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Care Across the Continuum:
Access to Health Care Services in Rural America

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DRAFT

Keith J. Mueller, Ph.D.
A. Clinton MacKinney, M.D., M.S.

UNIVERSITY OF
Nebraska
Medical Center

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RUPRI Center for Rural Health Policy Analysis
University of Nebraska Medical Center
984350 Nebraska Medical Center
Omaha, NE 68198-4350
Phone: (402) 559-5260
Fax: (402) 559-7259
www.rupri.org/healthpolicy

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ABSTRACT

This paper proposes that a continuum of care serve as the framework with which to consider rural health care policies. The continuum focuses on *people*, and on *places* where people live. Based on criteria and values affirmed by the Institute of Medicine and on the definition of primary care, the paper establishes five principles that underpin the continuum of care and sound health care policy:

- Health of the individual is paramount.
- Health is an individual's capacity to pursue aspirations and happiness, unfettered by disease or disability.
- All individuals must have comparable opportunities to obtain services needed to assure good health.
- Local resource capacities to deliver healthcare services must be considered.
- Public policy should facilitate an individual's understanding and navigation of the continuum of care.

The continuum of care describes the breadth of health care services in seven stages—from personal behavior to palliative care. Although the model suggests that individuals travel the continuum in a linear progression from one stage to the next, individuals actually access the continuum at different stages and move back and forth between stages. Nonetheless, the continuum provides health care system planners and policymakers a rubric that focuses on the needs of rural people and places, rather than the wants of providers and constituencies. Furthermore, the framework helps establish which health care services should be provided locally and which healthcare services should be provided at a distance, emphasizing seamless linkages between all stages of the continuum. Therefore, consideration of the care continuum will help ensure that rural people have reasonable access to all necessary healthcare services.

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Despite previous literature describing a continuum of care, a fresh look at the construct is warranted. Disease management, an increasingly favored methodology for coordinating patient care and thereby using resources more effectively, is built upon the idea of integrating services across a continuum. Debates about reforming Medicare and other insurance programs include discussions of tradeoffs between various services. These practices and policy debates are taking place in an environment influenced by recent reports by the Institute of Medicine (IOM) promoting patient-centered quality improvement in delivery systems. The renewed emphasis on quality and appropriateness of care has special meaning in a rural context because not all services will be offered locally. Understanding the continuum of care in the rural context and developing plans and policies to promote an interface of care and patient that is seamless, transparent, and effective requires a fresh conceptualization of the continuum with the rural context in mind. This paper proposes a continuum of care that can be used as a framework with which to assess public and private policies designed to assure that rural residents receive **appropriate health care services, in a timely manner, and in a place that optimizes care effectiveness.** The proposed continuum focuses on *people* and on the *places* where people live.

While a continuum of care implies services neatly organized in a progression from the most basic to the most complex, the reality is that individuals will need services of varying intensity at different, even random, times. Therefore, a “people first” approach is inherently fluid. The focus on *place* in the framework recognizes the variability of resources available in specific places, but a concomitant focus on *people* demands consideration of services provided to people, even if the delivery and/or management of services is not local. A continuum of care is not a new concept but one often overlooked in policy debates that focus on health care institutions (hospitals, skilled nursing facilities, home health agencies, etc.), health care providers (primary care physicians, dentists, nurses, psychiatrists, etc.), or types of care (emergency care, inpatient hospital care, home health, etc.). The proposed continuum implies appropriate *modalities* for delivering services, including specifying which services should be delivered locally. Ultimately, this continuum will be used as a framework to assess the success both of individual policy choices and of all policies combined in meeting the needs of rural residents.

In the first section of this paper, basic principles will be specified that determine what is included in the continuum and how success in providing services in a rural context is judged. In the second section, the health systems research literature will be used to define the continuum and its basic stages. In the third section, applications of the continuum in published studies will be summarized. In the fourth section, the continuum will be applied as a framework to assess rural health policy contributions to the health of rural residents. The paper will conclude with suggested applications for the framework.

Principles that Determine the Framework

The building blocks for a framework that meets the objectives of appropriate, timely, and effective services can be found in two documents published by the IOM. The IOM’s Committee on Quality of Health Care in America (2001) developed six aims for health care, that it be safe, effective (based on scientific knowledge), patient-centered, timely (reducing waste and harmful delays), efficient, and equitable. The IOM then suggested several specific rules that should

govern how health care processes are developed, which include the following:

- Care is based on continuous healing relationships (care when needed and in many forms).
- Customization is based on patient needs and values (capable of responding to individual patient choices and preferences).
- The patient is the source of control (given necessary information and opportunity to exercise the degree of control they choose).
- Shared knowledge and the free flow of information exist among patients and providers, including personal medical information and clinical knowledge.
- The health system should anticipate patient needs.
- Clinicians and institutions should collaborate and communicate to coordinate care (IOM 2001, pp. 8-9).

A related perspective regarding an effective delivery system is found in the following definition of primary care developed by the IOM Committee on the Future of Primary Care: “Primary care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community” (Donaldson et al. 1996, p. 32). Several specific elements of this primary care definition should guide systems designed to serve rural residents across the continuum of care:

- Care is comprehensive—any health problem at any stage in life is addressed.
- Care is coordinated—a combination of health services and information is provided and ordered rationally.
- Care is continuous—a team of providers provides care across time.
- Care is accessible—patients can initiate an interaction for any health problem, overcoming any barriers such as geography, financing, and culture (Donaldson et al. 1996, p. 32).

Based on criteria and values affirmed by the IOM and the definition of primary care, we derive five principles to guide health care policy and planning. Importantly, the health care needs of *people in places* are the foundation for all five principles.

Principle 1: Health of the individual is paramount.

This principle encompasses the IOM’s aim of patient-centered care and its rule that care must be customized to patient needs and values. Recognizing that a “natural state” may not be perfect health, there is ample room for policy development to improve opportunities for optimum health. Although the ultimate goal of health policy remains individual health, an exclusively individual health emphasis is insufficient. Thus, we recognize a blend of population and individual health emphases is critical to reach all individuals with health care services. Particular groups, such as persons living in sparsely populated remote rural areas, might require special policy considerations that affect all the individual members of that group. Designing policies with groups as foci might be a more efficient and effective means of implementing the principle of improved individual health.

A utilitarian dimension is added to this principle; that is, creating opportunities for the greatest number of persons possible is the overall objective of any policy. What begins as a principle

focused on individuals becomes a principle focused on groups. Groups are often characterized by place of residence. However, groups also may be characterized by non-geographic identities, such as shared health conditions or common group characteristics (e.g., ethnic or cultural backgrounds). Yet even if certain groups are not aggregated geographically, health care service for that group may still need to be placed such that the service reaches the maximum number of individuals, especially if the service quality is a function of volume. Thus, policy decisions regarding groups are based on considerations of improving the health of populations, and on the viability (service volume and economic) of the providers of the services.

Health care provider financial status is important only as a means to the end of improved individual and population health. Therefore, financial stability of local providers may be important if those providers provide an essential service in a place to satisfy health care needs. For example, individual health in a small community requires that emergency responders with basic training reach individuals quickly. Subsidized emergency services in sparsely populated areas (volunteer responders is a form of subsidy) may be required. However, in this example, the starting point of the discussion is the health of the community members, not the financial stability of a particular emergency medical service.

Principle 2: Health is an individual's capacity to pursue aspirations and happiness, unfettered by disease or disability.

This principle encompasses the IOM's aims of patient-centered and effective care and its rules for customization of care and that care is based on continuous healing relationships. This principle requires that the health system anticipate patient needs. A state of good health can be interrupted by episodes of illness, requiring a system that can respond effectively to those episodes, regardless of where they may be on a theoretical continuum. The ability to pursue aspirations means that an individual will be able to cope with chronic conditions in such a way that personal goals can still be achieved, which requires a delivery system that provides continuous care for chronic conditions. A sociological perspective helps to understand this principle. People have roles in society, the loss of which can be devastating (Cassell 1997). This principle argues that health care services should help people maintain their roles despite illness or injury. Health care services should also help people redefine their roles if illness or injury limits their capacity to perform the role they fulfilled before illness or injury. In either case, a patient-centered, comprehensive approach to developing a health care system argues for a functional approach based on the needs of the individual. Further, this principle requires that the continuum incorporate multiple dimensions of health care—mental health, physical health, social health, oral health, and spiritual health.

Principle 3: All individuals must have comparable opportunities to obtain services needed to assure good health.

This principle encompasses the IOM's aim that care be equitable and its rules that the patient is the source of control and that clinicians and institutions should collaborate and communicate to coordinate care. This principle also encompasses the primary care element of accessibility. This principle requires that rural health advocates look beyond arguments for local services, to access to distant services, and then connections back to services offered locally. Treatment of cancer as an episode of illness, for example, may require coordinating cancer treatment center visits, home

treatment monitored with telecommunications equipment, and local counseling. This principle also requires policy that supports seamlessly coordinated services delivered by different providers at different stages on the continuum of care. Consequently, rural residents should be able to access services comparable to those accessible in an urban environment. As a specific example, this principle supports the need for advanced telecommunications so rural residents can obtain the same level of continuous service (such as home health monitoring and education) available to urban residents.

Principle 4: Local resource capacities to deliver health care services must be considered.

This principle encompasses the IOM's aim of timely health care and its rule of customizable health care. Perhaps most important, this principle also encompasses the primary care element that care be accessible. Appropriate services are accessed in the most timely and convenient manner possible. Services required frequently, such as health maintenance and acute primary care should be provided locally. Services required infrequently, or those that require extensive resources, should be provided in central locations that can support the necessary resources. Thus, the continuum of care determines the location of a specific service. Additionally, the continuum of care determines necessary connections and coordination opportunities. For example, a surgical service may be delivered at a distance, but associated pre-surgical preparation and monitoring and post-surgical rehabilitation may be delivered locally. The continuum of care defines necessary provider communication, collaboration, and coordination for a surgical episode of care.

Principle 5: Public policy should facilitate an individual's understanding and navigation of the continuum of care.

This principle encompasses the IOM's aim of patient-centered care and its rules that the patient be the source of control and that knowledge be shared via a free flow of information. For example, in the debates that are raging in 2003 about the cost of prescription drugs and the creation of a prescription drug benefit in the Medicare program, patients should be helped to understand the impact of prescriptions drugs on health and other health care service needs along the care continuum. For rural residents with illnesses requiring concurrent care by two or more providers, assistance would be offered regarding how to use distant specialist services in concert with local provider services. Furthermore, this principle requires health care providers, and the systems in which they work, to develop and implement culturally sensitive processes.

Summary

These five principles should guide the application of public policy to the continuum of care described in the next section. The principles also serve to combine multiple policy proposals for health care delivery system improvement into a concise roadmap designed to enhance the health of rural people and places.

Stages of the Continuum

The concept of a continuum implies an ordered sequence of health care services, from basic to complex. As an individual enters or travels the continuum, the overarching goal is optimal health. However, at the individual's discretion, the individual *may or may not* select services to achieve that goal. For example, when considering a complex surgery, the individual may decide that the

risk associated with the surgery is not worth the potential marginal gain. Thus, the state of optimal health is defined by *not* moving along the continuum. Although a continuum implies a linear model, in which a person moves smoothly along in a single direction, that application rarely occurs. As was argued in the discussion of principles, episodes of illness or injury occur that demand services at points other than the beginning of the continuum. Even when considering the same illness, various stages of the continuum are engaged at different times, and not in a fixed order. Acknowledging that reality, a linear model is still useful to develop health policies that match local resource capacity, proximate service need, and population health need. Seven stages in the continuum are described. The service demand for each stage is considered in terms of timeliness, place, and provider. While the presentation here focuses on one discrete stage at a time, the reality is that multiple stages may be operative for a single individual at any point in time. Further, describing the continuum in terms of stages does not imply each stage is defined by start and finish boundaries. Instead, boundaries should be seamless.

***Stage 1
Personal
Behavior***

At its most basic level, the continuum starts before any direct clinical services are involved. Personal habits and behavior are initial elements of the continuum, generally independent of any interaction with health care providers. However, clinical providers and departments of public health could impact the continuum at this stage by developing sources of information for residents (including computer web sites), providing educational sessions, and offering self-help opportunities. This stage is *pre-illness*. Attention is focused on maintaining good health (a relative term that includes a desired lifestyle when living with a chronic illness).

Stage 1 Timeliness Considerations: Information should be available on demand when persons become interested in modifying personal behavior. Information that is more detailed should be available as individuals decide to modify behavior.

Stage 1 Place Considerations: Information should be easily and locally accessed via multiple media including electronic, paper, audiovisual, and professional counseling

Stage 1 Provider Considerations: Public health services should be available locally via public health departments, clinics, hospitals, and/or advocacy groups.

<i>Stage 1 Personal Behavior</i>	<i>Stage 2 Emergency & Primary Care</i>
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The first interaction with the traditional medical care system along the continuum occurs either because of an emergency, because an individual determines a clinical intervention might be necessary, or because an individual desires preventive health care or health maintenance. At this stage in the continuum, the delivery system provides a combination of emergency services and primary care. In stages of illness, this stage of the continuum parallels *emergent illness*, and over time, *chronic illness*. For example, the onset of asthma in a three-year old is likely to present

either in a primary care visit or in an emergency room visit. If the asthma is severe, other stages in the continuum will be engaged, but for ongoing maintenance and monitoring, the child is likely to return to primary care.

Emergency care includes emergency medical services (EMS) at the site of an emergency (physical or mental), stabilization on site, communications between providers at the site and providers in a hospital or other site, transportation to a hospital or other site, and immediate treatment at that site (Yawn 1994). Thus, this stage of the continuum represents a convergence of differently trained health professionals (for example, basic emergency medical technicians and trauma surgeons), the individual and companions (who will respond to the emergency before a professional arrives at the scene), and a system outside of traditional clinical services delivery (transportation system). It is a convergence of services optimally provided locally and at a distance. To ensure timeliness, EMS must be local. To maintain skills, advanced trauma surgeon placement requires higher patient volumes offered by population centers.

For non-emergency situations, primary care is often the first contact individuals have with the medical care delivery system. Starfield (1992) states that primary care “deals with more common and less well-defined problems, generally in community settings such as offices, health centers, schools, or homes. Patients have direct access to an appropriate source of care, which continues over time for a variety of problems and includes needs for preventive services.” (p. 4)

The structural elements of primary care are first contact care (implies accessibility), longitudinality (implies regular source of care over time), comprehensiveness (implies arranging for all types of health care services), and coordination (implies ability to integrate care across the continuum for any given episode) (Starfield 1992). Primary care is often thought of as a “basic” level of care, whose practitioners will interact with specialists to assure comprehensiveness. However, the knowledge and skills needed to care for a diverse population (in age, gender, and race/ethnicity), and to respond to a wide variety of conditions presented on first contact, requires extensive training in family medicine, a medical specialty embracing the breadth of clinical knowledge. (For clarity, we will present other physicians as *other specialties* and *subspecialties* to differentiate from primary care specialists.) Non-physicians, most often physician assistants and nurse practitioners, also regularly provide primary care. The provision of comprehensive services in a single setting may also include oral and mental health services, as is provided in many Community Health Centers. In summary, primary care includes first contact, longitudinal, comprehensive, and coordinated health care.

Stage 2 Timeliness Considerations: Emergency services needed to stabilize health following an injury or onset of a life-threatening event must be provided as quickly as possible. Other services that are considered part of the emergency care system, including those provided in advanced trauma centers, may be briefly delayed. Primary care services should be available early in the onset of any illness or injury.

Stage 2 Place Considerations: The services in this stage are essential to individual optimization of health. Therefore they must be offered as conveniently as possible to the person needing (demanding) those services. For emergency services, this could be optimized as time rather than

distance, although the two are obviously related. For primary care services, including oral and mental health services, distance is an important consideration. The service must be convenient if it is to be effective.

Stage 2 Provider Considerations: A concept of levels of care can help guide decisions about appropriate providers for Stage 2 of the continuum. Emergency services needed at the scene of the emergency may be provided initially by emergency medical technicians trained in skills needed to stabilize and transport patients. Initial hospital-based trauma care requires more advanced clinical training and is usually provided by primary care and emergency care physicians. Telecommunications can be helpful in emergency services by linking providers at the scene and in the first facility of treatment to specialists in trauma centers or providers in mental health crisis centers. However, a more widespread dispersion of emergency medicine physicians could improve emergency care services. Routine rural primary care is most often provided by family physicians. Additionally, access to primary care is augmented by nurse practitioners and physician assistants, working independently or under the supervision of physicians.

<i>Stage 1</i>	<i>Stage 2</i>	<i>Stage 3</i>
<i>Personal</i>	<i>Emergency</i>	<i>Routine</i>
<i>Behavior</i>	<i>& Primary</i>	<i>Specialty</i>
	<i>Care</i>	<i>Care</i>

The next stage on the continuum focuses on particular health conditions that require a different type of professional whose specialty is disease-related or organ-related, rather than population-related (as in the case of family medicine). This stage need not include advanced procedures that require inpatient care in a tertiary care hospital or mental health treatment center. A variety of diagnostic services and a variety of treatments prescribed by different subspecialists are included in this stage of the continuum. There are overlaps and gaps everywhere on the continuum, but they are obvious between Stage 2 (primary care that involves routine visits to a primary care provider) and Stage 3 (routine visits to a subspecialists to manage a chronic condition). The distinction between the two stages is based on *who is providing what type of routine care*. Furthermore, primary care providers and subspecialists are often involved in the care of the same patient, sometimes for the same condition. The close similarity in the two types of services is evident in the settings in which they are typically provided—primary care in physician offices or clinics, and other specialized care in specialist provider clinics (Shi & Singh 2001). Often, the two settings are the same, offered on a continuous basis in the same building in separate patient rooms, or in the same patient rooms on a rotating basis, such as when a primary care clinic in a rural community makes space available for a periodic specialty clinic.

The interaction between primary care providers and other specialists is not always smooth and transparent to the patient. One of the challenges inherent in a continuum of care is to maintain comprehensive and coordinated care in spite of multiple provider involvement. When coordination does not occur, there are gaps in the system. For example, if a referral from a primary care provider to a different specialist is not accompanied by the appropriate patient record, the same information may be solicited multiple times. An IOM rule mandates shared knowledge and free flow of information. When multiple providers are involved in patient care, but are not communicating with each other directly or through the patient, quality of care suffers.

A dramatic and potentially lethal example occurs when a medication is administered to a patient who is allergic to that medication, the result of the patient's allergy history never being communicated to the new physician. A critical difference between Stages 2 and 3 of the continuum, and the reason for a special relevance to rural places, is the demand for specialist services arising from a particular population subgroup. Three questions are important to consider at this stage in the continuum. First, what aggregation of individuals requires a particular specialist, and how much is that group congregated in any particular rural area? Second, what resources are needed to support the specialist services, and can all rural areas support those resources? Third, what are the means of communication and linkage between local rural providers and more distant specialists, and between the rural patient and the urban specialist? The answers to these questions are likely to change over time for a variety of reasons. The prevalence of some chronic conditions may change, generating more demand in rural areas, sufficient to attract specialists to the area, either on a rotating basis or on permanent location. Capacity for communications is changing rapidly, even allowing some diagnosis and treatment to be completed without bringing the patient and specialist together in the same location.

Two examples will illustrate the differences between Stages 2 and 3. In the first example, a primary care provider might suspect a cancer diagnosis based on a test result and patient history. The primary care provider refers the patient to an oncologist, who then assumes responsibility for follow-up patient care related to the cancer. The follow-up visits to the oncologist are routine care for the cancer, but the primary care provider continues delivering routine care unrelated to the cancer. In the second example, a primary care provider evaluates a patient with symptoms of nasal allergies and determines that specialized treatment is needed. The primary care provider refers the patient to an allergist, who prescribes a desensitization program. In this case, the primary care provider delivers the desensitization injections under the direction of the allergist.

Stage 3 Timeliness Considerations: While immediate in-person contact is generally not necessary for specialty care, easy access to information is necessary. Consistent with care being comprehensive, coordinated, and timely (reducing waste and harmful delays), mechanisms should be in place to facilitate rapid communication among the patient and providers, and among providers.

Stage 3 Place Considerations: Assuming issues of timeliness are resolved by communication systems that take advantage of modern technology (including the use of telemedicine), there are no compelling needs to have all specialists located in proximity to patients. The optimum placement of specialists can be driven by market considerations and volumes necessary to maintain skills and income.

Stage 3 Provider Considerations: Although routine specialty care is most often provided by non-primary care specialists, primary care physicians provide important management of chronic disease, such as diabetes and congestive heart failure, especially in rural areas where other specialists are less accessible. New disease management models, supported by information technology and improved coordination with disease-specific specialists, will improve the rural physician's capacity to manage chronic disease in Stage 3 of the continuum.

<i>Stage 1</i>	<i>Stage 2</i>	<i>Stage 3</i>	<i>Stage 4</i>
<i>Personal</i>	<i>Emergency</i>	<i>Routine</i>	<i>Inpatient</i>
<i>Behavior</i>	<i>& Primary</i>	<i>Specialty</i>	<i>Care</i>
	<i>Care</i>	<i>Care</i>	

When the needs of a patient cannot be met with clinic visits to primary or other specialty care providers, the stage of service moves to inpatient care. The full range of inpatient care is included in this stage, from short stay hospitalization in a primary care hospital to an extended stay in a tertiary care facility. Some of the services historically considered inpatient, such as minor surgery, have moved to an outpatient environment, often within the same facility. These outpatient services are considered the equivalent of inpatient services in this discussion. Stage 4 includes long-term acute care hospitals with lengths of stay averaging 25 days or longer (Zuckerman and Johnson 2001). It includes other institutional care that responds to episodes of illness, such as mental health facilities and short stays in skilled nursing facilities. Services provided by institutional providers are included in this phase of the continuum, including inpatient prescription drugs, x-rays, and other diagnostic testing. These same services, under other circumstances, may also be provided by clinics as part of care in Stages 2 or 3 of the continuum. The illness stage parallel to this stage of the continuum is *acute illness*.

Stage 4 is time limited. That is, treatment in an acute care facility has a defined beginning and a defined end. Unlike care that might be continuous in Stages 2 and 3, acute care in Stage 4 is a fixed period, often part of a protracted illness or episode of care. For example, radical mastectomy is a procedure requiring an acute care facility and associated clinical personnel, but the longer-term treatment of breast cancer will both precede and follow that acute inpatient stay. The inter-related stages of the continuum become clear when an acute care facility stay is considered in the context of what transpires before and after that stay. This has particular meaning for rural health care delivery. An illness requiring hospitalization in an urban tertiary care facility need not imply that all care associated with that episode of illness must occur in an urban setting.

Stage 4 Timeliness Considerations: Hospitalizations can be characterized as emergent, urgent, or elective. The timeliness of each category is inherent in the label.

Stage 4 Place Considerations: Ideally, inpatient hospital care is easily accessible if the need is emergent or urgent. Quality of care considerations should drive decisions regarding location and availability of hospital services. Quality of care encompasses service delivery timeliness, clinician skill (often a function of service volumes), and availability of a social support network.

Stage 4 Provider Considerations: Physicians generally provide inpatient care. Depending on the clinical situation and the physician skill level, care may be provided by primary care physicians, specialty physicians, or both. For example, a surgeon manages the amputation of a diabetic's foot, and a family physician concurrently manages the variation in a diabetic's blood sugar.

<i>Stage 1</i>	<i>Stage 2</i>	<i>Stage 3</i>	<i>Stage 4</i>	<i>Stage 5</i>
<i>Personal</i>	<i>Emergency</i>	<i>Routine</i>	<i>Inpatient</i>	<i>Rehabilitative</i>
<i>Behavior</i>	<i>& Primary</i>	<i>Specialty</i>	<i>Care</i>	<i>Services</i>
	<i>Care</i>	<i>Care</i>		

Rehabilitative services often follow acute care services. Rehabilitative care examples include physical therapy following knee replacement, speech therapy following stroke, or nutrition therapy following protracted cancer treatment. These services may be provided in facilities such as hospitals and long-term care facilities, in specialized facilities such as outpatient rehabilitation centers and physical therapy clinics, or in the patient’s home (Shi and Singh 2001). Stage 5 services need not occur in the same community as the hospital that provided acute care services. The transition from Stage 3 (routine care), to Stage 4 (acute care) to Stage 5 (rehabilitative services), demonstrates that a rural delivery system is not an isolated care system, but instead tightly connected to urban delivery sites, and vice versa. When system design focuses on the patient, patient access to appropriate services becomes most important, not service location.

Patients often transition from community-based care, to facility-based acute care, and back to community-based care (Aikman et al. 1998). In a single episode of illness, an individual may experience these stages in a linear sequence, along a clinical pathway (Aikman et al. 1998). On the other hand, an individual may enter the continuum at the second stage (emergency services) and transition next to the Stage 4 (acute care), bypassing routine specialty care in Stage 3. Thus, while the continuum’s stages may be viewed linearly in a clinical pathway, the stages merely describe interactions with the health care delivery system with varying entry points and sequences.

Stage 5 Timeliness Considerations: Rehabilitative services should be available but do not require immediate access to ensure desired clinical outcomes. However, prolonged delays may hinder the rehabilitative process.

Stage 5 Place Considerations: Since the goal of rehabilitation services is to return the patient to independent living, a proximate social support system is desirable. Rehabilitative services should be convenient to both the patient and the patient’s social support system. Lengthy travel reduces the likelihood of appropriate rehabilitative service utilization and consequently may increase the likelihood of disability.

Stage 5 Provider Considerations: Rehabilitative services require skilled therapists from multiple disciplines working in teams that include primary care providers. Communication and coordination between providers is essential for optimal outcomes.

<i>Stage 1</i>	<i>Stage 2</i>	<i>Stage 3</i>	<i>Stage 4</i>	<i>Stage 5</i>	<i>Stage 6</i>
<i>Personal</i>	<i>Emergency</i>	<i>Routine</i>	<i>Inpatient</i>	<i>Rehabilitative</i>	<i>Long-term</i>
<i>Behavior</i>	<i>& Primary</i>	<i>Specialty</i>	<i>Care</i>	<i>Services</i>	<i>Care</i>
	<i>Care</i>	<i>Care</i>			

Persons with limitations in activities of daily living or instrumental activities of daily living may need assistance for extended periods, often for the remainder of their lives. These services are provided in a wide variety of institutions from skilled nursing facilities to individuals' private homes. Institutions include Alzheimer's units, assisted-living facilities, domiciliary homes, foster care, and day-care centers. The services are considered *custodial*, implying maintenance care. However, many patients receive rehabilitative services while in long-term care with the intent of returning to more independent living.

Stage 6 Timeliness Considerations: Long-term care is generally not time-dependent except as a disposition option following hospital discharge.

Stage 6 Place Considerations: Proximity to social networks remains an essential concern for patients in Stage 6. Many patients leave hometowns of many decades to enter a long-term care facility that is proximate to grown children or other relatives. Thus, Stage 6 services generally should be available locally to appropriately engage established social networks.

Stage 6 Provider Considerations: Services are most often provided by non-physician staff at a long-term care facility under the direction of a family physician, general internist, or geriatrician. The degree of physician involvement will depend on the disease and disability burden.

<i>Stage 1</i>	<i>Stage 2</i>	<i>Stage 3</i>	<i>Stage 4</i>	<i>Stage 5</i>	<i>Stage 6</i>	<i>Stage 7</i>
<i>Personal</i>	<i>Emergency</i>	<i>Routine</i>	<i>Inpatient</i>	<i>Rehabilitative</i>	<i>Long-term</i>	<i>Palliative</i>
<i>Behavior</i>	<i>& Primary</i>	<i>Specialty</i>	<i>Care</i>	<i>Services</i>	<i>Care</i>	<i>Care</i>
	<i>Care</i>	<i>Care</i>				

The final stage in the continuum is palliative care—services appropriate at the end of life. Palliative services may be delivered in an institution such as a hospice unit or hospital, or they may be delivered in the home.

Stage 7 Timeliness Considerations: As in Stage 6, palliative services are generally not considered urgent or emergent, and thus are less time-dependent.

Stage 7 Place Considerations: The hospice goal is to make the dying process as comfortable as possible. Proximate family members greatly assist this charge. Therefore, palliative care must be available locally. Dying patients must not be expected to travel for services.

Stage 7 Provider Considerations: Palliative care is most often coordinated and delivered by a hospice nurse with supervision by a family physician, general internist, or geriatrician. Occasionally, oncologists assume this supervisory role.

Summary

The continuum of care described above is not original. Indeed, the continuum of care is a composite drawn from previously published descriptions of linear health care clusters, bands of services, and clinical pathways. The seven stages of the continuum are sometimes collapsed into broader categories, such as preventive, acute, and chronic services.

The seven stages of the continuum illustrate a logical continuum that may be accessed or traveled variably. Yet, a common foundation serves the entire continuum—care of the patient. This paper advocates that the individual remain the focus of any effort to define a set of rural health care services. Comprehensive health care strategies must consider *all* services on the continuum, even when service delivery does not occur in the local community. Current policies tend to exclusively address concerns of one provider or facility type. The result is a fragmented health care system that lacks coordination and communication and thus is extremely difficult for both rural patients and rural providers to navigate. Future payment and regulatory policies should create incentives consistent with comprehensive, coordinated services that center on patients. The result will be a comprehensive health care system that helps rural individuals access and travel an apparently seamless continuum of care with ease, control, and understanding.

Applications of the Continuum in Published Studies

The continuum of care can be used as a framework to structure decisions regarding how institutional organizations and patients interact. The institutions may be hospitals, other facilities, or organized health care systems. The framework may be used to build new care models that focus on patient needs across the continuum.

How Hospitals Use the Continuum

Hospitals should conduct patient care strategic planning within a continuum of care. Patients often transition from different providers to the hospital environment as inpatients or outpatients. In some instances, the other provider may be the hospital itself, such as patient admissions from the emergency room. Similarly, the transition out of the hospital may be to post-acute care within the facility, such as a swing-bed program. Clearly, the provision of acute inpatient care is but one stage of the continuum, and hospitals should incorporate that reality in their strategic thinking (Shortell, Gillies, and Devers, 1995). As the stages of the continuum surrounding inpatient care change, hospitals should redesign their roles in the pre-admission, acute care, and post-discharge phases of the continuum (Brunt et al. 1999).

The role of institutional providers such as hospitals is subject to change when the focus of other providers in the continuum changes. Since institutional providers, including acute care hospitals, psychiatric hospitals, and skilled nursing facilities, depend on others in the continuum for patient admissions, they need to manage patient services in a manner consistent with general trends affecting the entire continuum. For example, if a new model of patient-centered care focused on disease prevention/health promotion emerges, hospitals must shift from a central role in episodic care, to a role as team players in a system of holistic care.

The goal is to organize the entire continuum of care—from health promotion and disease prevention to primary and secondary acute care, tertiary care, long-term care, home health care, and hospice care—so as to maximize its effectiveness across episodes of illness and pathways of wellness. A premium is placed on integration and holistic care, not fragmentation and specialist care” (Shortell, Gillies, and Devers 1995, p. 136).

Changing roles in the continuum of care may require changes in management and personnel. For example, acute inpatient care is one stage in the continuum. However, as patients increasingly transition in and out of the inpatient stage, patient care coordinators and case managers become necessary (Brunt et al. 1999).

Hospital administrators and boards of directors may decide to redesign the hospital organizational structure and facility to participate actively in multiple stages of the continuum in addition to traditional inpatient and emergency services. This strategic direction may help hospitals maintain preeminence in the local health care delivery system and maintain a stable source of revenue. Hospitals can manage various stages in the continuum by

- Providing community health education
- Purchasing or starting primary care practices
- Owning home health agencies
- Owning and/or managing emergency medical services
- Owning attached skilled nursing units
- Maintaining swing beds (rural hospitals only) for skilled nursing care
- Operating an outpatient surgery unit
- Operating a business line for durable medical equipment
- Operating a separate hospice unit

For psychiatric patients, the National Association of Psychiatric Health Systems has defined several levels of care, most of which could be managed by hospitals: inpatient, residential, partial hospitalization, intensive outpatient, in-home care, halfway house, and outpatient (Lefkowitz 1995).

When the health care focus is more inclusive than acute inpatient and outpatient hospital care, or any other single point on the continuum, *true* systems of care can be envisioned: “It is the smooth functioning of the continuum of care that separates real health systems from loose alliances of providers. A well-coordinated continuum adds value to a system’s performance” (Lumsdon 1994, p. 28). However, rarely does one find a seamless care system designed to meet all patient needs throughout an episode of illness when that illness requires the participation of multiple providers along the continuum of care. Hospitals can, and perhaps should, work to build relationships that create a seamless continuum. Currently, the perception that hospitals often act as predators wishing to control other providers frequently thwarts efforts to develop seamless care (Lumsdon 1994).

Hospitals aspiring to evolve into organized delivery systems need to integrate services across the continuum of care. Doing so requires coordinating services delivered by non-hospital providers that interface with services delivered by the hospital. This task can be conceptualized as vertical integration—from a hospital’s perspective, moving “up and down” the care continuum from acute hospital inpatient care. Other stages might include tertiary subspecialty care, secondary specialty care, long-term care, rehabilitation services, primary care, and health promotion and disease prevention (Conrad 1993). Vertical integration requires strategic planning and operations in support of clinical care. “Parallel system-level integration of management, organizational support (for clinical and non-clinical services), strategy formulation, and governance are also required to attain effective vertical integration” (Conrad 1993, p. 492). Through integrated levels of care, a case manager can coordinate multiple providers and plans of care. Policy makers should recognize case management as a necessary component of health care delivery and thus reimburse case management as a distinct service.

How Providers Use the Continuum

Provider linkages on the continuum, without formal systems, can improve patient care coordination. Linkages between physician groups and hospitals (physician-hospital organizations, PHOs) were created in the early to mid 1990s, often in response to contracting opportunities with large employment-based groups or insurance plans. While vertical integration may be facilitated when one system owns all elements of the continuum, integration can be achieved with partnerships (Lifton 1996). The purpose for linkages is at least as important as the linkages themselves. If designed for purposes of contracting with employers or insurers to accept the financial risk for all patient care, the strongest possible control is needed along all points of the continuum. Control can be accomplished with contractual arrangements rather than ownership, provided those contracts specify both clinical and fiscal accountability (Shortell and Hull 1996).

How Health Care Systems and Communities Use the Continuum

The continuum of care can be used as a tool to assess adequacy of care for individual patients and for populations. For example, health care systems can be evaluated by the degree of care provided along the continuum with the following measures: (1) regularity of care (steady services over time with no sustained break, (2) continuation of treatment across boundaries (inpatient to various outpatient settings, and (3) provider consistency (same provider within a continuum stage) (Greenberg, Rosenheck, and Seibyl 2002).

The continuum of care can be used to organize community planning efforts designed to connect people to services along the continuum in a coordinated manner, even services not available in the community: “Continuum-of-care planning helps providers identify ways of coordinating and linking resources to avoid duplication and facilitate seamless movement among care settings” (Spath 2001, p. 189). Based on an inventory of what is available in the community, service gaps can be identified and strategies designed to fill them.

The continuum of care has applications that are more local as well. The model can be used by general community care managers and specific disease care managers. The community care manager will develop a comprehensive assessment of the client, link the client with the

appropriate community resources, and help transition the client when resources outside of the community are required (Quinn, Prybylo, and Pannone 1999). In short, the community manager helps clients navigate the health care system. Disease managers also use the continuum of care in developing their client services: “Continuity of care is the cornerstone of this type of system—through it all components are linked into an integrated whole, eliminating duplication of care and unnecessary practices and procedures” (Eichert, Wong, and Smith 1997). For the purposes of disease management, the phases of the continuum are labeled disease prevention, disease awareness/symptom recognition, diagnosis, therapy, compliance–self-management, outcomes measurement, reintegration/rehabilitation, and maintenance/recovery (Eichert, Wong, and Smith 1997). Alternatively, the continuum of care used specifically in care management can be visualized as cycles: wellness, prevention of illness, illness, disease management, and return to wellness (Ward and Rieve 1997). The activities of the care manager are specific to the cycle, such as outcomes tracking during the disease management phase. The effectiveness of any systematic application of the continuum of care should be that services are timely, appropriate, and convenient.

Application of the Principles and Stages to Disease Management

Some illustrations help to understand the application of the principles and stages of the continuum to disease management. While these case examples use the continuum, they do not utilize fully the model as presented in this paper. The problem of fragmentation of services at different points in the continuum of treating a specific condition was highlighted in the findings of a consensus conference focused on improving the continuum of care for patients with hip fracture in 2001 (National Consensus Conference 2002). That group identified particular problems in transferring information from one provider to another (acute-care setting to subacute rehabilitation, to skilled nursing facility) and ultimately to a patient’s primary provider. The consensus statement nearly completed consideration of the full continuum by recommending a new initiative in nutritional evaluation and fall assessment to determine factors contributing to the fracture. They did not consider all stages of care related to hip fracture, such as emergency services, nor did they consider the dynamic relationships of hip fracture to other health conditions, but their statements concerning the importance of appropriate discharge planning and communications among all health care providers are generalizable to other conditions.

Community and migrant health centers are participating in chronic disease collaboratives to better organize and deliver care to their patients. The elements of the collaborative model are very similar to the elements described by the IOM that are the basis for the continuum of care: organization of health care, community linkages, patient self-management, decision support, delivery system design, and clinical information design. Community and migrant health centers use a registry to monitor care and provide feedback to leaders of teams of providers as well as to the patients. Tracking results of care over time is a critical element of the collaborative model, keeping its focus on improving the quality of care (Wilson 2002). The theme of the importance of information technology is echoed in the research regarding the use of organized care management processes (CMP) by physician organizations. The research found the use of CMP to be low and recommended that incentives for improving health care quality be used and that assistance be provided to improve clinical information technology capability (Casalino et al. 2003). As argued in the early pages of this paper, the free flow of information is essential in an effective continuum of care.

Use of the Continuum as a Framework for Rural Health Policy

Patrice Spath (2001) discusses patient care planning using the continuum of care as a starting point for considering rural applications:

High-quality patient care is not merely health services provided over a defined time period, but rather a full and sustained continuum of care—promotion, prevention, interventions (minor to major)—leading to cure or maintenance at some level, regardless of an individual's age or condition. (p. 192)

Efforts to assure care across the continuum should focus on connecting patients to the services they need. The rural focus should be on services that can be realistically offered in the rural setting and on where those services fit on the continuum. A parallel focus should be on connecting local and distant services to rural patients as efficiently as possible.

Local Policy Development

A limited but important local planning strategy is to outline what services can be realistically delivered locally. Using a simplified categorization of the continuum as EMS, primary care, specialty care, and hospitalization, planners can determine appropriate levels of care for different size communities. The very smallest communities (fewer than 500 persons) should have first responders, EMS staffed by emergency medical technicians (EMTs), an intermittent mid-level provider, a part-time clinic for primary care, and referral for specialty care and hospitalization. Communities with 1,500 to 4,000 persons should have first responders, EMTs, a small primary care group practice, an on-site clinic for specialty care services, and a small community hospital (Elison 1986). Similar plans can be designed for progressively larger communities or service areas. Another strategy might be to design bands of care to be provided locally—services preventing death, disability, or serious illness (including EMS, essential public health services, and primary care); support services for that initial set of services (simple x-rays and laboratory tests); short-term inpatient and home health services; community-based care for chronic conditions; and other services, such as dental care and hospice care (Yawn 1994).

Rural Hospital Policy Development

Rural hospital planners can use the continuum of care as a framework for integrating the local hospital's services into the spectrum of care patients receive locally. For example, a home health agency associated with a hospital developed a special program to contact patients before admission to the hospital. A pre-hospital survey helped anticipate discharge needs based on identification of family and community support systems, description of the home environment, compilation of a brief medical history and physical status, and review of other pertinent data such as advance directives and insurance coverage. The collected information was combined with a critical pathway to assure prompt discharge to a favorable post-discharge environment (American Health Consultants 1996). A more expanded role for a rural hospital would be to provide care management directly. This would include direct delivery of primary care and networking with other providers to assure access to specialized services (Hicks and Bopp 1996). These services might be supported by a case manager. This expanded role would help the rural primary care hospital achieve excellence in four areas: (1) a full range of basic health care services in

prevention, treating common illnesses, and disabilities; (2) an entry, screening, and routing point for other personal health care services; (3) ongoing management and coordination of services; and (4) support and information for patients and families to assist in managing illness (Hicks and Bopp 1996).

Rural Provider Policy Development

Rural provider experience in using the continuum of care to enhance their abilities to deliver valuable services to their patients emphasizes the strengths of a rural system. A 1999 conference on rural long-term care articulated seven principles that are useful guideposts for a local, rural application of the care continuum. These principles are congruent with the IOM's aims and rules articulated previously.

- Community locus of control
- Nonlinear models of care
- Client-centered philosophy of care
- Family-centered decision making
- Access to information
- Cooperation among providers
- Redefinition of health professional roles (Beaulieu, Rowles, and Kuder 2001)

Rural providers may incorporate some or all of these principles. Efforts to develop integrated systems, or to use care management to guide patients along the continuum of care, will be most effective when these principles are incorporated in system planning.

An illustration of the comprehensive approach to developing and using a continuum of care to serve a patient population is the activity underway in Whatcom County, Washington, (Bellingham) by the St. Joseph Hospital and other providers in that region. In a special project funded by the Pursuing Perfection Initiative of the Robert Wood Johnson Foundation, the providers are developing a patient-centered system for care delivery that breaks down boundaries between stages of the continuum. The elements of the program include care organized by cross-continuum care teams that include patients, care coordination advanced through agreed-upon chronic disease protocols that are evidence-based, and health care information to support 24/7 clinical decision-making and patient self-management. A community-wide electronic medical record is used by everyone in the community (including the patient and family members), and a secured website provides email and access to critical aspects of the record, 24/7 (Patient powered, 2003).

Health care providers may preferentially locate in areas where an organized continuum of care maximizes appropriate provider services and minimizes provider services beyond clinical expertise levels. Payment policies can be developed to assure that physician and other professional services along that continuum remain accessible to rural residents. The continuum of care is a framework that can be used to improve rural health care delivery if the focus remains on the individual recipient of services.

Policy Implications

As in clinical medicine, the most important health care policy is, “first do no harm.” Health care payment policies can create perverse incentives that negatively impact health care providers and ultimately patients. For example, a small hospital that implements a program to deliver services at an appropriate place on the continuum of care may consequently reduce inpatient admissions, and fewer admissions generally disadvantage a hospital’s financial position. Licensing and certification can create artificial barriers that impede smooth transitions along the continuum. For example, a nurse practitioner without comprehensive prescription authority may refer patients to a physician more often than clinically necessary, interrupting appropriate continuity of care. As another example, state licensing regulations may preclude teleradiology interpretations across state lines, making trauma care more difficult for rural providers.

Proactive public policies should use payment incentives to promote patient-centered health care across a seamless and transparent continuum of care. Three examples illustrate this potential. (1) Critical Access Hospitals could be paid favorably (high marginal return) for outpatient services that reduce inpatient admissions. Examples include flu immunization clinics, home safety evaluations, and community health education. (2) Care management and disease management services could become a covered benefit by public and private insurance policies. For example, disease management programs could focus on both traditional and non-traditional health care services along the continuum that improve quality of life. (3) Finally, financial incentives could foster information technology development and implementation that facilitates information flow between multiple providers and between patients and providers.

The U. S. health care delivery system, and the public and private policies that influence it greatly, are not consonant with patient-centered health care delivered along a continuum of care. Due to generally less complex systems, more readily defined communities, and infrastructures based on relationships and communication, rural areas are excellent laboratories for policies that foster seamless and coordinated care along the entire care continuum, from personal behavior interventions to palliative care.

Conclusion

The care continuum describes the breadth of health care services in seven stages. Although the model suggests that individuals travel the continuum in a linear progression from one stage to the next, individuals actually access the continuum at different stages and move back and forth between stages. Nonetheless, the continuum provides health care system planners and policy makers a framework that focuses on individual and population health, rather than a specific provider or facility. Therefore, consideration of the care continuum will help ensure that rural people have reasonable access to all necessary health care services.

Five principles, concurrent with IOM aims and rules, provide health care system planners and policy makers further guidance: (1) health of the individual is paramount; (2) health is an individual’s capacity to pursue aspirations and happiness, unfettered by disease and disability; (3) all individuals must have comparable opportunities to obtain services needed to assure good health; (4) local resource capacities to deliver health care services must be considered; and (5)

public policy should facilitate an individual's understanding and navigation of the continuum of care. Above all, patient-centered care, contemplated within a care continuum rubric, must guide development of new rural health care systems and new rural health care policies.

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