CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES
CENTER FOR MEDICARE AND MEDICAID INNOVATION

RE-IMAGINING RURAL HEALTH

RURAL HEALTH HACKATHON

Themes, Concepts, and Next steps from the CMS Innovation Center "Hackathon" Series

The Need for Innovation in Rural Health

Over sixty million Americans currently live in areas identified as rural, Tribal, frontier, and geographically isolated areas, including the U.S. Territories. Compared to people living in urban areas, rural Americans are more likely to experience poverty, be older, be uninsured, and have a disability. At the same time, rural communities face unique barriers to accessing care due to more limited availability of health care providers, including primary care, specialty care and home and community-based services, and residents often have to travel long distances to obtain health care.[1] Limited digital and Health Information Technology infrastructure can also disproportionally impact rural communities, which may rely more heavily on these services to interact with patients and clinical providers in rural and frontier areas.[2] Workforce development and recruiting and retaining physicians, nurses, and other health care professionals are often challenges for rural communities.[3]

Rural hospitals are often viewed as a cornerstone of the community, and they have a unique role in rural health. There are certain Medicare payment designations that are specific for rural hospitals, such as the Critical Access Hospital (CAH)[4] certification, the Rural Health Emergency (REH) provider type, and other programs or certifications provided through Medicare.[5] For instance, the new REH provider type, recently enacted by Congress to target facilities at risk of closure, aims to sustain emergency care services.[6] Outpatient facilities, such as Rural Health Clinics (RHCs), Federally Qualified Health Centers (FQHCs), and care delivery models such as mobile health units and telehealth, also play a meaningful role in meeting some of the care needs in rural communities. These facilities face many of the same challenges as rural hospitals, in terms of workforce shortages, infrastructure limitations, and financial pressures that make it difficult to meet demand.[7]

Experts have noted participation in value-based care could increase consistent, sustainable funding through advanced and prospective payments. However, given the scope of challenges rural communities face, a multi-pronged approach that addresses issues such as infrastructure, workforce development, and partnerships across providers and community-based resources may be needed.[8] The Centers for Medicare & Medicaid Services' (CMS) Center for Medicare and Medicaid Innovation (Innovation Center) held three Rural Health Hackathons (Hackathons) in August 2024 to inform potential model development and to identify innovative solutions to address the access, care delivery, and workforce needs of rural, Tribal, frontier, and geographically isolated areas communities. The Innovation Center drew from multiple efforts and resources to design the Hackathons, including lessons learned from previous models, the CMS Framework for Advancing Health Care in Rural, Tribal, and Geographically Isolated Communities, and input from the

[1] https://www.hhs.gov/about/news/2023/11/03/department-health-human-services-actions-support-rural-america-rural-health-care-providers.html
[2] https://www.hhs.gov/about/news/2023/11/03/department-health-human-services-actions-support-rural-america-rural-health-care-providers.html
[3] https://aspe.hhs.gov/reports/access-care-rural-america
[4] It is noted that 60 percent of all rural hospitals are designated as Critical Access Hospitals (CAHs), which are not paid under IPPS and are generally reimbursed at 101 percent of reasonable costs.
[5] https://aspe.hhs.gov/reports/access-care-rural-america
[6] https://www.medpac.gov/wp-content/uploads/2024/03/Mar24_Ch15_MedPAC_Report_To_Congress_SEC.pdf
[7] https://www.hrsa.gov/sites/default/files/hrsa/rural-health/resources/hrsa-rural-collaboration-guide.pdf
[8] https://aspe.hhs.gov/sites/default/files/documents/ea7223dd88e35b9c6f8e0c4bbbddc853/PTAC-Rural-Participation-RTS.pdf

Physician-Focused Payment Model Technical Advisory Committee.[9,10] This report describes these lessons learned and their application to recent model development, summarizes key themes and ideas that emerged from the Hackathons, and outlines potential areas for the Innovation Center to explore to advance health in rural, Tribal, frontier, and geographically isolated areas.

Lessons Learned from Testing Rural Models

The Innovation Center was authorized under the Affordable Care Act to test "innovative payment and service delivery models to reduce program expenditures…while preserving or enhancing the quality of care" provided to individuals who receive benefits from Medicare, Medicaid, or the Children's Health Insurance Program (CHIP).[11] While the Innovation Center has tested models to address the quality and sustainability of health care in rural areas, results to date have been mixed. Designing models to test in rural communities has been challenging for several reasons, including lower population numbers, making it harder to evaluate a model with enough statistical power, and insufficient resources to support clinicians as they transition to value-based care.[12]

Examples of rural-focused Innovation Center model tests include the Pennsylvania Rural Health Model (PARHM)[13] and the Community Health Access and Rural Transformation (CHART)[14] Model. These models sought to reduce rural health disparities, increase access, improve population health, enhance quality of care, and lower health spending. Both models were designed to improve hospital financial sustainability by shifting hospitals from fee-for-service (FFS) payments to fixed, global budget payments for inpatient and outpatient services, thereby allowing hospitals to focus less on volume and more on the care their patients need. However, these models have struggled; the PARHM model has not generated program savings,[15] and the CHART model was unable to recruit rural provider participation in the years following the COVID-19 pandemic and was thus not fully implemented.

Despite these findings, the Innovation Center has gained important insights from these models, which are outlined below, on engagement with states, the scope of models, and data challenges that are influencing recent model development.

- **Lesson 1: Engagement with States**
  - Early engagement with states during the model design process is critical to generate interest and promote alignment between the model and state priorities.
  - A governing body that is independent from federal and state agencies that acts as a trusted champion and convener can help garner rural community buy-in and trust. For example, the Commonwealth of Pennsylvania created the Rural Health Redesign Center (RHRC) through its legislature to administer PARHM and support participants, which worked well in the context of the model test. Trusted champions and conveners exist in many states and could be engaged as key partners to coordinate community partnerships and engage rural patients.

[9] https://www.cms.gov/files/document/cms-geographic-framework.pdf
[10] https://aspe.hhs.gov/reports/access-care-rural-america
[11] 42 U.S. Code § 1315a - Center for Medicare and Medicaid Innovation.
[12] https://www.cms.gov/priorities/innovation/data-and-reports/2021/parhm-ar1-full-report
[13] https://www.cms.gov/priorities/innovation/innovation-models/pa-rural-health-model
[14] https://www.cms.gov/priorities/innovation/innovation-models/chart-model
[15] https://www.cms.gov/priorities/innovation/data-and-reports/2023/parhm-ar3

  - State levers are valuable tools to incentivize commercial payer participation. Multi-payer alignment can make participation for providers less burdensome, less risky, and supports directional alignment on the same goals and incentives.
- **Lesson 2: Scope of Interventions or Models**
  - Rural hospitals face unique challenges when considering participation in a model, including more acute financial pressures and more limited data or Health Information Technology infrastructure. To support participation, rural hospitals need a greater understanding of payment methodologies and how they may fare under a model to make informed decisions. Payment methodologies should be transparent, easy to understand, predictable, offer strong financial incentives through upside-only or low-risk payment models, and be sustainable over the long-term.
  - Rural hospitals need comprehensive support, including resource funding, technical assistance, and peer learning, with care delivery transformation, planning and implementation. Rural hospitals are hesitant to participate unless they know that successful model features can be sustained, either through legislation or existing Medicare authority. For example, hospitals in PARHM had limited funding and resources to invest in interventions to improve care management and patient access to primary and specialty care services, and they experienced implementation delays due to workforce shortages and other factors such as the COVID-19 pandemic. Despite these challenges, participating hospitals found creative ways to coordinate with community partners and collaborate with peer participating hospitals to pursue joint initiatives, allowing them to make progress and be more effective than they otherwise would have been.
  - Rural communities face systemic challenges beyond hospital financing. Impactful solutions for rural communities will likely require a system-wide approach that incorporates primary care, specialty, and other providers (e.g., ambulance services, home health), as well as social service providers.
- **Lesson 3: Data Challenges and Needs**
  - Data infrastructure is a foundational element to assess performance across all-payers and validate performance on quality and financial targets. Participating hospitals often did not have the resources or capability to collect and analyze data, and patient level data – shared by CMS – was limited to Medicare FFS. Improving data collection, reporting, and sharing infrastructure is critical to improve transparency and to more effectively track model success and improve the health outcomes of rural communities.

The Innovation Center has taken these lessons learned into consideration when designing recent models to support rural provider participation, such as the Making Care Primary (MCP)[16] Model, the Accountable Care Organization (ACO) Primary Care Flex (ACO PC Flex)[17] Model, and the Transforming Episode Accountability Model (TEAM).[18]

[16] https://www.cms.gov/priorities/innovation/innovation-models/making-care-primary
[17] https://www.cms.gov/priorities/innovation/innovation-models/aco-primary-care-flex-model
[18] https://www.cms.gov/priorities/innovation/innovation-models/team-model

Making Care Primary (MCP) Model

The MCP Model started in July 2024 and provides a pathway for primary care providers, including those with limited experience, to participate in a value-based care model. MCP will help providers adopt prospective, population-based payments that support care transformation over the course of the 10-year model. MCP aims to strengthen coordination between primary care providers, specialists, behavioral health providers, and community-based organizations to prevent chronic disease, to reduce emergency room visits, and to improve equitable access to care and health outcomes. The model is operating in 8 states[19] and working with state Medicaid agencies to drive alignment between Medicaid and MCP in key areas. Over 40 percent of organizations starting in MCP are FQHCs and over 20 percent are in rural areas. Building on this early work, the Innovation Center is considering additional opportunities to expand rural provider participation in MCP (see Path Forward section).

ACO Primary Care Flex Model (ACO PC Flex)

Strengthening beneficiary access to advanced primary care by expanding use of prospective payments is key to enhancing the financial sustainability of primary care. In April of 2024, CMS announced the ACO PC Flex Model to support advanced primary care in ACOs. The model will begin on January 1, 2025 and is being tested by participants in the Medicare Shared Savings Program and features enhanced prospective primary care payment (PPC Payment) for primary care providers serving aligned beneficiaries. The PPC Payment is intended to increase utilization of primary care in traditionally underserved communities and incentivize the provision of person-centered, team-based primary care. PC Flex ACOs will also receive a one-time advance shared savings payment for ACO start-up costs and administration.

To further support rural providers, the model includes special considerations for FQHCs and RHCs for beneficiaries with FQHC- or RHC-focused care.[20] A beneficiary level add-on payment to the PPC Payment is included for beneficiaries who receive the plurality of primary care services based on allowable charges at FQHCs or RHCs (beneficiaries with FQHC- or RHC-focused care). The model includes guardrails to ensure that primary care funding for these beneficiaries is not less than it would be outside the model.

Transforming Episode Accountability Model (TEAM)

TEAM is a 5-year mandatory episode-based model that will launch on January 1, 2026. Selected acute care hospitals will coordinate care for people with Traditional Medicare undergoing one of the surgical procedures included in the model and assume responsibility for the cost and quality of care from surgery through the first 30 days after the Medicare beneficiary leaves the hospital. TEAM aims to benefit Traditional Medicare beneficiaries by improving the coordination of items and services paid for through Medicare FFS payments, encouraging provider investment in health care infrastructure and redesigned care processes, and incentivizing higher value care across the inpatient and post-acute care settings for the episode.

Based on learnings from previous models, the TEAM design includes a one-year glide path available to all TEAM participants, which will allow participants to ease into full financial risk. TEAM will have

[19] Colorado, North Carolina, New Jersey, New Mexico, New York, Minnesota, Massachusetts, and Washington
[20] https://www.cms.gov/priorities/innovation/innovation-models/aco-primary-care-flex-model/faqs

three participation tracks: Track 1 will have no downside risk and lower levels of reward for the first year, or up to three years for safety net hospitals, including safety net hospitals that are also considered rural hospitals; Track 2 will have lower levels of risk and reward for certain TEAM participants, such as safety net hospitals and rural hospitals, for years 2 through 5; and Track 3 will have higher levels of risk and reward for years 1 through 5. Other features that support rural providers and beneficiaries will be examined in future years, including a low episode volume policy.[21]

Advancing Rural Health

The Innovation Center has been gathering lessons learned from previous models and experiences to consider ways to explore initiatives and models that would sustainably support rural health system transformation. As part of this effort, the Innovation Center hosted three Hackathons[22] in August 2024. The Hackathons were a series of in-person, collaborative sessions designed to generate creative and actionable ideas. The Hackathons convened rural health providers, community-based organizations (CBOs), industry and tech entrepreneurs, philanthropies, policy experts, and patients to leverage the collective experience of the group. The events were held in Bozeman, Montana; Wilson, North Carolina; and Dallas, Texas. The Innovation Center also created a virtual online submission option available to anyone interested in participating but unable to attend the in-person sessions. The virtual submissions contributed over 60 additional ideas that were reviewed and are reflected in the following thematic summary.

Virtual and in-person hackathon participants generated ideas across three rural health challenge areas: access to care, care delivery, and workforce. Participants were asked to develop and share concepts that could improve clinical outcomes, increase access, and improve the care experience for both rural patients and providers. At each of the three in-person Hackathons, attendees voted and selected top concepts based on their assessment of their potential impact, actionability, and focus on community partnership. Not surprisingly, many of the hackathon concepts reflected recommendations from experts and rural organizations. Four common elements from the top voted concepts from the in-person Hackathons are outlined below (see Appendix for additional description of the top voted concepts).

- Policies and programs to support connections between providers, such as primary care and emergency medical services (EMS), to address specific challenges in the rural health delivery system,
- Regional collaboratives that convene health care, public health, and CBOs to improve rural population health on a shared set of outcomes,
- Regulatory changes and flexibilities for rural providers to more effectively obtain payment for services, and
- Local training programs to create a sustainable pipeline for rural health workforce.

[21] https://www.federalregister.gov/documents/2024/08/28/2024-17021/medicare-and-medicaid-programs-and-the-childrens-health-insurance-program-hospital-inpatient

[22] "Hackathons" are intense, multidisciplinary, collaborative events where knowledge experts and key partners brainstorm solutions to vexing challenges. See more at Walker A, Ko N. Bringing Medicine to the Digital Age via Hackathons and Beyond. J Med Syst. 2016;40(4):98. doi:10.1007/s10916-016-0461-1.

Summary of Themes from the Rural Hackathons

Hackathon participants were asked to develop concepts to address the rural health challenge areas. Participants were not asked to limit their ideas to those that would be feasible for CMS or the Innovation Center to address in models, and the themes below reflect the breadth of the responses. The following sections highlight key themes from the discussion of problems and development of concepts across the in-person Hackathons and virtual submissions. The sections are organized to highlight common goals that participants identified in each challenge area, potential tactics the teams identified to advance that goal – both of which reflect the breadth of ideas generated by Hackathon participants.

CMS is sharing these ideas and goals, but not all of these can or will be implemented by the Innovation Center. The final section of this report focuses on those ideas garnered from the Hackathon and other sources that the Innovation Center may explore to advance and re-imagine health care in rural, Tribal, frontier, and geographically isolated areas.

1. Hackathon Challenge Area: Care Delivery

Participants highlighted that provider and organizational leadership confidence in the financial sustainability of new payment models initiated by the Innovation Center or other payers is particularly critical in communities where the hospital and other care delivery sites are a major employer and economic hub. Many concepts developed during the Hackathon included recommendations for modifications to alternative payment model (APM) payment and care delivery elements to accommodate the unique aspects of rural health care delivery and enable providers to be financially successful in APMs. Across all payment and care delivery elements, participants also emphasized the importance of upfront collaboration with CMS and local, rural providers and health systems to align organizational priorities and capacity. For example, concepts recommended collaborating with community representatives - including hospitals, health plans, patient representatives - to identify rural-focused quality measures that reflect the priorities and challenges within rural communities (e.g., prevalence of chronic diseases, access to care, patient experience).

The following sections highlight common Care Delivery goals that Hackathon participants identified, and participants' suggested tactics to advance that goal.

Goal 1.1: Create rural-specific payment and care delivery requirements

Participants highlighted that rural-specific payment model methodologies and design features can help providers overcome participation challenges and feel confident in the financial viability of value-based care models. For example, participants pointed to issues surrounding the use of historical data and/or the inclusion of an ACO's own data when setting benchmarks and assessing performance for rural participants. Similarly, participants noted that due to low and variable patient volumes, rural providers may not be able to meet model attribution requirements or be required to participate in a model with their entire patient panel rather than a subset of their population.

Suggested Tactic	Description from Hackathons
APM design features	• Modifications to payment and care delivery elements for new and existing CMS models, including rural specific model performance benchmarks, attribution methodologies, and quality measures to enable greater model participation from rural providers. ○ **Performance benchmarks:** Concepts recommended creating separate benchmark methodologies and targets for rural providers, accounting for rural specific costs (e.g., air ambulance) within the benchmark, and/or providing a multi-year on ramp to performance assessment. ○ **Attribution:** Concepts recommended lowering the minimum attributed patient population required for rural providers to participate in APMs and/or providing data and technical assistance to support implementation of aligned attribution models. ○ **Quality Measures:** Concepts recommended collaborating with rural community representatives - including hospitals, health plans, patient representatives - to identify rural-focused quality measures that could be leveraged across models.
Bundled payment codes for rural settings	• Use bundled payment codes to consolidate individual billing codes that are underutilized by rural providers (e.g., z-codes and other codes that may help identify wrap around care and social determinants of health). • Provide practices flexibility in meeting certain Medicare requirements (e.g., rural designation recognition, location requirements). • National training and technical assistance program for ancillary staff, including billing and coding professionals, to help rural providers accurately code and bill for services rendered.

Goal 1.2: Increase patients in accountable care relationships in rural areas

The formation of ACOs or clinically integrated networks (CINs) provide pathways for rural hospitals and providers to participate in value-based care. An ACO is a group of health care physicians and clinicians who contractually agree to share responsibility for the quality, cost, and coordination of care with aligned incentives for a defined population of patients.[23] ACOs must meet the requirements of the program or model they are a part of (e.g., the Medicare Shared Savings Program) and may receive shared savings payments for a defined population. A CIN is a more flexible, often less structured arrangement that is usually sponsored by an independent practice association (IPA) or a hospital. CINs have been described as entities that support collaboration among different health care providers and sites to ensure high-quality, coordinated, efficient services with greater flexibility for providers to determine how they work together.[24] Participants discussed opportunities to tailor the ACO and CIN structures to meet the needs of rural communities.

[23] https://www.aafp.org/family-physician/practice-and-career/delivery-payment-models/acos.html
[24] https://www.aafp.org/family-physician/practice-and-career/delivery-payment-models/acos.html

Suggested Tactic	Description from Hackathons
Local leadership	• Requirement that a majority of the governance body (e.g., the board of directors) represent local, rural organizations and providers to ensure initiatives are grounded in the rural context, build trust with the local community, and prioritize community needs.
Pooled resources	• Shared infrastructure across rural care delivery organizations for programmatic and administrative functions (e.g., staffing and human resources, compliance, IT, purchasing contracts) to create economies of scale for smaller, rural providers.
Split or reallocated payments	• Flexibilities in payment structures to allow reimbursement to providers and organizations outside the hospital (e.g., shared payment between primary and specialty care doctor for referrals or curbside consults). • Mechanisms to split payment between tertiary and local hospitals, primary care and specialist care, and EMS.
Data infrastructure	• Access to the technology and data reporting infrastructure required for providers to be successful in value-based care arrangements. Data collection, reporting, and aggregation that is customized for rural settings, integrated within the electronic medical record (EMR) system, and ideally provided to rural providers at low to no cost.
Provider credentialing	• A national governing body and process to develop and enforce a gold standard for provider credentialing and payer enrollment to reduce administrative burden for rural providers. This process could leverage machine learning and artificial intelligence (AI) to automate data collection and verification and potentially be implemented by a trusted, independent third party.

Goal 1.3: Conduct a needs assessment for rural communities with flexibility for community needs to fill gaps

Participants also emphasized that every rural community has different capabilities, infrastructure, and resources and recommended community-driven approaches to address local health care gaps and opportunities. For instance, participants discussed a medical neighborhood or hub and spoke model[25] for regional system delivery that could enable rural communities to better utilize and integrate existing community resources. Participants highlighted that a hub and spoke model could provide flexibility to place an FQHC at the center of care, and/or better integrate long-term care, behavioral health, and social health services in the formal care network in rural communities.

[25] For more on the value of "hub and spoke models" in health care, see: Elrod JK, Fortenberry JL Jr. The hub-and-spoke organization design revisited: a lifeline for rural hospitals. BMC Health Serv Res. 2017;17(Suppl 4):795. Published 2017 Dec 13. doi:10.1186/s12913-017-2755-5.

Suggested Tactic	Description from Hackathons
Differentiation between rural and frontier	• Creation and application of a definition of rural and/or frontier and guidance for identifying these communities in the design and implementation of APMs, including potentially creating different flexibilities for payment, measurement, and care delivery methodologies and requirements for rural and frontier participants.
Community needs assessment	• Upfront needs assessment to understand the community's met and unmet care needs, outline the capacity and capabilities of local organizations, and inform decisions about core and supplemental services to be delivered.
Rural hospital services	• Creation of a tiered list of core health care services needed by residents of rural communities of various sizes (e.g., CAH, RHC) with flexibility for inclusion of supplemental services either through the hospital or partnership with other local organizations.

2. Hackathon Challenge Area: Access to Care

Delivering person-centered care requires addressing the full range of people's needs, from primary and preventive care services to management of chronic conditions, acute episodes of care, and social and behavioral health needs. Meeting patients' needs comprehensively can be particularly challenging in rural areas. Participants emphasized the importance of creating targeted incentives and support to maximize use of existing resources and encourage greater care coordination across providers, especially in rural communities with varying resources and capacity levels.

The following sections highlight common Access to Care goals that Hackathon participants identified, and potential tactics to advance that goal.

Goal 2.1: Improve communication with specialists

Participants expressed dual objectives of wanting to provide care locally and conveniently to rural residents while also ensuring that patients get the best possible care for complex, high acuity conditions. To meet both these objectives, participants highlighted the importance of incentivizing primary care physicians and specialists to communicate and coordinate better on behalf of their shared patients.

Suggested Tactic	Description from Hackathons
E-consults	• Financial and non-financial incentives, guidance documents, and technical assistance to enable utilization of e-consults by rural providers. For example, rural providers cited the need for clear and concise guidance on best practices for billing and reimbursement, integration in care workflows, and use of technology platforms including EMRs.

Goal 2.2: Maximize use of existing community resources

Participants highlighted the critical role that CBOs and individuals play in filling gaps in rural health care delivery, particularly for social needs. These services are often provided on a pro bono basis, but participants encouraged policies and programs to capture, institutionalize, and reimburse these activities where possible to create a more sustainable community-based delivery model.

Suggested Tactic	Description from Hackathons
Community directory	• Enhanced tools and platforms to connect rural patients to existing community resources, such as a nationally sponsored directory that contains local community health and health care resources for use by patients, families, clinicians, and CBOs.
Enhanced data reporting and sharing	• Funding and/or technical assistance to integrate referrals to CBOs within provider electronic medical record systems. • Rural-focused data reports through existing local health information exchanges (HIEs), including targeted utilization and quality measure data to support providers in managing needs of rural populations. • Utilization of encounter notification systems (ENS), which are near real-time notifications that alert providers, care managers, and other relevant parties when their patients are admitted, discharged, or transferred outside of their health system, across rural provider care settings.

Goal 2.3: Maximize use of existing workforce capabilities and capacity

Participants highlighted the importance of utilizing the capabilities and capacity of the existing workforce in rural communities, including non-hospital-based providers like paramedics, emergency medical technicians (EMTs), pharmacists, and community health workers. Participants emphasized the importance of creating a structure that formally integrates these professionals into the care team through flexible role definitions and requirements.

Suggested Tactic	Description from Hackathons
Flexibility for role definitions and scope of care	• Broader role definitions that limit professional licensing requirements and allow rural providers to leverage existing workforce (e.g., care navigators not required to be licensed social workers). • Flexibility for expanded scope (e.g., home visits) of non-physician care providers such as nurse practitioners, physician assistants, and social workers.
Payment for non-traditional care team members	• Payment for services furnished by non-traditional care team members (e.g., doulas, community health workers) to support their inclusion in rural care delivery teams and care management plans.
Flexibility for site of care	• Flexibility for services to be provided by a licensed care provider outside of a formal care setting (e.g., within the home or at faith-based organizations, homeless shelters, or other community centers).
Integration of emergency medical services	Flexibilities to allow paramedics to supplement or expand home-based care visits, including: • **Site of Care:** Flexibility to treat "in place" as part of an emergency call and/or provide routine home visits outside of an emergency call. • **Payment:** Options for payment outside of transport, including capitated payments, billable telehealth visits, and/or proactive care fees, and billing codes for paramedics to refer patients to primary care doctors. • **Data Sharing:** Platform to enable sharing of electronic health records between primary care providers and paramedic, coordinate care, and generate referrals. • **Non-emergency Number:** Non-emergency number for emergency department (ED) high utilizers that individuals can call or text to receive care guidance and support.

3. Hackathon Challenge Area: Workforce

Participants highlighted that the best way to grow the rural workforce is to focus on locally recruiting, developing, and retaining individuals to meet evolving health care system needs, including both physician and non-physician members of the care team. The Hackathon ideas described below are also interrelated. For instance, local and homegrown training pipelines can increase the number of non-physicians trained to deliver care.

The following sections highlight common Workforce goals that Hackathon participants identified, and potential tactics to advance that goal.

Goal 3.1: Create local and homegrown training pipelines

Suggested Tactic	Description from Hackathons
Rural placement for medical programs	• Increased number of allotted placements within medical schools and residency programs for individuals committed to serving rural communities. • When preferred by the student, facilitate placement of medical students from rural areas in residency programs near their local communities.
Targeted career development	• Flexible funding for training programs and long-term engagement with participants of the training programs, including mentorship, career advancement, and other supports.
Distance learning	• Flexibility for students in rural areas to fulfill credits and program requirements through distance learning to enable them to remain within their communities.

Goal 3.2: Support development of non-physician care delivery team members

Participants highlighted the importance of developing and retaining ancillary support staff in addition to clinical staff. Although the health care system is often the largest employer within rural communities, participants reported that community residents, especially elementary, middle, and high school students, may not be aware of the scope and breadth of career options within the health care system and how to pursue education and training requirements.

Suggested Tactic	Description from Hackathons
Education program for ancillary support workers	• Expanded scope of the current Medicare Graduate Medical Education (GME) program or creation of a new education program that includes non-physician health care professionals including nurses, social workers, billing and coding professionals, lab technicians, and other support staff.
Loan repayment program	• Scholarship, loan, and loan forgiveness programs to include training and education for non-physician support team members and ancillary staff (e.g., paramedics, pharmacists, skilled nursing facility (SNF) workers, lab techs) that serve rural communities.
High school and trade school partnerships	• Partnerships with high schools and trade schools to highlight the full scope of careers available within the health care industry, including non-clinical roles, including career education programs and materials, (virtual) career fairs, and opportunities for internships.

The Innovation Center's Path Forward to Re-imagining Rural Health

The Hackathons yielded valuable insights on the range of needs rural communities face and innovative solutions to address those needs. The following section outlines near and long-term ideas that the Innovation Center is exploring to support rural health transformation.

Rural Health Clinics and the Making Care Primary Model

The Hackathons identified several challenges facing rural primary care, including the need for improved primary care access, coordination between primary care and specialists, EMS, and other parts of the health system, and the need for improved data sharing and infrastructure. Future Innovation Center activities could potentially build on the current MCP Model and seek to expand the reach of accountable care to more people in rural communities and provide options for participation to organizations with different levels of experience with value-based care, such as by engaging RHCs.

Future ACO Models

The Hackathon participants noted a need for rural specific-model features and flexibilities, especially in ACO models, such as predictable and stable payments, and performance benchmarks, attribution methodologies, quality measures, and if necessary, waivers. Participants cited these as important for enabling more rural providers to sustainably participate in ACOs. CMS recently announced new policies to support ACOs in the Medicare Shared Savings Program to meet beneficiary needs, including those in rural areas. CMS is drawing on ideas and feedback from the Hackathon events and virtual submissions on how to better support rural providers and grow participation in future ACO models and inform changes to the Medicare Shared Savings Program. These include:

- Changes to benchmarking to continue to make long-term participation sustainable and attract new ACOs, including ensuring the sustainability of benchmarks for rural ACOs,
- Providing greater predictability for revenue for rural and new ACOs and their partners during their transition and ongoing participation in value-based care,
- Improving beneficiary attribution to support meaningful specialty engagement and care, strengthening relationships between ACOs and CBOs to address health related social needs, and
- Exploring rural or safety net ACO targeted policies to address the needs of rural and safety net providers and the beneficiaries they serve as well.

Rural Community Hospital (RCH)[26] Demonstration

CMS has operated the RCH Demonstration since 2004 as directed by Congress in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. The authorizing statute requires a test of cost-based payment for Medicare inpatient services for rural hospitals with fewer than 51 beds that are ineligible for CAH status. Currently, the demonstration includes 20 out of a maximum allowed 30 hospitals. The Innovation Center is developing a Request for Application (RFA), to fill the ten open spaces for the demonstration, which is scheduled to end on June 30, 2028.

[26] https://www.cms.gov/priorities/innovation/innovation-models/rural-community-hospital

Regulatory Waivers and Model Design to Support Rural Health

All three Hackathons highlighted the potential for regulatory and payment flexibilities and waivers to support the unique needs of rural and frontier communities. The Innovation Center can leverage existing statutory waiver authority if it is necessary for the testing of a model.[27] The table below provides categories of waivers that may be considered when testing models in rural and frontier communities and examples of previous and existing waivers that the Innovation Center has used for model testing within those categories.

Category	Examples for Current Innovation Center Models
Workforce	• The Kidney Care Choices (KCC) and ACO Realizing Equity, Access, and Community Health (ACO REACH) models include the use of generally supervised "auxiliary staff" in Post Discharge Home Health and Care Management Visits. • ACO REACH includes a waiver to allow Nurse Practitioners to provide certain services without physician supervision such as certifying a beneficiary's need for diabetic shoes or to order and supervise cardiac rehabilitation.
Payment to support team-based care	• The Transforming Maternal Health (TMaH) model requires state Medicaid agencies to cover the full range of doula services and use a variety of methods to pay for such services. • The Guiding an Improved Dementia Experience (GUIDE) Model introduced the use of care navigators to provide GUIDE Care Delivery Services to beneficiaries. • The Enhancing Oncology Model (EOM) allows certain services to be delivered to model beneficiaries by auxiliary personnel under general as opposed to direct supervision by a physician.
Site of care	• The Emergency Triage, Treat, and Transport (ET3) Model[28] included an "In-Person Treatment in Place Intervention" waiver where ambulance suppliers and providers were allowed to initiate and facilitate in-person treatment in place. Additionally, it waived the outpatient setting requirements which allowed for coverage of services delivered by a Medicare-enrolled provider at the scene of an emergency response. • Multiple past and current models include telehealth waivers for the rural geographic originating site requirements, allowing the originating site to include a beneficiary's home, and waiving the fee requirements when a visit is originated in a beneficiary's home. • Multiple past and current models include a Home Health Homebound Waiver for beneficiaries with multiple chronic conditions at risk for hospitalization so they may receive home health services more flexibly.
Care delivery	• ACO models and specialty models, such as the Bundled Payments for Care Improvement Advanced (BPCI Advanced) Model includes a 3-day SNF waiver that allows beneficiaries to be discharged to a Qualified SNF without a 3-day hospital stay if certain requirements are met.

[27] Section 1115A(d)(1) of the Social Security Act

[28] While the ET3 model ended early due to lack of participation, the waivers described in the above table were found to be necessary for the model test and could be considered in future model tests if they are also found necessary.

Seeding New Innovations to Solve Rural Health Challenges

The Hackathons made clear that while there are a range of health-related challenges facing rural, Tribal, frontier, and geographically isolated areas ranging from available workforce to assistance with billing, coding, and implementation of low-cost data infrastructure, there are also innovative ideas to solve for these problems. To support rural innovators, the Innovation Center is exploring challenge grants and other opportunities that could improve the delivery of health care services in rural and frontier areas and reduce spending.

Conclusion

The Innovation Center is committed to advancing rural health by increasing participation in existing and new models – and fostering innovations to address challenges facing rural communities. The Hackathons illustrated how new ideas can inform solutions by bridging public, private, and non-profit partners and hearing the perspectives of rural communities. The Innovation Center looks forward to further utilizing input from the Hackathons and robust engagement with those working in rural health to design new models and innovations, and, where possible, change existing models, to enable greater participation by rural providers. The Innovation Center appreciates the high engagement levels from those working to improve health care in rural communities and will continue to seek input and explore creative and effective ways to provide financially sustainable and quality health care with our rural populations.

Appendix: Winning Ideas from the Rural Health Hackathons as Voted by Hackathon Participants

Problem (Workforce): Rural communities struggle to develop and retain comprehensive care teams locally. A care team includes the practitioners, administrators, and support services necessary to efficiently, effectively, and sustainably deliver high quality care.

Idea: Create a hyper-local, GME-like career pathways program to build comprehensive care teams. This would apply to the full health care workforce, including but not limited to nurse practitioners, physical therapists, certified nursing assistants (CNAs), EMS, information technology, lab technicians, social workers, doulas, and Community Health Workers (CHWs).

Key Components:

- **Workforce Needs Assessment:** Create a community-based definition of workforce needs. The 10-year program would start with a local workforce collaborative (including schools, providers, workforce boards, area health education centers, employers, and active community members) conducting a community needs assessment to select target workforce programs.
- **Targeted Career Development:** Provide flexible funding for training programs, as well as long-term engagement with participants, including mentorship, career advancement, and other supports.
- **Sustained Engagement:** Develop and launch the program, paying for the cost of attendance and providing mentoring programs to connect students to progressive career development and community connections.
- **Program Evaluation:** Over time, the program would add new cohorts, exchange leading practices, and conduct short, medium, and long-term evaluation (examining features such as the number of providers, career progression, and retention).

Problem (Care Delivery Model): Certain billing and coding requirements can be administratively burdensome and technically complex. As a result, certain codes are underutilized that may help cover wraparound care and social determinants of health, such as Z-codes. These billing and coding practices, combined with a lack of provider literacy and education on coding processes, restrict access to care for rural populations and disincentivize innovative partnerships and services among rural providers.

Idea: Create a bundled code that consolidates disparate codes that are underutilized by, but tailored to, rural providers. Additionally, provide waivers and flexibilities for rural providers to use codes creatively. These could include developing or recognizing specific rural designations and allowing flexibilities for licensure and locations (including libraries and other critical rural community locations).

Key Components:

- **Codes and Waivers:** Choose codes and parameters for waivers through detailed discussions with rural health providers and applicable federal regulatory processes. These discussions could be ongoing and depend on continuous improvement metrics and a collection of insights from affected partners.
- **Training and Support:** In partnership with CMS, states, grantees, and other federal agencies create a new and robust national training program for billing and coding professionals. States,

grantees, and other federal agencies work with CMS to share educational materials with affected providers and suppliers and develop a robust training and communications strategy. CMS provides ongoing technical assistance and support for rural designated providers.
- **Evaluation:** Measure reinvestment in provider services, community partnerships, and patient safety outcomes as a result of code innovation.

Problem (Care Delivery Model): Rural services, providers, and health care professionals are poorly coordinated, disparately funded, and not held accountable to the community. As a result, services are neither evenly nor efficiently distributed. This can lead to care gaps, impacting access to primary and specialty care, behavioral health, and hospital services.

Idea: Develop Rural Regional Health Authorities, which will be accountable to local communities and responsible for regional coordination.

Key Components:
- **Rural Regional Health Authorities (RRHAs):** RRHAs will be accountable for health care access, outcomes, and workforce across the entire region. RRHAs will be composed of a central office, which will oversee payment models and negotiate insurance payments, coordinate funding, create workforce programs, manage data, and provide relevant technology. RRHAs will have representation from CBOs, Health Standards Organizations, FQHCs, hospitals, other providers, government representatives, local employers, and industry.
- **Rural Centers of Excellence:** RRHAs will establish Rural Centers of Excellence. These will be organizations such as hospitals that will be limited to certain high costs services (e.g., cardiac, labor and delivery, behavioral health). Rural Centers of Excellence will also provide health care provider training. Centers will lead to higher quality of care, more rational distribution of services, and higher provider satisfaction.
- **Support for RRHAs:** RRHAs may need federal and state regulatory and statutory relief and powers, data analysis and infrastructure expertise, IT backbones, a catalog of best practices, and capital to support their launch.

Problem (Care Delivery Model): The American Southeast is the epicenter of health disparities nationally, especially for beginning of life and end of life services. The rural Southeast largely has the highest maternal and infant mortality rates, limited and falling primary care access, and increasing rates of dementia and end-stage chronic conditions. Care transitions around perinatal care and care for the aging are fragmented and difficult for families to navigate. These challenges are exasperated by challenges related to social determinants of health (e.g., transportation, poverty, broadband limitations).

Idea: Create a Southeast-specific model to support viable, community-oriented rural health systems of care to improve perinatal and obstetric (OB) care along with aging and dementia supports.

Key Components:
- **Community Health Organization-Health System Dyads:** Dyads of community health organizations and health systems will be selected at the large county or multi-county level across the Southeast. These dyads will have shared governance and focus on community health worker integration, caregiver support and respite care, public health connections, and

referrals for services related to social determinants of health. Community health organizations would receive 70% of the funding, and health systems would receive 30%.

- **Upfront Investment:** Provide support funding for regions that need it most. Dyads in counties with the most disparate outcomes will receive upfront investment for the first five years to improve care quality and reduce health utilizations related to OB complications or early long-term care admissions and referrals.
- **Health Outcomes:** Focus on beginning of life and end of life health care outcomes, while minimizing extraneous data requirements. Provide a long-term structure to meet these outcomes, along with actuarial targets.
- **Learning Exchange:** Enlist a regional health entity (e.g., Office of Rural Health or practice transformation network) to manage regional learning. This will provide a state-based, locally attuned transformation learning center to tailor and facilitate learning exchange.

Problem (Access to Care and Care Delivery Model): A confusing and complex health care delivery system has driven people to the most easily accessible, but often most inefficient care options — or to avoid primary and preventative care altogether. This is a real and important need because it drives inaccessible care, high care costs due to inefficient utilization, and health disparities.

Idea: CARES – Clarifying Access Resources Efficient Resources – is a collaborative primary care and EMS partnership that redirects patients away from the ED by providing: a virtual follow-up within 48-hours after unnecessary medical transport; a modified billing code for EMS to pass the lead to a Primary Care Physician (PCP); and a "text the doctor" solution to re-integrate the patient into the care system. This partnership would aim to reduce health care costs and improve access of both emergency services (for those requiring it) and primary care.

Key Components:

- **Reimbursement and Funding Flexibilities:** Remove reimbursement requirements for transport and enable easy sharing of electronic health records (EHRs). The program would also include funding flexibility for capitated payments for EMS, billable telemedicine visits, boosted payments to PCP for expedited services, and proactive care fee to community paramedicine and telehealth providers.
- **Rural Community Coordination:** EMS receives all calls, and if ED services are not needed, EMS connects the patient to a telehealth provider. The telehealth provider addresses the patient's acute needs and coordinates any necessary follow-up PCP appointments and services from CBOs to address social determinants of health. Additionally, telehealth and community paramedicine experts proactively work with high utilizers to ensure patients complete any necessary PCP follow-up visits and help prevent unnecessary 911 calls in the future.
- **Enabling Technology:** Allow efficient data flow, including EMR sharing, between EMS, telehealth, and PCPs. CARES would also create a technical platform for scheduling of telehealth appointments and appointments with PCPs and provide an alternative phone number for patients, particularly high utilizers, to use in non-emergency scenarios in the future.

Problem (Care Delivery Model): Limited access to care is driven by fragmented payment schemes and misaligned provider incentives. This has yielded a rural health care delivery system ineffective in meeting the needs of changing rural communities. Limited access to care encompasses acute care, primary and specialty care, prescription management, and public health services.

Idea: The RRCC – Rural Regional Care Collaborative – provides a funding mechanism for essential services (including behavioral health) based on community needs with focused outcome measures for individual segments. The RRCC includes health care providers, local regional public health officials, local education, CBOs, and school districts.

Key Components:

- **Transformational Planning:** Develop plans based on community needs, taking into consideration essential services and current health indexes. The RRCC would also develop and use a roadmap supported by evidence-based practices (both clinical and operational), and utilize existing quality health care measures and tools, such as the Healthcare Effectiveness Data and Information Set (HEDIS), to track progress.
- **Funding Mechanisms:** Create funding mechanisms based on defined essential services that take into consideration the cost of providing efficient care. Upfront funding would be available to develop shared infrastructure. The RRCC would also leverage current costing data covering of the continuum of care to identify where savings might be achieved.
- **Rural Health Community Coordination**: The RRCC is a macro system concept designed to allow other innovative solutions to co-exist in the space. To be successful, rural hospitals would serve as the conveners. The RRCC would oversee regional coalitions, and each coalition would engage across health care providers, local/regional public offices, local educational institutions, and CBOs.