incorporates care received by non-primary care physician ACO professionals, including PAs, NPs, and CNSs, although a patient still must receive at least one primary care service from a physician at the ACO.

Policy actions designed around "average" circumstances may not behave as expected when implemented in rural places. Rural-urban differentials exist along a number of policy-relevant dimensions. Rural patient populations, for example, tend to have worse health status on average than urban or suburban populations. <sup>11</sup> Median household incomes have historically been lower, affecting the extent to which health insurance and health care needed by rural residents is affordable, and in turn, affecting health care access opportunity. <sup>12</sup> A greater percentage of those living in rural places are covered by public insurance, making any changes to Medicare or Medicaid policy more consequential to patients and providers in rural areas. <sup>13</sup> Furthermore, travel distances to health care are often greater for those in rural communities, such that any policy changes affecting providers or provider supply can have disproportional effects on access to care for those living in more remote places. <sup>14</sup> Health care workforce shortages in rural areas, particularly primary care, behavioral health, and other key specialties, have also created longstanding access challenges. 11,15 When policies fail to recognize these rural realities, policy implementation can have unintended consequences that lead to distortive effects on rural health care system landscapes. In its rural strategy, CMS intends to integrate consistent consideration of the impact of policies on rural health insurance plans, providers, or communities, as to avoid unintended negative consequences of policy and program implementation.<sup>1</sup>

Polices that are implemented without consideration of rural context risk creating unanticipated or negative effects for rural health systems and the people who rely on them. For example, payment designs that link health care quality to payment are predicated on robust measures of quality, which in turn are only reliable when sufficient numbers of patient cases are available. In many urban and suburban areas, capturing sufficient numbers of cases (numerators) among all qualifying patients (denominators) within a particular health system and quality reporting time period are not a limiting factor; in rural areas, where patient volumes are low, and cases may not occur often enough to produce a statistically reliable measure for a health care provider, it is a limiting factor. Consequently, many rural health care providers often are exempt from quality reporting, and thus excluded from new payment designs that reward investment in quality improvement and high-quality care. The policy, in part designed to effect better health care quality for all residents, in reality has the potential to create a two-tiered health care system demarcated by reporting standards and quality improvement opportunities.

#### **Illustrations of Unintended Consequences**

In the interest of learning from past policy implementations and how unintended effects were created for rural stakeholders, we examine six historical health policies and their impact on rural health systems, at least as those policies were initially proposed. We explore each within a rural-relevant policy context.

As shown in these cases, the policy process can be promulgated from a variety of authoritative sources, from Federal and State legislation to regulatory and administrative determinations to judicial decisions. While much attention tends to be focused on major legislative or executive actions, other highly impactful policy vehicles are used more routinely and with less public attention and debate; letters of transmittal from CMS, for example, carry the force of Federal policy.

Medicare Disproportionate Share Hospital (DSH) Payments, Medicare Prescription
 Drug, Improvement, and Modernization Act (MMA), 2003

DSH payments were incorporated in the prospective payment system (PPS) when it was adopted in 1983 and have been modified numerous times since then. In 1985, Congress required additional payments be made to urban hospitals with 100 beds or more; at that time the Committee on Ways and Means determined that the only hospitals demonstrating a higher cost were urban hospitals with over 100 beds, finding no evidence that costs were higher in rural hospitals serving a disproportionate share of low-income patients. <sup>16</sup> That original analysis, while intended to target DSH payments appropriately, created inequities in hospital payment that continue to the present day, even as rural hospitals have been included in the DSH payment program. Consistent with intent to provide payment to hospitals based on higher costs associated with serving low income populations, rural hospitals have been included, but at different levels of payment, which the Medicare Payment Advisory Commission has said (in reports in 1998, 1999, and 2003) should not continue. In the 2003 MMA, Congress took action to

increase DSH payments, but the urban-rural difference was left in place. This policy established a 12 percent (of total PPS payment) cap on DSH payments to PPS urban hospitals with up to 100 beds, and all rural hospitals up to 500 beds, except for rural referral centers. Thus, rural hospitals from 100 through 499 beds are treated differently than their urban counterparts (the latter are eligible for DSH payments with no cap). The MMA resolved some equity issues in DSH payment by applying the same percentage formulas across urban and rural hospitals (same reference), but created an inequity by applying a cap differently based on urban-rural status. Given low all-payer margins among rural hospitals, 4.6 percent overall, low DSH payments can have a disproportionate effect on a hospital's ability to maintain safety net services. While the depth and breadth of the cap effect is currently unknown, this policy has the potential to add to the financial stress felt by rural hospitals whose costs of care exceed the additional but capped compensation for care. The consequence can be a threat to access to services as those hospitals adjust cost by reducing or even eliminating services that do not produce positive margins.

Bottom line: The Medicare DSH cap may unintentionally risk rural hospital financial stability and threaten access to critical services.

#### • Medicare Advantage (MA) Star Rating, PPACA, 2010

As an alternative to traditional Medicare, the MA program intends to offer choices to Medicare beneficiaries among competing MA plans. The choices have differential value, based on additional benefits that are sometimes included in MA plans and beneficiary cost sharing. However, the choices may not be comparable in rural and urban areas. MA policy created bonus payments to reward plans with high quality rankings (4 stars or higher, with a 2-year demonstration program that extended bonuses to plans with 3 stars or higher) beginning in 2012. Star ratings serve at least two purposes: they convey the quality of plans to beneficiaries who are shopping for MA plans, and they are used as a quality threshold above which MA plans are rewarded with financial bonuses by CMS. The significance of the rural context is that the MA plans to which rural beneficiaries have access have, on average, lower quality ratings (as measured by average number of stars) than urban MA plans. In 2012, at the beginning of the bonus payment system, the

average plan enrollee in rural areas was in a plan with rating of 3.6 stars, compared with the average urban enrollee experience of 3.7 stars; 32 percent of the rural MA population were enrolled in a plan with at least 4 stars, contrasted with 36 percent of the urban population. <sup>19</sup> By 2015 the rural-urban gulf had grown: 59 percent of rural beneficiaries were enrolled in plans with at least four stars, contrasted with 71 percent of urban beneficiaries, and 18 percent of rural counties had no plan with 4 or more stars compared to 4 percent of urban counties without such plans. A leading explanation of these differences is the type of plans offered. Health maintenance organizations (HMOs) and local PPOs are the MA plans with the highest quality ratings, and have a long history of targeting care coordination efforts to improve specific MA quality indicators. In contrast, regional preferred provider organizations (PPOs) have comparatively lower quality ratings and limited experience in integrated care coordination. HMOs and local PPOs are more prevalent in urban areas, and regional PPOs are more prevalent in rural areas; the latter may still be learning how to build and leverage provider relationships and care coordination efforts. <sup>15</sup> One consequence of lower payment may be fewer plans offered in rural counties, especially in regions where plans are unable to develop contracts with providers who are achieving the quality indicators comprising the five-star index. Those plans will not be eligible for bonus payments, which may make that rural market unattractive. Further, since star rating is at the level of overall contracts, MA firms have consolidated plans to maximize quality ratings and therefore receive bonus payments. Quality ratings may be inflated in one geographic area as a result of being combined with another (including in different states). <sup>20</sup> Consequently, rural beneficiaries do not have accurate information about the quality of the plan in their county.

Bottom line: The MA star rating system may affect plan availability in rural counties, and therefore limit the choices presented to rural beneficiaries.

#### • Sequestration, Budget Control Act (BCA), 2011

The sequester in the BCA of 2011 mandated automatic spending cuts to federal programs starting in 2013 and through 2021, including Medicare, which had a 2 percent spending cut. The cuts were believed to be modest and were originally intended to last only until other budget action would address ongoing deficit spending. Health care

providers heavily reliant on Medicare reimbursement, particularly rural hospitals designated as Critical Access Hospitals (CAHs), Sole Community Hospitals, and Medicare Dependent Hospitals, were disproportionately financially affected compared to hospitals with more balanced payer mixes. For CAHs, whose all-payer margin is the lowest among all hospitals, sequestration lowered their reimbursement from 101 percent of allowable charges to 99 percent, increasing the stress negative Medicare margins put on overall hospital finance. For financially fragile rural hospitals, the sequester was an additional contributor to financial deterioration (other contributors include declining patient census, minimal cash reserves, and lower revenue from Medicaid and commercial insurance than comparison hospitals), which has contributed to a number of inpatient hospital closures in rural communities. As a result of closures, a rising number of Medicare beneficiaries and others lost access not only to inpatient services but also to additional ancillary services that hospitals offered in combination with inpatient care.<sup>21</sup> Bottom line: The sequestration posed an unintended threat to stability among financially vulnerable rural hospitals, further threatening access to inpatient and ancillary services.

## • Swing Beds in CAHs, Improving Medicare Post-Acute Care Transformation Act (IMPACT), 2014

IMPACT required post-acute care providers such as long-term care hospitals, skilled nursing facilities, home health agencies, and inpatient rehabilitation facilities to submit standardized, interoperable patient assessment data, with the intention of improving outcomes, helping to facilitate coordinated care, and enhancing quality comparisons among post-acute care providers. The rural issue pertains to CAHs, which are excluded from reporting quality metrics through the new mechanism or through the Minimum Data Set that PPS rural hospitals use to report. As a result, CAHs with swing beds may not be selected for post-acute care services due to the inability of acute care providers to judge their quality. CAHs with swing beds that are bypassed for post-acute care stays because of a lack of quality reporting are missing an important opportunity to add financial stability and provide essential post-acute care health care services locally.

Bottom line: Excluding CAHs with swing beds from quality reporting systems may

create an unintended threat to access in rural communities due to financial stress on local providers.

#### • Definition of "rural" for Medicare Part D Program, MMA, 2003

The MMA uses the TRICARE (the health care program of the U.S. Department of Defense managed by the Defense Health Agency) definition of rural for the Medicare Part D program, which had unintended consequences for a policy designed to increase beneficiary choice of prescription drug (PD) plans. At first blush, the MMA network adequacy standard using a distance of 15 miles to the nearest retail pharmacy, as compared with other standards using longer distance (typically 30 miles or 30 minutes) seems to be beneficial for rural residents (the RUPRI Center for Rural Health Policy Analysis has used 10 miles between pharmacies as a measure of accessibility). However, in adopting all the provisions of the TRICARE program there were two flaws. First, the definition of rural was based on TRICARE's use of persons per square mile (fewer than 1,000) within each ZIP Code. As a result, much more of the land space in the US is classified as rural than is true under other definitions that use commuting patterns to define urban areas (by county, ZIP code, or census tract that are included in urbanized areas). Second, the access standard is based on a percentage of the population located within 15 miles of the nearest pharmacy (70 percent). The combination of these two details of the TRICARE standard have these consequences: up to 30 percent of beneficiaries in a rating area may be more than 15 miles from the nearest retail pharmacy; and because 70 percent may be located in major population corridors of a multi-state rating area, large swaths of rural areas may fall outside the access standard. In the sevenstate Midwest region, the TRICARE standard could be met but still exclude North and South Dakota completely.<sup>22</sup> As a result of an analysis on rural impact, CMS used administrative authority to adjust how access standards are applied within regional rating areas, using states rather than multistate regions, so that the 70 percent standard applies to each state. However, CMS was not able to change the definition of rural, which still makes it possible to meet the access standard by creating networks of retail pharmacies along major population corridors and excluding large areas.

Bottom line: The combination of using a rural definition based only on population

density by ZIP Code and having a population-based access standard for entire ratings areas (e.g. percent of rural beneficiaries) resulted in a policy that potentially excludes broad rural areas, which could threaten access to MA/PD and Part D plans for rural Medicare beneficiaries.

## Telemedicine serving emergency rooms, Conditions of Participation (CoP) for CAHs, 2013?

Telemedicine policy has been designed to expand access to specialty care services for rural populations, including emergency medicine services. Confusion and misconceptions about CAH CoP and Emergency Medical Treatment and Labor Act (EMTALA) requirements created barriers to using telemedicine for emergency services in rural places. Prior to 2013, CMS required that medical doctors (MDs), doctors of osteopathy (DOs), PAs, NPs, or CNSs with training and experience in emergency care had to be immediately available by telephone or radio, and available on-site within 30 minutes (60 minutes for some hospitals in frontier areas). However, advances in facility-to-facility use of telemedicine create the possibility that a board-certified emergency medicine physician could be available to consult (virtually) on-site in a matter of minutes. Therefore, requirement that an MD or DO must be immediately available by telephone or radio contact 24/7 to receive emergency calls, provide information on treatment of emergency patients, and refer patients could be met through the use of telemedicine. Yet CAH CoP precluded use of telemedicine to provide emergency physician coverage until a 2013 CMS Memorandum stating that the physician on-site availability requirement could be met using telemedicine.<sup>23</sup>

Bottom line: Confusion regarding CAH CoP, EMTALA requirements, and the specification of on-site emergency response personnel has the unintended consequence of delaying telemedicine use in rural places, thereby limiting access to care.

#### Framework for Analysis of Policy Impact on Rural Populations and Places

Understanding unintended consequences is a critical task of policy analysis. Rather than weighing in after a policy has already been designed, however, we advocate a more proactive approach. Based on an understanding of how past policies have resulted in unintended consequences for rural stakeholders in terms of access, affordability, quality, and other important dimensions of care, we can improve our ability to predict the effects of policy change before widespread implementation, at the stage of policy discussion and design, so that adverse consequences may be identified and mitigated. The following section outlines a framework for assessing the impact of health polices prior to implementation.

Weighing policies for their rural-specific impact or with rural contexts in mind, called "rural-proofing," is gaining traction as an effective exercise when integrated into the policy development and implementation process. <sup>24</sup> Rural-proofing guidelines, moreover, have been developed and utilized in other countries' policy processes for years. <sup>25,26</sup> The framework we propose to use to analyze consequences of health policy changes on rural communities is an adapted version of the United Kingdom's rural-proofing guidance from the Department for Environment, Food & Rural Affairs (UK guidance). <sup>26</sup> For our purposes, the guidance is narrowed to focus specifically on health policy rather than all public policy.

The UK guidance is also modified to frame rural-proofing within the context of how policy changes might affect the five pillars of a high-performance rural health system; that is, how the policy might alter, directly or indirectly, health care that is *affordable*, *accessible*, *high quality*, *patient-centered*, and *community focused*.<sup>27</sup> How these fundamental dimensions of a rural health system are made better or worse by policy changes have, in turn, broad consequences for whether rural residents experience disparities in equity, access, cost, and quality of care relative to those living in non-rural areas.

Figure 1 illustrates three stages of the framework. The first stage is an initial assessment of whether a health policy change will have an impact on rural areas, and whether the impact might be different from urban or suburban areas. In this stage, the health policy proposal and its motivation are described, and the scale of the direct or indirect impacts on rural areas is explored

using available evidence. For example, a policy proposal that affects swing beds in rural CAHs has different scale implications than a policy proposal that affects all types of hospitals.

The second stage of the framework is to apply a set of key questions to evaluate how specific changes might impact rural stakeholders. Impacts on rural stakeholders are assessed using the high-performance rural health system pillars as "yardsticks." The matrix format of questions weighing rural considerations are presented in Appendix 1. These questions should be considered for rural communities that vary along key policy-relevant dimensions of the rural continuum, such as remoteness or population density.

Stage three of the framework explores approaches that remedy, mitigate, or optimize policy given how different communities or populations on the rural continuum are predicted to be affected. Finally, any changes to policy proposals should be reevaluated for any new unforeseen consequences.

**Figure 1. Stages of the Rural Proofing Framework** 

Stage 1	<ul><li>Will the policy have an impact on rural populations and/or places?</li><li>Could the rural impact be different from the urban/suburban impact?</li><li>What is the scale of the rural impact?</li></ul>
Stage 2	<ul> <li>How might the policy change affect rural stakeholders?</li> <li>How might the policy change affect the rural health system pillars?</li> <li>How might the policy change have different effects along the rural continuum?</li> </ul>
Stage 3	<ul> <li>What approaches could be used to mitigate adverse policy effects?</li> <li>Do new policy remedies have other consequences?</li> </ul>

Adapted from the Department for Environment Food & Rural Affairs  $^{26}$ 

#### **Conclusion**

Because of the complexity of the U.S. health care system, thoughtfully designed health policies carry a risk of having unintended consequences, particularly for health systems in rural places that have place-based fundamentals that deviate substantially from urban and suburban areas. Policies developed without consideration of rural contexts are likely to create unanticipated and negative consequences for rural residents, providers, and communities.

When health policies are being developed, a number of themes that emerge are useful to keep in mind. Specifically, how will this policy impact the ability of a rural health system to offer essential, affordable, and high-quality services to rural populations? How might this policy result in disparate outcomes and widen health inequities, such as threatening access, slowing quality improvement, or creating financial barriers to obtaining health insurance or buying health care services?

The rural-proofing framework presented in this paper is a policy analysis tool for thinking about what the unintended consequences of a policy may be on rural populations and places vis-à-vis the objectives of a high-performance rural health system. Policy analysis must be applied to all sources of authoritative actions given that policies are produced not just in the legislative context, but also through judicial, administrative, and rulemaking actions.

**Appendix 1. Rural Considerations** 

			PILLARS OF THE HIGH-PERFORMING RURAL HEALTH SYSTEM					
			Affordability	Accessibility	High-Quality Care	Patient-Centeredness	Community Health	
RURAL STAKEHOLDERS	Residents	Individuals	Does the policy change directly or indirectly affect health care costs for rural residents? Does it lead to greater equity or inequity among residents?	Does the policy change enhance or diminish access to service providers? Does it enhance or diminish care integration and coordination?	Does the policy change enhance health care quality, directly or indirectly? Does it improve or diminish quality information and transparency?	Does the policy change affect patient experience of care? Does the policy change affect care that is culturally competent?	Does the policy change affect community capacity available to rural residents, directly or indirectly?	
	Health Care Service Providers	Providers	Does the policy change affect coverage or affordability of services? Does the policy change affect reimbursement or payment policy? Does the	Does the policy change affect the number of local providers, directly or indirectly? Does the policy change affect the ability of providers to deliver services, locally or remotely?	Does the policy change enhance the quality of health care delivered, directly or indirectly? Does the policy change affect quality metrics in payment systems? Does the policy change affect care delivery across the continuum?	Does the policy change affect the ability of providers to deliver care that is coordinated, comprehensive, and/or reflects patient preferences?	Does the policy change facilitate or hinder population-level approaches to health? Does it affect access to prevention, within-sector collaboration, or cross-sector collaboration?	
		Hospitals	policy change affect administrative costs?					
	Payers	Employers	Does the policy change affect how rural employers respond to health insurance provision for employees?	Does the policy change affect payers through network requirements of health plans offered?	Does the policy change affect quality standards or information transparency that would affect how payers select providers or health plans?	Does the policy change affect the type of services, how or where they are delivered, that affect patient-responsiveness, patient-preference, and appropriate care?	Does the policy change affect access to community-based services for covered employees/beneficiaries/self- insured? For the uninsured?	
		Public (Medicare, Medicaid)	Does the policy change affect coverage or out-of-pocket expenses for the publicly insured?					
		Individuals (self-insured)	Does the policy change affect ability of individuals to buy affordable health insurance?					
	Health Plans	Public Insurers	Does the policy change affect which or how beneficiaries are covered? Does the policy change affect plan design?	Does the policy change affect health plan availability to rural residents? Does the policy change affect network standards in plans?	Does the policy change help or hinder health plans' ability to evaluate quality of providers? Does the policy change affect how health plans are judged on quality or the transparency of quality of health plans?	Does the policy change affect health plan providers' plan design by either hindering or helping patient-centered care delivery?	Does the policy change affect health plans through requirements of preventive services? Through inclusiveness of community providers in network adequacy standards?	
		Private Insurers	Does the policy change affect affordability of health plans in rural places?					
		Health Insurance Exchanges	Does the policy change affect affordability of plans on State or Federal health insurance markets?					
	Community	Public Health Social or Human Services Agencies Behavioral Health Organizations	Does the policy change affect affordability of services provided by community organizations?	Does the policy change affect access to or availability of services provided by community organizations?	Does the policy change affect the quality of care, quality of measures, or transparency of quality information for community health organizations?	Does the policy change help or hinder linkage between community organizations and health care service providers? Directly or indirectly?	Does the policy change affect community health organizations' ability to participate in population-level initiatives or programs?	

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