**FINAL PROGRESS REPORT**
"Improving Technology Innovation in Medicaid Programs"
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AcademyHealth
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**2. STRUCTURED ABSTRACT**

**Purpose:** Health technology innovations have the potential to improve patient outcomes and deliver cost savings, but these benefits have not been realized by Medicaid programs. Even when high-tech treatments are available, Medicaid patients may be less likely to receive treatment and have worse health outcomes. Other forms of technology innovations, including web-based platforms and applications, are also under-evaluated and implementation lags behind user needs. The identification of pain-points and areas of improvement are necessary for designing research and investment systems that can take advantage of health-technology for Medicaid beneficiaries. **Scope:** A convening of states' Medicaid Medical Directors provides the unique opportunity to understand undiscovered challenges facing Medicaid consumers and Medicaid programs at large that may be amenable to improvement through technology innovation.

**Methods:** The 2022 "Workshop to Inform Technology Innovation and Research for Medicaid Programs" utilized the Design Thinking Process to guide clinician leaders through a shared discovery and understanding of the needs of Medicaid beneficiaries to ideate prototypes of solution to address beneficiary needs. Baseline information about technology-amenable challenges faced by Medicaid beneficiaries was collected through pre-workshop surveys. Building on the pre-workshop activities, the workshop organizers guided participants during the first phase of the workshop to brainstorm and identify areas of promise to pursue. The second phase of the workshop then iteratively enabled clinician leaders to ideate prototype solutions. **Results:** The post-workshop activities organized, synthesized, codifies, and disseminated the workshop findings so that that policy, research, and innovation ecosystems can prioritize their activities to improve Medicaid beneficiaries lives through innovative use of technology. **Keywords:** Medicaid, technology innovation, design thinking

**3. PURPOSE**

Health technology innovations have the potential to improve patient outcomes and deliver cost savings, but these benefits have not been realized by Medicaid programs. Emerging partnerships of technology and health service delivery, including tele-health and integrated mobile services in interdisciplinary care, have demonstrated promise, but the private sector has dominated in capitalizing on these innovations. Lack of systemic investment is understood to be the primary barrier to state-sponsored technology design, implementation, and evaluation. The Patient Protection and Affordable Care Act called on states to organize insurance coverage to prioritize integrated and continuous care, reduced acute and emergency care visits, and cost savings – yet technologies that could actualize these goals are rarely piloted or rigorously evaluated. Even when high-tech treatments are available, Medicaid patients may be less likely to receive treatment and have worse health outcomes. Other forms of technology innovations, including web-based platforms and applications, are also under-evaluated and implementation lags behind user needs.

The introduction and evaluation of device technology is one mechanism of technology implementation in the Medicaid space. Passive remote patient monitoring systems for elderly members have been associated with reduced acute care utilization and nursing home days and has high acceptability for both patients and family members. While this is one area of promise, most research focuses on the development of technology rather than how new devices affect costs and health outcomes, or how members engage with medical technology that compromises their privacy. Even less research focuses on how state-insurance programs' reimbursement policies cover or prohibit these technologies.

Technologies that take advantage of existing infrastructures, including Electronic Health Records (EHRs), tele-health, and digital health are also under-utilized by Medicaid programs yet show promising health outcomes. These applications include Medicaid re-enrollment reminders integrated into EHRs at

community health clinics, electronic nursing home resident medication and allergy lists, shared-decision making software that improves anti-psychotic medication compliance, remote digital retinal imaging for diabetic patients, and tele-dental care for rural and underserved populations. In the case of nursing home medication management and dental care, there are no reimbursement mechanisms in place for facilities who use these programs despite billions of dollars being spent yearly on the downstream effects of medication mismanagement and dental disease.

Telemedicine is defined by the American Telemedicine Association as the "use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status." This broad definition mimics clinical practice, where telemedicine most often involves a phone or messaging system consultation coupled with online information including lab results or clinical data. And this style of medical service is growing, with 37% of employers reporting to offer telemedicine services to their covered employees, resulting in an estimated six billion dollar per year in savings.  CMS narrows the definition for reimbursement to "two-way, real time interactive communication between the patient, and the physician or practitioner at the distant site...[with] the use of interactive telecommunications equipment that includes at a minimum, audio and video equipment." The identification of pain-points and areas of improvement are necessary for designing research and investment systems that can take advantage of health-technology for Medicaid beneficiaries. A convening of states' Medicaid Medical Directors would provide the unique opportunity to understand undiscovered challenges facing Medicaid consumers and Medicaid programs at large that may be amenable to improvement through technology innovation.

The Workshop Objectives are below. All these objectives were inclusive of pre-meeting planning, onsite facilitation of learnings, and post-meeting dissemination.
1. Provide an overview of technology deficits and avenues for improvement in Medicaid programs with a focus on the Medicaid consumer
2. Review pre-survey results and visual artifacts to brainstorm solutions and achieve consensus on actionable steps
3. Create solutions designed to empower facilities and providers to implement technologies that improve beneficiary outcomes, improve beneficiary experience, and/or reduce cost of care.
4. Disseminate post-conference materials through multi-media channels including peer-reviewed publications, gray-literature communications, and social media outlets.

**4. SCOPE** (Background, Context, Settings, Participants, Incidence, Prevalence)
Dr. Andrey Ostrovsky was the lead principle in meeting design. Dr. Ostrovsky is the former Chief Medical Officer of the US Medicaid program. He is the Managing Partner at Social Innovation Ventures where he invests in and advises companies and non-profits dedicated to eliminating disparities. He also advises federal and state regulators on how to incorporate human-centered design into policy making. He previously operated a series of methadone clinics in Baltimore, Maryland. Prior to working on the front line of the opioid use disorder crisis, he served as the Chief Medical Officer for the Center for Medicaid and CHIP Services, the nation's largest health insurer, where he advocated to protect the program against several legislative efforts to significantly dismantle the program. He also led efforts to streamline Medicaid and make it more customer centric.

Prior to the workshop, we queried MMD opinions on the challenges faced by their Medicaid programs and beneficiaries that may be amenable to technology solutions. These surveys were constructed following the Design Thinking Process and focusing on the Empathize and Define stages of the model. The survey results were analyzed, synthesized, and translated into visual artifacts that identified themes and divergence among the MMDs experience in their respective states.

Meeting participants included:

- **Jona Bandyopadhyay, M.D.,** Associate Medical Director, Tennessee Health Care Finance and Administration
- **James Bush, M.D., MACP,** Medicaid Medical Director**,** Office of Health Care Financing**,** Wyoming Department of Health
- **Mary Carpenter, M.D.,** Medical Director, South Dakota Division of Medical Services
- **Mohammad Dar, M.D.,** Senior Medical Director**,** UMass Chan Medical School / MassHealth
- **Doug Fish, M.D.,** Medical Director**,** Division of Program Development & Management**,** New York State Department of Health
- **Magni Hamso, M.D., M.P.H.,** Medical Director**,** Idaho Department of Health and Welfare
- **Thomas Lind, M.D., FAAP,** Medical Director**,** Division of Medical Assistance and Health Services, New Jersey Department of Human Services
- **Frank Messina, M.D.,** Director of Clinical Operations**,** Indiana Family and Social Services Agency
- **Judy Theriot, M.D.,** Medicaid Medical Director, Kentucky Department for Medicaid Services
- **Curtis Toma, M.D.,** Medicaid Medical Director**,** Hawaii Department of Human Services
- **Jeff Schiff, M.D., M.B.A.,** Former Medicaid Medical Director, Minnesota, Senior Scholar, AcademyHealth

We met for a day-long meeting in Washington DC, April 27, 2022, in the AcademyHealth former office space. The full agenda is attached to this final report as Appendix 1.

**5. METHODS** (Study Design, Data Sources/Collection, Interventions, Measures, Limitations)
Dr. Ostrovsky is currently working on a paper to be submitted for peer-review in an academic journal for general consumption to serve as a catalyst to inform the innovation and improvement agenda for Medicaid populations. When the paper is accepted and near publication, AHRQ colleagues will be informed.

**6. RESULTS** (Principal Findings, Outcomes, Discussion, Conclusions, Significance, Implications)
Workshop proceedings and products will be published in a variety of formats including visual reports, audio productions, and government/public communications. The goal of this multi-media approach is to create accessible materials that can be shared through a variety of formats including social media (e.g., Twitter), internal communications, and as reference material for later publications.

The primary audience of the outputs of this workshop will be investors, entrepreneurs, state Medicaid policy innovators, and federal Medicaid policy innovators. In 2019, approximately $8.4B was invested in digital health companies. A negligible amount of these dollars was invested in businesses that primarily focused on innovation for Medicaid beneficiaries. And of the investments that were made, the investors generally had little understanding of the nuanced challenges faced by the various stakeholders in the Medicaid programs.

Similarly, technology entrepreneurs entering the healthcare space often focus on building technology solutions for less esoteric and less highly regulated aspects of the healthcare system such as commercial insurance or direct to consumer offerings. The unique and varied challenges facing Medicaid stakeholders are usually inaccessible to entrepreneurs therefore they fail to delivery as much innovation for Medicaid as they do for other segments of the healthcare industry.

State and federal Medicaid policy innovators may also benefit from the outputs of this workshop by gaining rich insight into the pain points identified by highly experienced leaders in this space.

Additionally, the MMDs themselves are anticipated to benefit from learning human centered design techniques. When the peer-reviewed journal publication is published, an MMDN Open Mic call will be devoted to these findings for the benefit of Medicaid programs nationwide.

# Appendix 1 -
# Improving Technology Innovation and Research for Medicaid Programs
## *An Invitational Meeting with the Medicaid Medical Directors Network (MMDN)*
## April 27, 2022

| AGENDA | |
|---|---|
| 8:00 – 8:30 AM | **Breakfast** |
| 8:30 – 8:45 AM | **Opening Remarks**<br><br>Dr. Andrey Ostrovsky will set the foundation for using human-centered design (HCD), provide an overview of the objectives for the day, and lay out the day's agenda. |
| 8:45 – 9:30 AM | **Ice-Breakers and Setting the Stage**<br><br>MMDs and facilitators will get to know each other and build trust. |
| 9:30 – 12:30 PM | **Understanding and Defining Challenges in the Medicaid Space**<br><br>MMDs will reflect on the results of the pre-survey analysis and brainstorm actionable areas of promise. Using cluster voting methods, workshop facilitators will identify areas with consensus. |
| 12:30 – 1:15 PM | **Lunch** |
| 1:15 PM – 1:45 PM | **Prototype Version 1 (V1)**<br><br>Based on MMD interests and expertise, they will be divided to develop a prototype for an area of promise identified in the morning session. Through the exercise, MMDs will be guided to work together and use principles of HCD to keep focus on end-user experience and outcomes. |
| 1:45 – 2:15 PM | **Feedback on V1**<br><br>The purpose of this session is to get input on the prototype to inform future iterations. |
| 2:15 – 2:45 PM | **Unveil and Reflect Crowdsourced Solution Ideas**<br><br>Pre-meeting ideas from and beyond MMDs will be reviewed. Groups will have a chance to incorporate these ideas into V2 prototyping. |
| 2:45 – 3:00 PM | **Break** |
| 3:00 – 3:30 PM | **Prototype Version 2 (V2)**<br><br>This session will allow for changes based on feedback provided to create a stronger and more accessible version of the first prototype. Also, MMDs will think through the lens of how the innovation could be implemented in their states. |
| 3:30 – 4:00 PM | **Feedback on V2** |
| 4:00 – 4:30 PM | **Reflection, Feedback and Closing Remarks:** Dr. Andrey Ostrovsky |

The information gathered during the workshop are completely anonymous and will be used to inform a paper to be submitted for peer-review in an academic journal for general consumption to serve as a catalyst to inform the innovation and improvement agenda for Medicaid populations. No workshop insights will be used for commercial purposes. If you have any questions, please contact Dr. Andrey Ostrovsky (andrey@socialinnovationventures.co).

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### April 27, 2022

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# Improving Technology Innovation and Research for Medicaid Programs
## *An Invitational Meeting with the Medicaid Medical Directors Network (MMDN)*
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### Andrey Ostrovsky, M.D.

Dr. Andrey Ostrovsky is the former Chief Medical Officer of the US Medicaid program. He is the Managing Partner at Social Innovation Ventures where he invests in and advises companies and non-profits dedicated to eliminating disparities. He also advises federal and state regulators on how to incorporate human-centered design into policy making. He previously operated a series of methadone clinics in Baltimore, Maryland. Prior to working on the front line of the opioid use disorder crisis, he served as the Chief Medical Officer for the Center for Medicaid and CHIP Services, the nation's largest health insurer, where he advocated to protect the program against several legislative efforts to significantly dismantle the program. He also led efforts to streamline Medicaid and make it more customer centric. Before leading the Medicaid program, he co-founded the software company, Care at Hand, an evidence-based predictive analytics platform that used insights of non-medical staff to prevent aging people from being hospitalized. Care at Hand was acquired in 2016 by Mindoula Health. Before Care at Hand, Dr. Ostrovsky led teams at the World Health Organization, United States Senate, and San Francisco Health Department toward health system strengthening. Dr. Ostrovsky has served on several boards and committees dedicated to behavioral health, interoperability standards, quality measurement, and home- and community-based services including the National Academies of Medicine, National Quality Forum, Institute for Healthcare Improvement, and the Commonwealth Fund.

Andrey holds a Medical Doctorate and undergraduate degrees in Chemistry and Psychology Magna cum Laude from Boston University and is a member of Phi Beta Kappa. Andrey completed his pediatrics residency training in the Boston Combined Residency Program at Boston Medical Center and Boston Children's Hospital where he was a clinical instructor at Harvard Medical School. He is currently teaching faculty and attending physician at Children's National Medical Center.

Interests: behavioral health, value-based payment in pharma, quality measurement, primary care redesign, housing, human-centered design applied to policy making

### Social Innovation Ventures (SIV) https://www.socialinnovationventures.co/

We believe that health inequities can be eliminated through the thoughtful application of technology, policy, and business model innovation. The figurative blocks upon which the avatars stand represent tech-enabled improvements in health determinants that help to avoid or overcome inequities.

As active angel investors and advisors, we support leaders that are passionate about eliminating health inequity. We invest in founders and artists with massive growth potential. We also advise federal, state, and local organizations that are pioneering efforts to improve outcomes, decrease healthcare cost, and improve consumer experience.