

## University of Wisconsin Population Health Institute

### Introduction

*Thrive Rural* is an ambitious effort to create a shared framework and understanding about what it will take for communities and Native nations across the rural United States to be healthy places where everyone belongs, lives with dignity, and thrives. This field scan is a contribution to Thrive Rural, specifically intended to provide an understanding of the state of relevant health fields in the United States, namely public health and health care. It is a complement to the parallel scan of rural development field practice and trends, released simultaneously.<sup>1</sup> This scan aims to address the overarching question: What are the potential pathways of influence for public health and health care to foster more prosperous, equitable and sustainable communities across rural America?

Through an expedited systematic review, this scan draws from practice literature in the public health and health care fields on their current state and evolution, including literature that captures convenings and agenda-setting among field leaders. Key informant conversations were conducted with select field leaders in public health and health care to complement existing research and documentation. This scan begins with background on the fields of public health and health care, and an overview of prevailing theories and frameworks that guide practice in these fields. That leads to a synthesis of current field trends and change strategies across public health and health care, and the scan concludes with findings on drivers, or levers, for change that can influence trends and change strategies within and across fields.

### Key Definitions

- **Rural:** The National Center for Health Statistics (NCHS) defines a rural area as a county or county-equivalent with a population less than 50,000.<sup>2</sup> More specifically, “nonmetro” counties include a combination of “open countryside; rural towns (places with fewer than 2,500 people); and urban areas with populations ranging from 2,500 to 49,999 that are not part of larger labor market areas (metropolitan areas).”<sup>3</sup>
- **Public health system:** This includes public health governmental agencies and partners (hospitals, health care providers, nonprofit organizations, extension agents, volunteers).<sup>4</sup>
- **Public health paradigm:** This paradigm “employs a spectrum of interventions aimed at the environment, human behavior and lifestyle, and medical care” with a primary focus on populations and an emphasis on disease prevention and health promotion for communities.<sup>5</sup>
- **Health care sector:** In the U.S., this includes clinicians, hospitals, health care facilities, insurance plans and purchasers of health care services; in configurations of groups, networks and independent practices; can indicate public or private; includes regulators; and may be referred to as the “health care delivery system” or “health care system”<sup>6</sup> which can include contractually integrated organizations (e.g., accountable care organizations).<sup>7,8</sup>
- **Medical paradigm:** This paradigm “places predominant emphasis on medical care,” with a primary focus on individuals and emphasis on disease diagnosis, treatment, and care for individuals.<sup>9</sup>

## Background

A brief examination of the history of public health and health care fields more generally, as well as in rural communities in particular, sheds light on the current landscape of the fields and lays the groundwork for considering trends and levers for change moving forward.

**Health Care.** Access to medical care has been and remains a primary focus of the U.S. health care sector. Prior to World War II, hospitals were largely private and funded by philanthropic giving, which limited access to health care for individuals in lower-income, rural areas of the U.S.<sup>10</sup> In 1946, the Hill-Burton Program (part of Hospital Survey and Construction Act) was implemented to increase nonprofit and local government hospital capacity, including in rural counties and for those who might not be able to afford care. Subsidies from this program played a major role in the construction of new clinics and expanded access to care among non-profit and public hospitals from 1946 to 1976, while the number of for-profit hospitals declined.<sup>11</sup>

Hill-Burton set multiple precedents for community service assurance, shaping the ways that organizations and entities receiving federal health care funds provided care for underserved populations, many of which still exist today. For example, in 1963, Hill-Burton's separate-but-equal provision, which allowed racial discrimination in publicly supported hospitals as long as there were equivalent facilities in the same geographic area available for every race, was found unconstitutional. As a result, in 1965, when Medicare was established, hospitals desegregated to meet the eligibility criteria to receive federal funding.<sup>12</sup> In 1975, the suite of federal health care policies established through Hill-Burton were rolled into the new Public Health Service Act. This act continued to require that health care organizations and programs receiving federal funding care for those who cannot afford it (with hospitals sharing costs for patient care). However, financing for the construction of health clinics, a central feature of Hill-Burton that contributed to increased access for underserved populations, ended in 1997.<sup>13</sup>

One response to rural hospital closures in the 1980s and early 1990s was the creation of the Federal Office of Rural Health Policy (FORHP) in 1987 to advise the U.S. Department of Health and Human Services (HHS) on health care issues impacting rural communities.<sup>14</sup> In

1997, efforts to support hospital viability in rural areas included the designation of Critical Access Hospitals (CAHs), whose qualifying criteria emphasize providing outpatient and emergency care.<sup>15</sup> The concurrently created Medicare Rural Hospital Flexibility Program (Flex Program) is intended to support CAHs, tying their eligibility for receiving Medicare reimbursements to the creation of state Rural Health Plans.<sup>16</sup> The rural health care sector's safety net also includes rural health clinics (RHCs), certified by the Centers for Medicare & Medicaid Services (CMS); federally qualified health centers (FQHCs), which include some Tribal providers; and free clinics; all of these are intended to serve patients who "live in medically underserved or health professional shortage areas, have low incomes, are uninsured or on Medicaid, live in rural areas, and/or have other characteristics that make it difficult to access care."<sup>17</sup>

**Public Health.** Assumptions prevail that public health practices and policies developed for urban settings can be translated into rural settings, even though they are historically understudied in rural contexts.<sup>18</sup> Public health as a field was initially an urban phenomenon, at a time when rural areas were associated with healthy living. However, the emergence of unique community-level public health issues in rural communities (e.g., hookworm in the late 1890s) shifted that understanding. Up until the 1930s, when other sources of federal funding became available, local health departments in rural areas were often funded by private foundations, with work done by district nurses who focused on systematized sanitation efforts and educating health professionals and the public.<sup>19</sup>

After sanitation efforts helped stem disease spread (1930s), rural public health departments shifted focus to the delivery of basic health services, due to a lack of available care. This clinical focus for public health continues in rural areas, along with a focus on environmental health. After tracing this history, Meit & Knudson conclude that the underlying assumption or myth that rural areas are clean and healthy and do not need to be prioritized for public health persists among the American public and decision-makers, which has consequences for attention to rural public health issues and funding. They call for appropriate funding levels for rural public health, a public health workforce trained in rural public health and population-based practice, increased understanding of rural public health needs, rural-specific models of practice, and practice-based research in rural communities.<sup>20</sup>

## What Guides and Influences Public Health and Health Care? An Overview of Theories and Frameworks

Public health and health care are grounded in multidisciplinary theories and frameworks that

provide explicit or implicit reasoning for why field changes may occur. For a quick overview, the following (Table 1) provides key theoretical foundations that have influenced these two fields.<sup>21,22</sup>

**Table 1: Influential Theories, Definitions, and Contributions to Practice**

PUBLIC HEALTH & HEALTH CARE THEORY	DEFINITION	CONTRIBUTION TO PUBLIC HEALTH & HEALTH CARE PRACTICE
<b>Biomedical Reductionism (“the medical model”)</b>	Defines health as the absence of disease with emphasis on discovering pathology (the cause and effects of discernable diseases). Criticisms include the model’s failure to account for illness without biological disease presentation. <sup>23,24</sup>	Associated with significant improvements in medical care. <sup>25</sup> The medical profession determines criteria for health vs. disease or abnormality, which can also shift with advancements in technology. <sup>26</sup>
<b>Biopsychosocial (BPS) Model</b>	Expands the biomedical model to include psychological and social factors in understanding illness, and is informed by general systems theory (systems are nested, and structurally and functionally connected). <sup>27</sup> Criticisms include lack of clarity about what to prioritize when contributions of each factor are unclear; doesn’t provide clinicians with a shared rationale for decision-making <sup>28</sup> -- though systematic determination of how BPS factors present in each patient is suggested by evidence-based patient-centered interviewing.	Promotes a broader definition of health and what shapes health than the medical model. Applications of BPS can shift power to patients – for example, the “patient-centered method” for patient interview with focus on patient story versus the doctor-centered method focused on medical history. <sup>29</sup>
<b>Life Course Approach</b>	This approach studies the long-term effects of physical and social exposures occurring over the life course (gestation through adult life) on individuals’ later health and disease risk, particularly effects of childhood and adolescent risk factors. It posits that adverse circumstances can accumulate to influence the development of chronic diseases over a lifetime or even across generations.	Supports public health practice focused on a broad set of determinants of health, suggesting that inequities in exposure over the life course help to explain disease trends and disparities in health associated with gender, ethnicity and geography. <sup>30</sup>
<b>Health Belief Model</b>	People’s readiness and willingness to take action on their health depends on their own beliefs about whether they are at risk for a particular health threat and whether they believe in the benefits of taking action.	Influences public health practice by promoting the use of educational campaigns as a primary method for interventions to change behaviors that can influence outcomes.
<b>Theory of Reasoned Action / Planned Behavior</b>	In these combined theories, people’s behaviors are determined by their intention to carry out a particular behavior, which is influenced by their own attitude about the behavior and the social norms surrounding the behavior.	Offers a basic theory of human behavior that served as a foundation to the health belief model (see above) and the transtheoretical model and stages of change (see below).
<b>Transtheoretical Model and Stages of Change</b>	Applied both to individuals and organizations, this model suggests that people or organizations cycle through different stages of readiness for change: precontemplation, contemplation, preparation, action or maintenance (“termination” is sometimes included as a stage). The stage of readiness can help predict whether individuals or organizations will take action to make changes related to health behavior and can inform which strategies would help move the person or organization to action.	Provides a basis for a “community readiness” approach to planning community-level interventions, including educational campaigns, policy interventions, and cross-sector collaborations.

<b>Social Cognitive Theory</b>	Social Cognitive Theory proposes that personal factors, environmental influences and behavior interact in a way that affects people’s learning and subsequent behaviors. Reciprocal determinism – a key component of Social Cognitive Theory – positions people as both agents of and responders to change.	Generates recognition and development of public health programming focused on skill-building as a target for behavioral health interventions that promote healthy behaviors.
<b>Social Ecological Model</b>	In this model, people’s behaviors are influenced by their environment, and the environment is influenced by people. The model entails interdependent factors at multiple levels (e.g., individual, interpersonal, organizational, community and public policy) that interact to influence health. Change in one level can result in change in other levels, and consideration of the target level of change is important for developing strategies for change. This theory is particularly salient for the current focus on addressing the “upstream” or social determinants of health.	Promotes an expanded definition of health and provided justification for public health professionals and organizations to focus on interventions that address community conditions and drivers of health behaviors and outcomes.
<b>Structural Functionalism</b>	Structural functionalism focuses on regulatory and incremental change. Knowledge can be objectively measured and understood, and objective knowledge should be used to guide decisions. This approach prioritizes expert knowledge, science-based or evidence-based justifications for selection of programming and organizational activities, and it negates personal experience as knowledge. Organizations prioritize efficient production of goods or services provided.	Views health as crucial to societal stability and illness as sanctioned deviance from normal social roles; defines roles and expectations for patients and caregivers; physicians hold power as they provide legitimacy to illness; illness can weaken societal stability. Observes institutions as functional mechanisms that can be improved to streamline interventions if changes can be assessed objectively.
<b>Conflict Perspective</b>	Conflict theory asserts that social problems occur when dominant groups mistreat subordinate ones, and it thus advocates for a balance of power.	Posits that issues in health care are rooted in capitalism and views pursuit of profit as contributing to commodification of health. Individuals with money/power, including physicians, determine health care system operation and access; this creates and maintains disparities in clinical health and social determinants of health.
<b>Symbolic Interactionism</b>	Symbolic interactionism is grounded in interpretivism and the idea that reality and knowledge are socially constructed. Human interaction is foundational to meaning making and human behavior/choices. Aims to understand processes rather than outcomes. Organizational members may engage in ongoing reflection and participatory processes to review organizational practices to re-establish collective understanding, meaning and purpose, making adjustments as collective understanding changes over time.	Views health and illness, and societal responses to them, as socially constructed. It is the basis for medicalization – that is, the classification of certain behaviors and conditions as illness and requiring clinical response – and its converse, demedicalization. <sup>31</sup> Influential in both the proliferation of and questioning of specialized care, psychiatry, and pharmaceuticals. Is a foundational perspective in the field of nursing. Centers the experiences of patients in health care systems and prevention approaches.

## Newer Frameworks for Health Care

Theories and frameworks that shape practice in the U.S. health care sector have shifted in the last two decades, moving from the medical model toward the biopsychosocial model and life course approach. Practically, this shift has been informed by analyses which maintain that even as the U.S. continues to spend more on health care than other high-

income countries, health outcomes in the U.S. are comparatively worse.<sup>32,33</sup> The conflict perspective, however, still remains more of a fringe theory in shaping health care systems and practice.

In an update to their 2003 analysis, “It’s the Prices, Stupid,”<sup>34</sup> Anderson, Hussey and Petrosyan describe recent U.S. efforts to lower health spending as centered on the “cost of treating people with chronic conditions;



a greater emphasis on value-based care; more people entering managed care programs; the passage of the Patient Protection and Affordable Care Act (ACA); the introduction of electronic medical records; consolidation of hospitals and insurers; and many other changes.”<sup>35</sup> Their 2019 analysis posits that while other high-income countries have implemented similar payment, delivery system and information system reforms, disproportionate U.S. spending is driven in part by the fact that the U.S. finances a greater percent of its health care from private sources (50.9% compared to OECD median of 25.0%). This includes “out-of-pocket spending for deductibles, coinsurance, and services not covered by health insurance; and premiums paid by families and individuals for voluntary private health insurance.” Coupled with that financing, private insurers in the U.S. pay health providers rates 50% higher than what Medicare pays for hospital services, per recent estimates.<sup>36,37</sup>

**Value-based Care.** Efforts to lower health spending include the health care sector’s adoption of Porter and Teisberg’s value-based care framework<sup>38</sup> and corresponding Value Agenda (the implementation model for value-based care, focused on clinical settings). Value in this context is defined as “the measured improvement in a person’s health outcomes for the cost of achieving that improvement.”<sup>39</sup> Elements of the implementation model include alternative reimbursement models (e.g., bundled payments)<sup>40</sup> and segmentation of patients based on health needs, with care delivery done by teams.<sup>41</sup> This focus on value continues to influence national strategy; the most clear example is the ACA, which incorporates value-based elements, such as health care value-based purchasing programs, and ties hospital payments to quality outcomes – that is, performance standards.<sup>42</sup> Training in value-based care delivery has been added to some medical school curricula.<sup>43</sup>

**Triple Aim.** The U.S. health care sector increasingly emphasizes the goals of the Institute for Healthcare Improvement’s “Triple Aim,” which calls for simultaneous improvement in patient care experiences, population health, and the per capita costs of care, noting that collaboration with stakeholders outside of health care to address population health creates value.<sup>44</sup> Practice shifts in the U.S. health care sector include primary care services and structure redesigns informed by these frameworks and goals. This can be seen

in development of alternate care delivery models, such as medical homes, which, in alignment with the Triple Aim, increase value via a team-based approach to primary care.<sup>45</sup> There is strong evidence that this approach improves patient access to care and quality of care.<sup>46</sup> Other broad practice changes that seek to increase value by addressing care, health and cost together include efforts to increase the reach of preventive services as a mechanism for managing population health. For example, models that coordinate delivery of clinical preventive services (CPS) through partnerships between clinical and community systems and models that streamline patient engagement, services and follow up are intended to control costs while improving patient care experiences and population health.<sup>47</sup> Additionally, policies that expand health care professionals’ scope of practice – for example, primary care delivery through non-physician providers such as nurse practitioners – support this aim.<sup>48,49</sup>

**Personalized Medicine.** Efforts have also increased in the last decade to tailor medical care according to individuals’ genetic markers and population-level genetic analysis. Collaborative advances by the National Institutes of Health (NIH) and the Food and Drug Administration (FDA) to improve screening and diagnostics include creation of the central Genetic Testing Registry (GTR), intended to “help clinicians and consumers make informed decisions about using the tests to optimize health care” and to “support scientific discoveries by facilitating the sharing of data about genetic variants.”<sup>50,51</sup> In addition to expanding genomic sequencing and biobanks, personalized prevention and treatment may include “linking biological information to health data in electronic health records (EHRs),” though such benefits are not currently realized because national data systems cannot effectively exchange or link information at this time.<sup>52</sup> Experts also caution that the cost to develop drugs for small, genomically-targeted interventions is expensive, and applications to reduce major causes of morbidity and mortality have yet to be determined.<sup>53</sup> Information about genomic risk does not appear to improve patients’ “risk-avoiding behaviors” and gene variant information may increase individuals’ medical visits, tests and anxiety.<sup>54</sup> Others argue that personalized medicine will prove worthwhile with more “time and investment” and responsive ethical standards and patient protections.<sup>55</sup>

## Newer Frameworks for Public Health

Over the past decade in the field of public health, leaders have called for addressing health disparities by shifting from individual-level behavior changes to a focus on the social determinants of health or the “upstream” drivers of health. The public health field has, therefore, been experiencing some movement from health belief mode and social cognitive theory, which focus on individual-level public health interventions, toward the social ecological model that focuses on contextual factors influencing individuals. The transtheoretical model of change increasingly accompanies newer frameworks for health and expands options for interventions. In some practice circles, the conflict perspective now operates alongside the socioecological model. In this case, practitioners incorporate an understanding of how power dynamics shape the conditions and opportunities for individuals and communities to be healthy.

These shifts are reflected in new and evolving frameworks for practice, including the World Health Organization (WHO) framework for the social determinants of health, Public Health 3.0, and a revised version of the 10 Essential Public Health Services. These shifts in understanding health and equity have also informed an expanded range of practice strategies to affect change for the health of all people, such as Health in All Policies. These frameworks include the following:

**Social Determinants of Health.** The WHO defines the social determinants of health (SDoH) as “the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics.”<sup>56</sup> Factors like socioeconomic status, education, physical environment, employment and social support networks can all affect people’s access to quality goods and services, such as health care, and ultimately impact health. Emerging work suggests that toxic stress associated with social disadvantage, socioeconomic inequality, and racial discrimination can lead to epigenetic changes, which affect people’s ability to fight disease or stay healthy and can be passed to future generations.<sup>57</sup>

**Public Health 3.0.** In 2016, the U.S. Department of Health and Human Services released *Public Health 3.0: A Call to Action to Create a 21<sup>st</sup> Century Public Health*

*Infrastructure* – a white paper calling for an enhanced scope of practice for public health.<sup>58</sup> Public Health 3.0 “leverages multi-sector collaboration to address the non-medical care and social determinants in communities, with local public health entities at the core, serving as Chief Health Strategist in their communities.”<sup>59</sup> The core functions of Public Health 3.0 include: strong leadership and workforce; strategic partnerships (across public and private sectors); flexible and sustainable funding; timely and locally relevant data, metrics and analytics; and enhanced foundational infrastructure.

**10 Essential Public Health Services.** Originally developed in 1994, the 10 Essential Public Health Services framework has been widely used in public health, influencing leadership, practice, curriculum in educational programs, and accreditation standards. In 2020, the de Beaumont Foundation, the Public Health National Center for Innovations, and a task force of public health experts released a new version of the framework and statement: “The 10 Essential Public Health Services provide a framework for public health to protect and promote the health of all people in all communities. To achieve equity, the Essential Public Health Services actively promote policies, systems, and overall community conditions that enable optimal health for all and seek to remove systemic and structural barriers that have resulted in health inequities. Such barriers include poverty, racism, gender discrimination, ableism, and other forms of oppression. Everyone should have a fair and just opportunity to achieve optimal health and well-being.”<sup>60</sup>

**Health in All Policies.** Health in All Policies (HiAP) is a collaborative approach to improving the health of communities by incorporating health, equity and sustainability into decision- and policy-making across sectors and policy areas. Grounded in social ecological theory, HiAP is a framework for action to address the social determinants of health. Internationally, recognition of the importance of intersectoral action for health dates back to a 1978 declaration adopted at the International Conference on Primary Health Care. In 2009, the Partnership for Sustainable Communities – a collaboration of the Environmental Protection Agency, Department of Transportation and Department of Housing and Urban Development – was one of the first initiatives recognized as adopting a HiAP framework in the U.S., followed by the State of California’s Health in All Policies Task Force in 2010.<sup>61</sup>

**Community Resilience Framework.** This framework is “a measure of the sustained ability of a community to utilize available resources to respond to, withstand, and recover from adverse situations” and has emerged as a way to understand factors and mechanisms influencing outcomes in rural communities as well as disparities between rural communities.<sup>62</sup> The framework ties community viability to “the labor and health capacity of its residents,” with proponents arguing that “the more diverse and interconnected a community is across businesses and households,” the greater its resilience to shocks.<sup>63</sup> For example, an individual’s loss of income is tied to a household’s reduced wealth, which affects determinants of health – like housing, transportation, and nutrition – and long-term health and employment outcomes; ensuing population decline contributes to diminished capacity to sustain health facilities, quality education, and residency of “the most educated and capable youth and adults,” leading to whole-community impacts.<sup>64</sup> Case studies support the idea that community wealth and resiliency emerge from multiple underlying mechanisms, citing health (and education) as vital to community adaptability and attracting new residents.<sup>65</sup>

## Trends in Public Health and Health Care

Although public health and health care field catalysts and champions are advancing the newer frameworks like Public Health 3.0, Health in All Policies, and Triple Aim, standard practice still emphasizes individual-level health behavior and treatment as opposed to the systemic, economic, social and political factors that impact health. Within the public health and health care landscape of standard practice and newer frameworks, the following additional trends and themes are also emerging in practice. These trends can be harnessed across health-related fields to advance prosperous, equitable and sustainable communities across rural America.

**Emphasis on Community Engagement.** Public Health 3.0 and the revised 10 Essential Public Health Services call for increased community engagement to create the conditions for health for all. Community engagement entails structured mechanisms for community members to have a say in the programs and policies that impact their lives. Community engagement in the development, implementation and evaluation of programs and policies is widely

identified as a key factor in efforts to achieve health and well-being for community members; the approach is supported by multiple federal, state and local health and public health agencies, academic institutions and community partners.<sup>66</sup> The ACA provides some incentives for community engagement – for example, the requirement that 501(c)(3) nonprofit hospital organizations conduct community health needs assessments (CHNAs) to maintain their tax-exempt status. This provision requires that nonprofit hospitals partner with public and community health programs to conduct CHNAs and develop strategies to address the identified needs (community health improvement plans (CHIPs)). This provision has influenced practices in the health care sector around community engagement and community collaborations to make health improvements. Organizations such as the WHO and Centers for Disease Control (CDC) have centered community engagement in their models; these organizations’ ability to attract and leverage funding has helped a plethora of community engagement frameworks, tools and research emerge that use health and health equity contexts. While not rural-specific, the emphasis on community engagement in public health policies and practices is transferable to rural settings.

**Evidence- and Data-Driven Decision-Making.** The health care sector has benefited from increasing rigor in data gathering and quality reporting, as part of a broader trend toward evidence- and data-based decision-making in public health and the implementation of value-based frameworks. The Value Agenda includes “build an enabling information technology platform” as one of its six components.<sup>67</sup> Methods have improved from perception-based interventions coupled with limited data to more rigorous methods. For example, hospital quality used to be measured by process compliance and surveys of patient experience, but evaluation now includes more objective and improved measures, such as health outcomes, costs,<sup>68</sup> and quality of care via social network analysis.<sup>69</sup>

The fields of public health and health care have also been influenced by the expanded use of social media and informatics, and the emergence of electronic health records (EHRs), which have enhanced surveillance and epidemiology, reduced the time between exposure to illness and source identification,

and placed additional pressure on field practitioners for quick response.<sup>70</sup> EHRs have increased the capacity for population health data aggregation for chronic disease surveillance. The combination of EHRs and expanded use of social media and informatics have highlighted the need to provide community context for population-level data and the need for multi-sector collaboration to address root causes of illnesses in different contexts, such as housing or food insecurity, that typically fall outside the domain of public health or health care influence. Public health and health care campaigns are also using social media as an emerging strategy to influence health behavior change or mobilize public participation.

The utility of EHRs show significant promise but are also constrained by a lack of information technology infrastructure and limited connections across data systems. The most recent Annual Update on Adoption of a Nationwide System for the Electronic Use and Exchange of Health Information reports that, "...patients often lack access to their own health information, which hinders their ability to manage their health and shop for medical care at lower prices; health care providers often lack access to patient data at the point of care, particularly when multiple health care providers maintain different pieces of data, own different systems, or use health IT solutions purchased from different developers; and payers often lack access to clinical data on groups of covered individuals to assess the value of services provided to their customers."<sup>71</sup> Despite these widely acknowledged barriers, a recent review still concludes that EHRs facilitate more than they limit public health management and surveillance, and they increase efficiency and data accuracy and precision.<sup>72</sup> EHRs have also been piloted as a means to collect and review data on measures of social determinants of health and to make and track patient referrals.<sup>73</sup> For example, EHRs have been used successfully to support screening for food insecurity and clinic-to-community referrals.<sup>74</sup> Rural health clinics may "lag behind other office-based physicians" in using EHR, although data suggest Federally Qualified Health Centers (FQHCs), nonprofit health centers in medically underserved (including rural) areas, may be using EHR systems at comparatively higher levels.<sup>75</sup>

The uptake of these promising evidence- and data-driven trends in rural public health and health care faces barriers. These include underdeveloped

data technology or infrastructure, limited access to reliable data for smaller geographic areas or specific populations, a sparse evidence base to indicate effective rural strategies that improve health and equity, and relatively less field capacity in terms of professional training in epidemiology, surveillance, or population research.

**Integration of Delivery Systems, and Cross-Sector Collaboration.** To ensure delivery of essential health care services and include strategies addressing the social determinants of health, an American Hospital Association (AHA) Taskforce on Ensuring Access in Vulnerable Communities recommends funding implementation of value-based delivery systems in critical access hospitals and small rural hospitals in the short term.<sup>76</sup> It also points to emerging strategies in adjacent sectors<sup>77</sup> that include addressing social determinants of health via screening and service integration. Current literature agrees that integrating social services is a suggested strategy to improve access to social services, reduce service gaps, fragmentation, and duplication, and improve health and health-related outcomes.<sup>78</sup> The taskforce recommends applying these frameworks and practice changes in settings that overlap with rural areas, such as in frontier health systems experiencing "extreme geographic isolation" and in the coordination of care between Indian Health Services (IHS) and non-IHS entities.<sup>79</sup>

Other broad practice changes include models that coordinate delivery of clinical preventive services (CPS) through partnerships between clinical and community systems; the resulting streamlining of patient engagement, services and follow up is intended to control costs while improving patient care experiences and population health.<sup>80</sup> For example, the medical home model is based on comprehensive primary care with team-based physical, behavioral and social services. Federally Qualified Health Centers, with encouragement from the Health Resources and Services Administration (HRSA), functioned as medical homes prior to the broader recognition and adoption of the medical home model across health care organizations.<sup>81</sup>

The HRSA *Guide for Rural Health Care Collaboration and Coordination* highlights the need for coordination and collaboration across traditional rural health providers (e.g., small rural hospitals, local public



health departments, critical access hospitals), social service organizations, and community-based organizations, to create health safety nets.<sup>82</sup> This coordination/collaboration is essential in rural communities due to challenges they face in financial viability of rural providers, health workforce, health care access, and social determinants of health.<sup>83</sup> As early as 1994, the American Medical Association and the American Public Health Association engaged in a joint initiative that emphasized the importance of collaboration across public health and medicine in a 1997 monograph.<sup>84</sup> A more recent scope of empirical studies on clinical care and public health collaborations mapped out forms of collaboration between the two fields that include: 1) coordinating health care services, 2) applying a population perspective to clinical practice, 3) identifying and addressing community health problems, 4) and strengthening health promotion and health protection.<sup>85</sup> As an example, many local public health departments and hospitals are coming together to conduct joint community health needs assessments; this creates an opportunity to build relationships, share understanding, and engage in coordinated action across fields in local communities.

On more of a systems-level, the Rural Health Action Alliance, a coalition of leading health care organizations formed in November, 2020, aims to ensure equitable access to care in rural America and influence policy.<sup>86</sup> The organizations that are part of the coalition include the National Rural Health Association, National Organization of State Offices of Rural Health, and national associations of multiple medical professions – such as nurses and pharmacists.

Newer trends in public health, such as Public Health 3.0, Social Determinants of Health, and Health in All Policies, encourage collaborations with sectors beyond those traditionally focused on health and include a broad range of social service, government, community development and community-based entities. *The American Journal of Public Health* recently emphasized the importance of cross-sector alignment in a special issue on the topic.<sup>87</sup> In that issue's introduction, Wojcik and colleagues suggest that the COVID-19 pandemic has underscored the need for cross-sector alignment: "Never in our lifetime have we seen such a need for these systems [health care, public health, and social services] to respond rapidly, equitably, and collectively."<sup>88</sup> While there have been calls for

collaboration with a broad range of sectors, a recent study of the types of cross-sector collaboration enacted between public health and other social sectors – as reported by directors of health departments – found that public health collaboration was more prevalent with sectors focused on basic needs (e.g., housing and food) and less prevalent with sectors focused on infrastructure and community (e.g., economic development, environmental protections, law and justice).<sup>89</sup>

### **Regional Consolidation and Organizational Alliance.**

After 9/11, emergency preparedness planning was a catalyst for in-state regionalization of local public health resources. Pandemics and climate change have reinforced this trend. In rural contexts, the coordination of public health planning and preparedness is emerging, and it has been recognized for promising cost-effectiveness owing to resource sharing and eliminating duplication of efforts.<sup>90</sup> In the context of funding cuts, more complex public health challenges, the demands to address challenges with efficient solutions, and findings that rural and smaller health departments provide fewer of the 10 essential public health services, interest in sharing resources has been increasing across local health departments to improve the health of communities.<sup>91</sup> Formal and informal models of sharing resources, also called cross-jurisdictional resource sharing, include regionalization, networking and centralizing; more than 54% of local health departments share resources with at least one other health department.<sup>92</sup> The Center for Sharing Public Health Services, managed by the Kansas Health Institute and funded by the Robert Wood Johnson Foundation, focuses on supporting local health departments' exploration, implementation and evaluation of cross-jurisdictional resource sharing.<sup>93</sup>

In addition to public health cross-jurisdictional resource sharing, rural health care organizations are also developing regional networks for information exchange. Some of these networks also provide the opportunity for leadership development among health care organizations and a platform for state or national level policy engagement.<sup>94</sup>

Trends in the health care sector towards integrated care delivery and comprehensive services have increased expectations for actors, such as Managed Care Organizations, to bring together disparate

parts of the health delivery system to improve the health and well-being of entire populations and communities. Consolidation among insurers as well as hospital-physician practice mergers strengthen market power, allowing both to increase prices. But recent analyses find that higher market power among providers in a community has “very little correlation with health outcomes.”<sup>95</sup> Communities and health systems at times disagree on the level of services needed: For example, Mayo Clinic Health System (MCHS) consolidated some birthing labor and delivery services in rural southeastern Minnesota, citing declines in deliveries and overall inpatient stays as concerns for accreditation, provider skill maintenance, and provider retention.<sup>96,97</sup> Public response was critical;<sup>98</sup> the affected community organized a “Save Our Healthcare” campaign<sup>99</sup> and a competing medical group plans to build a new outpatient facility.<sup>100</sup>

### **Extending Reach and Resources through “Decentralization”/“De-professionalization.”**

Community health workers (CHWs) – also called lay health workers – have been a growing force for extending health care and improving the health of populations.<sup>101</sup> Intended to help mitigate the barriers to health care that vulnerable populations face, CHWs provide a range of medical and nonmedical services to community members in clinical and community settings and people’s homes, including education, system navigation, social support, and social service support.<sup>102</sup> Because they often share similar cultural identities and experiences with members of the communities where they work, CHWs can develop trust and rapport through cultural- and linguistic-directed support. Evidence points to CHW’s positive influence on areas such as increased participation in cancer screenings, promotion of exercise, and decreasing blood pressure and weight, while also providing a cost-effective model of care.<sup>103</sup>

In practice, CHWs have become key members of the health team and essential for the provision of primary health care and health promotion, particularly for hard-to-reach sub-populations. The ACA includes provisions supporting the implementation and evaluation of CHW programs. Most recently, using CHWs has become a strategy in the public health and health care response to COVID-19 and the pandemic’s disproportionate impact on specific places and populations. Given the health disparities and

unique barriers to health care experienced in rural communities, the use of CHWs to provide culturally grounded support that attends to the rural context holds strong potential.

With similarities to community health work, the field of public health nursing, defined by the American Public Health Association as “the practice of promoting and protecting the health of populations using knowledge from nursing, social, and public health sciences,” is positioned to bridge public health, health care and other sectors influencing community conditions.<sup>104</sup> Public health nursing’s scope of practice can include supporting policy, advocacy and education in public health (e.g., infection prevention, environmental health, and outbreak and disaster response),<sup>105</sup> and extends to addressing the social determinants of health.<sup>106</sup> Public health nurses comprise one of the largest groups in the public health workforce, especially in rural communities,<sup>107</sup> making them key actors in rural health. However, recruiting, training and retaining public health nurses is challenging in rural areas.

Other broad practice changes aimed at increasing value and driving change towards improved access to and quality of health care, as well as containing costs, include policies to expand health care professionals’ scope of practice – for example, primary care delivery through non-physician providers such as nurse practitioners.<sup>108</sup> There is strong evidence that nurse practitioners provide high quality routine care equivalent to, and sometimes better than, comparable care provided by physicians.<sup>109</sup> However, “professional medical groups, health care systems, and managed care organizations have typically resisted expanding the practice scope of nurse practitioners.”<sup>110</sup> Resistance may be motivated by fears that such competition will negatively affect the incomes of physician providers.<sup>111</sup>

### **Through the Lens of Equity**

The increasing health disparities in rural areas overall, along with population trends such as an aging population, have resulted in an increased focus and awareness of the state of rural public health. Moreover, most counties experiencing decades of persistent poverty in the United States are nonmetro and around two-thirds are in the southern U.S. Residents of nonmetro areas experiencing the most

severe poverty include those in the Mississippi Delta, Appalachia, and on Native lands, though poverty is increasing in some nonmetro areas of the Southwest and northern Midwest. Compared with nonmetro whites, individuals experiencing poverty in nonmetro areas overall are more likely to be Black, American Indian, Alaska Native, or Hispanic.<sup>112</sup> Certainly, the COVID-19 pandemic has exacerbated these issues and highlighted the impact of an underfunded and under-resourced public health system in general as well as the gaps in the rural public health infrastructure. *The American Journal of Public Health* recently published a special issue entitled, *Rural Public Health: A New Frontier?* In this issue, multiple authors pointed out that, even before COVID-19, rural public health was at a crossroads or was a field in tension, indicating both the challenges and the opportunities inherent in this moment.<sup>113,114</sup> When comparing public health systems in rural and urban communities, a recent study found that disparities have grown in both the range of recommended public health services that are provided (as in services associated with Public Health 3.0) and the density of networks with which the public health system engages, with rural communities experiencing declines in both of these areas between 2014 and 2018.<sup>115</sup> Tensions are also evident in rural narratives, which inform the acceptability of policy solutions to support health and to reduce within-rural disparities.

A common definition of health equity used by many in the public health field now asserts that everyone should have “a fair and just opportunity to be as healthy as possible,” and that addressing health disparities includes “removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care.”<sup>116</sup> This definition reflects the increasing application of the conflict perspective and an understanding of the roles that power and access to resources play in shaping opportunities to be healthy. For rural communities, it offers an opportunity to analyze health equity from multiple perspectives and consider possible common upstream drivers of health in very different populations. For example, rural areas experience geographic inequities in comparison to other geographic areas, sometimes as a result of a lack of capacity to influence policies or systems that impact rural populations. They also, however, experience health inequities within their own populations that may result from poverty or racial discrimination.

**Within-Rural Disparities.** Some rural communities have been advantaged by economic, demographic and technological trends while others have been disadvantaged. In recent years, counties on the edges of metropolitan areas have experienced increased population growth, while the population of remote rural counties has declined.<sup>117</sup> Population losses are concentrated in rural counties in the Midwest and Northeast, compared to gains in South and West.<sup>118</sup> This relates to industry: Overall, half of rural counties have fewer residents than in 2000, particularly those with farming-based economies (about one-fifth of rural counties),<sup>119</sup> which are mostly in the Great Plains.<sup>120</sup> Rural counties with recreation-based economies were the only rural county type with a “net gain of new residents who moved from other U.S. counties.”<sup>121</sup>

From 2010-2020, 138 rural hospitals (about seven percent of the total) closed or reduced services, with another 453 vulnerable to closure,<sup>122</sup> mostly in states in the Southeast and lower Great Plains that have not expanded Medicaid.<sup>123</sup> Factors shown to decrease the likelihood of hospital closure are state-level Medicaid expansion (which is associated with improved hospital financial performance in rural areas),<sup>124</sup> having or securing government control status (that is, being run by the local, state, or federal government, which can increase hospitals’ access to funding and resources), and system affiliation.<sup>125</sup>

Research in non-U.S. settings also finds that health outcomes such as life expectancy may be more influenced by social and economic deprivation than rurality, at least for rural communities nearer to urban centers, as in England.<sup>126</sup> Studies in Canada and Australia also find large within-rural disparities between Indigenous and non-Indigenous populations for measures like life expectancy, strokes and adverse birth outcomes.<sup>127,128,129</sup> In the rural U.S., one in five people identify as Black, Hispanic, American Indian/Alaska Native (AI/AN), Asian American/Pacific Islander (AA/PI), or mixed race, as of 2017.<sup>130</sup> Studies suggest that disparities between racial/ethnic groups in rural communities are often overlooked and that addressing these would contribute greatly to diminishing the overall rural-urban differences.<sup>131</sup> For example, people of color and Indigenous people in the rural U.S. are less likely to have a personal health care provider, compared to people identifying as non-Hispanic white.<sup>132</sup> Recommended responses include conducting community health needs assessments, developing plans for action using a disparities impact



statement, and implementing the National Culturally and Linguistically Appropriate Services (CLAS) Standards for Health and Health Care.<sup>133,134</sup>

**Tribal Nations.** Ongoing work to “obtain and forge tribal sovereignty, tribal autonomy, self-determination, and self-identification”<sup>135</sup> and long-term disadvantages resulting from “colonization, forced migration, land loss, and cultural devastation”<sup>136</sup> are layered with conditions of rurality. Approximately 46% of individuals identifying as American Indian/Alaska Native live in rural areas.<sup>137</sup> More than half of all rural American Indian/Alaska Native individuals live in counties in the top quartile for the proportion of the U.S. population lacking health insurance; rural residents identifying as American Indian/Alaska Native are also more likely than white residents to live in a county lacking a skilled nursing facility, home health agency, or Rural Health Clinic.<sup>138</sup> While the Indian Health Service (IHS) provides health services to eligible individuals and has contributed to gains in health equity, analysts have raised concerns about its underfunding and quality of care.<sup>139</sup> A 2009 report named overhauling the Indian Health Service as a pathway for economic advancement for Native communities, in addition to the paths of improving census data collection, increasing federal aid, channeling federal and state funds through Tribal government, and targeting job creation.<sup>140</sup>

**Philanthropic funding.** Rural areas are often bypassed by philanthropic funding, with only 7% of philanthropic funding from large foundations in recent years focused on rural efforts and even less funding supporting equity-focused rural projects.<sup>141</sup> Rural communities have received less investment support for decreasing health disparities and improving health equity, due in part to the difficulty of efficiently implementing programs and evaluating outcomes in a rural context with smaller population numbers.<sup>142</sup> Meit & Knudson (2017) call for leveraging the field’s and funders’ interest in addressing health disparities in order to improve health equity in rural communities.<sup>143</sup> They suggest, among other strategies, investing in rural communities in general, providing resources for communities to develop locally driven, asset-based solutions, and directing resources to rural population needs. A Rural Philanthropic Analysis, drawn from the Robert Wood Johnson Foundation’s culture of health work and the UWPHI County Health Rankings and Roadmaps work, proposes needed shifts

in rural philanthropic practice, similar to the Meit & Knudson recommendations.<sup>144</sup>

## Connections with Community and Economic Development

The health and community and economic development fields currently bridge their practices and strategies for change in a variety of ways. For example, the community wealth and community capitals frameworks (used by USDA and others) organize to support the development of different types of capital (natural, cultural, human, social, political, financial, and built/infrastructure capital) in communities via actions, interventions and investments – positioning improvements in health care among human capital supports/interventions, and better health care facilities among built capital supports.<sup>145</sup>

The National Rural Health Association’s (NHRA) Community Health Initiative describes rural health facilities as community anchors. It focuses on supporting innovative programs in rural areas,<sup>146</sup> particularly community-based programs within the realm of the public health field under the Public Health Service Act.<sup>147</sup> The NORC Walsh Center for Rural Health Analysis reports that, in rural settings, health care is an important cross-sector agent for change as well as a key economic driver, which may also influence local economic development – for example, high-quality health care services may attract businesses and promote a healthy workforce.<sup>148</sup>

More recently, rural economic development and rural health care are being framed together. An American Hospital Association (AHA) taskforce to examine alternative models for health care delivery in rural areas recognized additional criteria for vulnerability in some rural areas (declining and aging population, inability to attract new business, and business closures) in addition to broad criteria for vulnerability, which include lack of access to care and socioeconomic barriers.<sup>149</sup> Some rural-focused research pairs its recommended approaches for a high-performance rural health care system (community-appropriate system design; service integration; flexible scope of practice; financing models promoting investment in system reform) with a comprehensive rural wealth framework.<sup>150</sup>

New models proposed for the rural health care



sector recommend reform focused on innovation and economic development, including more collaboration with academic medical centers, investments in regionalized care, telemedicine expansion, workforce development, and adoption of new financial and delivery models.<sup>151</sup> Correspondingly, the Centers for Medicaid and Medicare Services (CMS) Rural Health Council includes three focus areas in its Rural

Health Strategy: access to high-quality health care, stakeholder engagement in health care delivery and payment reform, and “addressing the unique economics of providing health care in rural America,” including “monitoring health care market impacts in rural areas.”<sup>152</sup>

## AUTHORS' COMMENTARY ON DRIVERS OF CHANGE

Given the historic and current state of these fields, what are the potential pathways of influence for public health and health care to foster more prosperous, equitable and sustainable communities across rural America? Rural public health and health care advocates presently face a major challenge in responding to this question because of a common belief that advancing health equitably comes at an economic cost. Our initial synthesis of the health care and public health practice literature lays out several current trends that can help overcome this false narrative. For example, newer frameworks for health highlight the strong connections between health, equity and community prosperity over time – and even emphasize their shared determinants. Harnessing the trend in integration of service delivery and cross-sector collaboration, partners and collaborators can utilize these frameworks to develop common goals and outcomes and demonstrate that communities do not need to choose between health, wealth and sustainability.

These trends can be accelerated or decelerated by field-level drivers. Drivers represent levers for change within and across fields because they influence relevant systems and institutions. Therefore, taking action connected to particular drivers, such as those listed below, can set a course for public health and health care to promote equitable rural development.

- **Technology and infrastructure.** Evidence- and data-driven trends show promise for advancing rural health, but they could be significantly enhanced by an increased focus on technology and infrastructure in rural areas and across the field. Taking action on this driver through addressing issues such as broadband access and linking data systems could increase rural public health and healthcare's capacity for hospital and

public health department data sharing, enhance electronic health record capability, increase access to remote care and information, and support public and private sector alignment and coordination. It can also increase transparency and access to community health decision-making for rural populations.

- **Incentives or disincentives structured by policy or regulation.** Policy design and implementation influences practice, as was apparent from the example of community service assurance precedents set by the Hill-Burton program. In addition, specific efforts to improve public health, such as preparedness and health care systems, are also incentivized by policies or regulation. In a more recent example of policy that promotes community service assurance, the ACA ties hospital payments to quality measures related to patient outcomes, and mandates community health needs assessments and community benefits contributions among the requirements for hospitals to qualify for and maintain tax-exempt nonprofit status. These mandates often influence the trends in cross-sector collaborations and regional alliances, and the expanded demand for quality measures accelerates the trends of both data-driven decision-making and regional alliances. The way these incentives are structured influences the joint agendas for collaborations and alliances, and the opportunities for connecting community health and wealth.
- **Availability and diversity of economic and workforce opportunities.** Many rural communities are highly focused on economic and workforce development. Rural hospitals can have substantial impact on the availability and diversity of local economic opportunity by serving as a major

employer for the community, providing a quality-of-life amenity important to businesses that want to expand and attract talent, and shifting community and economic development priorities. Additionally, a focus on workforce diversification and new job position opportunities could advance the trend of extending health care reach and resources through “decentralization” or “de-professionalization.” Public health and health care organizations, should they choose and feel supported in doing so, can wield influence to promote health and equity across a rural community’s workforce opportunities and employment practices, and through authentic community engagement in designing and setting priorities for local community economic development.

- **Availability and diversity of capital or funding.** The design and amount of public and private funding available for public health and community economic development are instrumental to many of the field level trends synthesized here. For example, to accelerate the positive trend of community engagement and leadership in decision-making regarding rural health and health care, investments in rural areas need to include resources for communities to develop locally driven, asset-based solutions, and to engage the people most impacted by health care approaches in their design. Rural communities have experienced less political leverage to influence national and state funding mechanisms and less capacity to consolidate capital locally, so attending to both rural-urban inequities and within-rural inequities in resource allocation can accelerate trends to advance health equity more broadly.
- **Professional education systems.** The availability of, access to, and nature of professional workforce development and medical training is important to grow and retain local expertise in rural places so that rural communities can be represented in and draw down the benefits of all of the trends in the fields of public health and health care. This entails access to training opportunities and professional

networks, shifts in accreditation standards, and leadership development. In rural contexts, increasing access to new knowledge or practice, in-service training, and exchange of practices through more diffuse networks in rural spaces may accelerate how learning and practice moves.

- **Narratives.** Narratives reference and evoke values, beliefs and frameworks for sensemaking, and are, as concepts, grounded in the theories summarized earlier in this scan, such as symbolic interactionism. They shape how a problem is defined and the range of solutions generated. For example, a narrative grounded in the “medicalization” framework would generate clinical interventions carried out by certified professionals to advance health – as opposed to any community interventions. With respect to trends, narratives will influence the nature of the trends synthesized here. For example, a narrative that is based on the idea that one’s community conditions shape a significant amount of one’s health outcomes may affect how communities and organizations make evidence and data-driven decisions or what agendas cross-sector collaborations might set.
- **Civic spaces and advocacy infrastructure.** Civic groups, practices and networks administer public will, support democratic participation, foster social connectedness, cultivate political leverage, and advocate for agendas and resource allocation. The development and maintenance of these civic spaces can ensure that people whose health and wealth are most impacted by decisions have a say in those decisions and are able to hold organizations and institutions accountable to their needs. In rural places, this can entail broad participation in administrative activities within civic spaces (such as community needs assessments), an identified rural public health constituency to advocate for rural health issues, and entrepreneurial advocacy to repurpose existing assets, increase voice and influence opportunity to access influence and available capital.

*The University of Wisconsin Population Health Institute advances health and well-being for all by developing and evaluating interventions and promoting evidence-based approaches to policy and practice at the local, state and national levels and works across the full spectrum of factors that contribute to health. Authors of this brief represent multiple programs from the Institute and include Marjory Givens, Victoria Faust, Kiersten Frobom, Alisa Pykett and Naiya Patel.*

# References & Technical Notes

## Technical Note

The methods used in this paper include an expedited systematic review of practice literature, which provided a summary assessment of the field and its evolution, such as literature capturing convenings and agenda setting among field leaders. Sources included relevant journals, e.g. *Journal of Extension*, *Journal of Rural Health*, with snowballing of citations from key empirical and grey literature sources. Key informant conversations were conducted with select field leaders/actors in public health and health care to complement existing documentation of prior engagements, check assumptions, and fill in gaps. Notably, the Thrive Rural framework is intentionally inclusive of Native nations. This expedited review does not cover the complex drivers, contextual forces, or field-level strategies specific to the Indian Health Service and related Native nations health care systems and practices -- which merit examination on their own in future work.

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Community   
Strategies Group  
**THRIVE RURAL**

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Since 1985, the **Aspen Institute Community Strategies Group** has helped convene, equip and inspire local leaders as they build more prosperous regions and advance those living on the economic margins – with more than 75% of that work in rural America. Committed to increasing opportunity and equity and improving economic, social and health outcomes, CSG advances an asset-based and systems-building approach to community and economic development.

**THRIVE RURAL** – an effort of the **Aspen Institute Community Strategies Group** in partnership with the **University of Wisconsin Population Health Institute** with initial support from the Robert Wood Johnson Foundation – aims to create a shared framework and understanding about what it will take for communities and Native nations across the rural United States to be healthy places where everyone belongs, lives with dignity, and thrives. The Thrive Rural framework intentionally brings into focus the convergence of racial, economic and geographic inequity in rural America. Thrive Rural elevates what works and what’s needed to bridge health with community and economic development, and connects the shared aims, reality and prospects of rural America with all of America.

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