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

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
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.

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.