

## **Final Report of the December 2010 Maryland Telehealth and Telemedicine (THTM) Roundtable**

*January 26, 2011*

*A project of the Rural Maryland Council, Maryland Rural Health Association and Upper Shore Regional Council*

### **Background:**

The 2007 *Maryland Rural Health Plan*, released by the State Office of Rural Health (SORH), identified access to primary and specialty care as the top priority for ensuring quality care in rural Maryland. In 2008, the Rural Maryland Council (RMC) and SORH conducted a Statewide Rural Health Roundtable to determine actions the RMC could take to help implement at least a portion of the plan. One of the many recommendations to emerge from that event was to create a statewide telehealth consortium that would help those delivering and receiving telehealth/telemedicine (THTM) services to use technology more widely and cost effectively to deliver care across the state. In addition, the 2008 Task Force to Review Physician Shortages in Rural Areas, chaired by Senator Thomas "Mac" Middleton, recommended exploring how THTM could be used to reduce barriers to access and how reimbursement mechanisms could be implemented.

Early in 2009, the RMC and SORH held a Statewide Telehealth Roundtable that concluded that a statewide inventory of current THTM projects needed to be undertaken to better understand what the state of THTM was in Maryland before moving forward with a consortium. In 2010, the Upper Shore Regional Council, an active participant in both Roundtables, as well as a member of the RMC's Health Care Working Committee and Telehealth Subcommittee, obtained a grant to fund this inventory through the Maryland Agriculture Education and Rural Development Assistance Fund. Administering the survey was sub-contracted to the Maryland Rural Health Association (MRHA) which consulted frequently with the RMC.

The goal of the survey was to compile an inventory of projects already underway around Maryland so that both those providing and receiving services could better coordinate their efforts, build a foundation for compatible infrastructure, address key issues, reduce redundancy, and potentially apply for increased funding to support and expand their services. Survey results were also expected to provide insight into the barriers of implementation as well as difficult policy areas that need to be addressed. The ultimate goal is to use THTM to increase access to quality health care in rural and underserved areas of Maryland.

### **The Maryland Telehealth/Telemedicine Survey:**

The Maryland THTM Survey targeted 95 facilities to survey. These facilities include all Maryland hospitals, Federally Qualified Health Centers, individual departments within the University of Maryland Medical System, The Johns Hopkins Health System and MedStar Health, as well as local health departments, state correctional institutions, and projects within Maryland Department of Health and Mental Hygiene (DHMH). Of this group, 30 facilities representing 53 different THTM clinical sites responded to date. In addition, 12 of the 95 facilities reported having no involvement in THTM of any kind. *(See Appendix #1.)*

The response rate was lower than anticipated. While THTM projects are more plentiful than the partners conducting this survey anticipated, THTM programs were far more fragmented than expected. No state agency or organization is responsible for coordinating, facilitating or monitoring THTM across the state. Even within institutions, there was a lack of coordination. In several instances, different participants in the same THTM program filled out the survey, but the answers did not mirror one another, indicating that even within projects, there was lack of coordination and different understanding of priorities moving forward. Still, the partners who conducted this survey were most interested in identifying the major providers and major barriers to implementation in order to have an informed and valuable policy discussion. In this sense, the survey has been very successful. *(See survey results in Appendix 2.)*

### **Barriers to Telehealth Implementation:**

Four major barriers to robust telehealth implementation were identified from the information and comments provided in the survey. The four are listed below.

- 1) **Funding:** Reimbursement and other funding is needed for full telehealth implementation and expansion.
- 2) **Leadership:** A lack of state leadership and coordination prevents THTM programs from being established and/or expanded in a well planned manner that serves the needs of all Maryland citizens.
- 3) **Broadband:** Poor access to high-speed broadband services in rural areas deprives some rural residents access to state-of-the-art medical care.
- 4) **Legal Impediments:** Issues related to privileging providers by health care facilities and licensing providers across state lines, pose legal barriers that have not yet been satisfied and pose potential risk for THTM providers.

### **The THTM Roundtable:**

On December 8, 2010, the Rural Maryland Council hosted a one-day Rural Roundtable in partnership with the Maryland Rural Health Association and Upper Shore Regional Council to review the survey results, hear presentations by experts in each of the four barrier areas, and discuss potential Next Steps. More than 30 people attended. (See Appendix #3) Below is a summary of the survey findings and Roundtable discussion.

### **Discussion of Barriers:**

#### **Barrier #1 - Reimbursement and other funding is needed for full telehealth implementation and expansion.**

Virtually every survey respondent indicated a need for (1) reimbursements by state Medicaid and other third-party payors for THTM services; and/or (2) other funding streams to support the cost of buying, setting up and maintaining THTM equipment and related administrative costs.

*Reimbursement:* Without question, the need for reimbursement is the top priority of those who took the survey. Those currently providing clinical services through THTM projects are not being reimbursed for those services. Costs are either being paid for on a fee-for-service basis, by specific grants or being absorbed by the participating facilities. This model is unsustainable over the long term and makes expansion into poorer, more remote communities and rural hospitals hard to imagine. Maryland is one of only 18 states that Medicaid does not reimburse for the provision of telemedicine services. In 2006, 27 states had Medicaid policies regarding the reimbursement of TMTH; today, at least 32 states have Medicaid reimbursing policies. In 2010, Virginia became the 12th state to mandate private health plans cover THTM. Even without mandates overall, 26 states have private payors reimbursing for TMTH, but Maryland is not one of them. Additionally, Medicare has been reimbursing telemedicine services nationally since 1997 in rural Health Professional Shortage Areas. HPSAs are designated by the Health Resources and Services Administration (HRSA) as having shortages of primary medical care, dental or mental health providers and may be geographic (a county or service area), demographic (low income population) or institutional (comprehensive health center, federally qualified health center or other public facility). Currently 20 of Maryland's 24 counties (or parts of counties) have some type of federally designated primary care HPSA. This number is up from the 10 counties (or parts of counties) in 2006. While many of these counties are considered urban, all of Maryland's federally recognized rural counties (i.e., Allegany, Caroline, Dorchester, Garrett, Kent, Somerset, St. Mary's, Talbot, Worcester) have at least one of the categories of a primary care HPSA designation.

Brian Grady, MD, MS, Director, TeleMental Health, University of Maryland, School of Medicine reported to the December Roundtable on efforts to develop Medicaid reimbursement regulations for telemental services. The Department of Health and Mental Hygiene Mental Hygiene Administration (MHA) convened a work group in the Fall of 2007 and approved proposed regulations in September 2010; however, Centers for Medicare and Medicaid Services (CMS) has not yet approved them for matching funds. The proposed regulations will provide

reimbursement for telemental services in 14 rural counties -- the nine Eastern Shore counties, three southern Maryland counties and the two most western counties. Dr. Grady also noted that the telemental program has a long-term vision of creating a TeleMental Health Center of Excellence that would coordinate resources and provide education, training and research . Dr. Grady's Powerpoint presentation is on the RMC website.

Other Funding: Federal funding for telemedicine has expanded in the last few years but Maryland continues to lag behind other states in securing these funds. For instance the USDA-Rural Development Distance Learning and Telemedicine (DLT) Funds has not had a Maryland grantee since 2003 when Sheppard Pratt received funding to facilitate a telemental service which is still sustaining today. The FCC Rural Healthcare Pilot Programs awarded 69 statewide or regional broadband telehealth networks in 42 states, but none in Maryland. Some projects, like the Mid Shore Mental Health Systems, University Maryland School for Medicine, and Johns Hopkins School of Nursing have secured recent federal funds to develop TMTM projects, but these are not part of a coordinated statewide plan. Of those who are providing THTM service, many indicated a desire to expand to other rural parts of the state, but all indicated they need help financing the service, either by obtaining funding for the direct cost of equipment and administration, or by obtaining reimbursement for clinical services.

Recommended Next Steps: The following next steps were recommended by participants at the Roundtable. The RMC and MRHA Boards have not yet determined which, if any, to act upon:

- Monitor and study the potential impact of any proposed legislation related to THTM reimbursement during the 2011 Legislative Session.
- Monitor CMS response to the proposed THTM reimbursement regulations for telemental services and, if approved, monitor their cost and implementation.
- Advocate for broader implementation of THTM reimbursement outside the public health setting.
- Be careful not to pit "rural" and "urban" providers against each other in the reimbursement arena. Encourage doctors to support reimbursement, even for specialties they don't practice, by focusing first on high need underserved areas, both rural and urban.
- Educate doctors about THTM to reduce a sense of competition for reimbursement dollars.

**Barrier #2 - A lack of state leadership and coordination prevents THTM programs from being established and/or expanded in a well planned manner that serves the needs of all Maryland citizens.**

While many individual facilities, partnerships and practices are dedicated to implementing and expanding THTM services in their areas and facilities, there is no state leader in charge of coordinating, monitoring and expanding THTM in Maryland. Services are not coordinated through any one agency or organization, and multiple state and federal agencies are funding THTM projects. Even large, reputable medical institutions indicated on the survey that they do not have an accurate inventory of THTM projects within their own systems. As a result, implementation is moving slowly and disjointedly, and Maryland continues to miss out on federal funding opportunities because of its lack of coordination. Merely finding out where THTM is currently being offered in Maryland is a question far more complicated than the partners undertaking this survey originally thought. Without a clear statewide vision, THTM projects around the state will continue to be implemented on a piecemeal and project-by-project basis by those facilities that can afford to do it, and real changes in policies or plans that would expand and sustain services in rural or underserved areas will not be made.

The Health Quality and Cost Council (HQCC), established by Governor O'Malley in 2007, created a Telemedicine Task Force in June 2010 which developed recommendations for implementing a Maryland Telemedicine Network, starting with a statewide tele-stroke program. The Task Force made its initial recommendations in September and subsequent recommendations in December 2010, after the Rural Roundtable. Its final report broadened the recommendation to focus on the wider use of telemedicine, not just tele-stroke. The HQCC approved the task force recommendations to begin studying the details of creating a statewide network, including provisions for working with the RMC and MRHA.

Robert R. Bass, M.D., Executive Director of the Maryland Institute for Emergency Medical Services Systems (MIEMSS), will chair the task force as it works to implement a statewide network. Dr. Bass reported on the task force's work at the Roundtable. The Task Force recommended that the Maryland Health Care Commission and MIEMSS together direct the telemedicine initiative by creating four advisory groups during CY 2011. They are:

1. Clinical Advisory Group: to include physicians with particular disease area expertise, Chief Medical Officers, Med Chi, and MHA.
2. Technical solutions and Standards Advisory Group: to include hospital CIOs, Department of Information Technology, CRISP, and Exchange representatives.
3. Financial and Business Model Advisory Group: to include Payers, and hospital CFOs
4. Regulatory/Licensure/Credentialing Advisory Group: to be established later.

Concrete proposals and, perhaps, legislations to create the network is expected in CY 2012. Dr. Bass' presentations are on the RMC and HQCC websites.

Recommended Next Steps: The following next steps were recommended by participants at the Roundtable. The RMC acted on the first recommendation. The RMC and MRHA have not yet determined which, if any, of the others to act upon:

1. Submit comments to the Health Care Reform Coordinating Council on the need to create a statewide telehealth network as a means of addressing workforce shortages. Note: The RMC submitted comments on December 8, 2010. (*See Appendix #3.*)
2. Advocate for the establishment and implementation of a statewide coordinating body to monitor, track and facilitate telehealth implementation across Maryland.
3. Coordinate with, and assist the HQCC's Telemedicine Task Force to ensure that rural representatives and perspectives are included on its advisory committees.
4. Advocate for more and better telehealth training and education among medical students, residents and fellows so that they are more comfortable, knowledgeable and supportive of THTM usage.

**Barrier #3 - Poor access to high-speed broadband services in rural areas deprives some rural residents access to state-of-the-art medical care simply because it is impossible to provide THTM services without it.**

Some large urban institutions have tried to reach these communities but have not been as successful as they could be due to a lack of vendors and broadband service. In addition to all the other economic development barriers that a lack of broadband access creates, it also deprives under-served rural Marylanders of equal access to health care because of where they live. With so many projects being started in isolation, there is a real risk that the technological infrastructure being developed and implemented in one facility will be incompatible with others, making expansion of one program or even a statewide system difficult, perhaps impossible, to realize. Institutions surveyed indicated they are not clear on how to mobilize their own projects and policies to move the technology forward. In September 2010, the state of Maryland received a \$115 million grant from the American Recovery and Reinvestment Act to complete the state's middle mile broadband network (from Ocean City to Oakland) by the end of 2013. Drew Van Doop, Administrative Director with the Maryland Broadband Cooperative, a private nonprofit cooperative formed by the state's five rural regional councils, updated the Roundtable participants about the construction and the broadband speeds needed for different medical specialties. His presentation is posted on the RMC website.

Next Steps: The following next steps were recommended by participants at the Roundtable. The RMC and MRHA Boards have not yet determined which, if any, to act upon:

1. Continue to support ubiquitous expansion of the high speed internet highway throughout Maryland.
2. Consider incentivizing last mile providers so that they will provide service to private practices and to the homes of physicians living in areas where there is no high speed broadband.

3. Encourage local ISPs in rural and underserved areas to improve their service and capability so that broadband speeds can be increased enough to support reliable usage of THTM.
4. Monitor the Environmental Assessment process, which may delay the deployment of the statewide network.

**Barrier #4 - Issues related to privileging providers by health care facilities and licensing providers across state lines, pose legal barriers that have not yet been resolved and pose potential administrative burdens to THTM providers.**

The University of Maryland School of Law, Law and Health Care Program, held a Roundtable on the Legal Impediments to Telemedicine in April 2010. Both the RMC and MRHA attended as observers (as did Dr. Grady, a presenter at the December roundtable.). The Legal Roundtable took a day-long, in-depth look into the legal questions that are unresolved relating to privileging providers by health care facilities and licensing providers across state lines. The Law School prepared an in depth White Paper, clearly laying out the conflicts and questions that remain. That white paper is on the RMC website. Diane E. Hoffmann, Associate Dean for Academic Programs and Director of the Law and Health Care Program at the University of Maryland School of Law; and Virginia Rowthorn, Managing Director of the Law and Health Care Program and Lecturer in Law at the University of Maryland School of Law presented at the Rural Roundtable. Their presentation is on the RMC website.

Currently, small, rural hospitals must individually appraise, review, credential, and privilege all providers they work with, including those from large urban centers who are delivering specialty services by THTM and who have the skills and experience that small hospitals are not always in a position to assess. In a recent development, highlighted in the Law School White Paper, the Centers for Medicare and Medicaid Services (CMS) proposed new regulations in May 2010 that would allow a hospital receiving THTM services (i.e., often small, rural hospitals) to rely upon the credentialing and privileging decisions of the providing hospital, rather than undertake its own review. Comments on these proposed regulations were due in July 2010. A decision is expected by March 2011.

**Recommended Next Step;** The following next steps were recommended by participants at the Roundtable. The RMC and MRHA Boards have not yet determined which, if any, to act upon:

1. Continue to support and communicate with the UM Law School as it continues to study this issue and work with stakeholders and practitioners to develop recommendations and solutions to licensing, privileging, and credentialing issues as they relate to telehealth practices.
2. Educate and inform legislators and policymakers about the complexities of the issues.
3. Reach out to the underserved areas of surrounding states to provide medical services to them through THTM (i.e., export state-of-the-art medical care as an economic development strategy) and develop mutual credentialing and licensing procedures as part of that strategy.
4. Review what the licenses of other health care providers allow them to do and what orders they can/should follow when those orders are given by an off-site physician via THTM. Highlight and address any potential problem areas.
5. Study how well the compact or reciprocity models of physician licensure would work in Maryland.

## **Conclusion:**

The RMC and MRHA plan to convene their health care work groups in early January to review next steps and develop a strategy for moving forward. All roundtable participants and other interested stakeholders are invited to be a part of that process. Email us at: [rmc@mda.state.md.us](mailto:rmc@mda.state.md.us) to get on the mailing list.

Initial RMC and MRHA staff recommendations to be considered include:

- 1) **State Leadership:** Monitor the progress of the HQCC Telemedicine Task Force and assist in its efforts to develop a Maryland Telemedicine Network; Ensure that appropriate rural representatives are on each task force committee so that the rural perspective is understood and considered.
- 2) **Reimbursement:** Encourage regulatory or legislative change during the 2011 General Assembly Session that will enable providers to receive reimbursement for THTM clinical services through Medicaid and eventually private third party payers.
  - a. Monitor the effects of the tele-mental reimbursement regulations, if they are approved by CMS.
- 3) **Broadband:** Convene a Rural Roundtable to discuss possible incentives for small last-mile providers and local ISP providers in rural areas to expand/improve their speeds and services so that telemedicine services are possible in both health facilities and physician homes.
  - a. Continue efforts to promote full and complete deployment of a rural broadband network throughout Maryland.
- 4) **Licensing and Credentialing:** Continue to collaborate with the University of Maryland School of Law to educate stakeholders and lawmakers on the importance of addressing legal impediments to telehealth as related to licensing and credentialing; and to develop recommendations for moving forward.

Stakeholders interested in joining the RMC's Health Care Committee should email [rmc@mda.state.md.us](mailto:rmc@mda.state.md.us).

Stakeholders interested in joining the MRHA should join at [www.mdruralhealth.org](http://www.mdruralhealth.org).

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## **NOTES:**

- This survey and report uses the Health Resources and Services Administration's definition of telehealth, which is: *Telehealth is the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration.* Telemedicine is a subset of telehealth and broadly represents the use of electronic communication for the diagnosis, treatment, and transfer of medical clinical data.
- Maryland has a Health Information Technology State Plan to build a statewide Health Information Exchange (HIE) that would help deliver patient information and data over a secure network supported by the widespread implementation of Electronic Health Records (EHR). Although EHR can help facilitate THTM services, it is not considered THTM per definition.

**Background & Reference Materials:** See [www.rural.state.md.us/Roundtables/index.html](http://www.rural.state.md.us/Roundtables/index.html) for information about --

- The *2008 Rural Health Roundtable* (October 2008)
- The *2009 Statewide Telehealth Roundtable* (February 2009)
- The *2010 THTM Survey Roundtable* (December 2010)

## Appendix

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## Appendix #1

### Chart of Major Telemedicine/Telehealth Projects in Maryland (as of December 2010)

Lead partner / Other partners	Project	Date	Funding	Services	Technology	Barriers
Western Maryland Regional Medical Center with Washington Hospital Center ; UM Cancer Center; Sheppard Pratt	Western Maryland Regional Medical Center	January 2000	Absorbed Cost: \$18,000	Cardiology, Mental Health, EMS, Radiology	Desktop, interactive video	Reimbursement, inoperability, provider licensing
Sheppard Pratt Health System with Worcester and Wicomico County Health Departments; Atlantic General Health Center	TeleBehavioral Services	January 2005 to present	Local funding.  Some federal funding in the past through HRSA, USDA	Mental health diagnostics, medication management	Interactive video	Accessibility of broadband vendor in rural locations; provider licensing; staffing
Western Maryland Health System with Frostburg Medical Center	Radiology Integrated Web Based PACS	2005 to 2010 (Project completed)	Private nonprofit funding w/ some patient payers  Annual: \$500,000	EMS, General Medicine, Radiology; Diagnostics and Imaging	Web based software	Funding
UM School of Medicine/DHMH MCH with MAPSS/Union Hospital, St. Mary's Hospital, local health departments	MAPSS Perinatal Telemedicine Project	2005 to present	State (DHMH) grants. No third-party payer.	Provides patient management in OB/GYN and perinatal genetic counseling	Interactive video	Reimbursement of Medicaid; network security & time delays; expansion plans to other rural areas; provider licensing



Lead partner / Other partners	Project	Date	Funding	Services	Technology	Barriers
Midshore Mental Health Systems  With U of Maryland School of Medicine Dept. of Psychiatry; DHMH Mental Hygiene Admin.; Garrett County CSA; St. Mary's County (SMC) Dept. of Human Services	Maryland Tele-psychiatry Network  Includes sites of Pathways, Inc in SMC; Garrett LHD; Dorchester County Wellness Ctr; Maple Shade Youth and Family Services; Kent County's A. F. Whitsitt Ctr; Caroline Mental Health Clinic	May 2008 Started delivering services  Dec 2008 - Present	Federal (73%) and State (27%) grants  Annual Funding: \$180,000  New COMAR 10.21.30 will reimburse Medicaid once CMS approves for some eligible sites	Provides mental health diagnostic and patient management	Interactive video	Firewalls to local health depts.; redundancy; reimbursement is partially getting solved but billing process (rates and codes) needs to get CMS approval for Medicaid federal match
Johns Hopkins Medicine w/ Johns Hopkins International	Remote Access in Otolaryngology	Sept. 2008 to Sept. 2009 (Project complete)	Private, non-profit funding; no third-party payer	Otolaryngology imaging, patient management, diagnostic services	Desktop software and robotics	Reimbursement and resources for remote access in receiving services
Johns Hopkins Medicine with Howard County General Hospital	Verizon Emergency Department Robot Project	Jan. to Dec. 2009 (Project completed)	Verizon Foundation Grant (Private) Project: \$125,000	Neurology and linguistic translation	Interactive video and robotics	Firewalls, interoperability, and reimbursement
Good Samaritan Hospital/National Burn Reconstruction Center; U.S. Army Institute of Surgical Research Burn Center (San Antonio, TX)	Good Samaritan Hospital's National Burn Reconstruction	2009 (Project complete)	Verizon Foundation Grant (Private) and Northrop Grumman Electrical Systems Project: 25K start up	Videoconferencing allowed plastic surgeon to visit with burn surgeons with and without patient interaction.	Desktop software and interactive video	Securing private connections

Lead partner / Other partners	Project	Date	Funding	Services	Technology	Barriers
<p>Maryland e-care (Hub at Christiania Hospital in Wilmington, DE)</p> <p>Atlantic General, Calvert Memorial, St. Mary's hospitals; Civista Medical Ctr; Washington County Health System</p>	Maryland eCare	June 2009 to present	Partial grant from Maryland CareFirst; individual hospitals; no third party payer	Clinical critical care patient management and monitoring for Intensive Care Unit patients. Diagnostics, imaging, monitoring	Desktop software, interactive video, and web-based software	State leadership
St. Mary's Hospital with Children's National Medical Center in D.C.	Pediatric Diagnostic Telemedicine Program	July 2009 to present	Blended funding  Annual Cost: \$20,000  Some reimbursement	Pediatric cardiology and neurology services via diagnostic and imaging	Desktop and web-based software	Time delays, Funding
<p>UM School of Medicine; Garrett Co. Health Dept; Chesapeake-Potomac Home Health Agency (delivery sites)</p> <p>Eastern Shore AHEC; Western MD AHEC (implementation partners)</p>	Maryland Telehome Care Network	October 2009 to present	<p>Initial Pilot supported by Cigarette Restitution Fund Other Tobacco Related Diseases in partnership with Garrett County Health Department Home Health Agency</p> <p>Federal grants (1M)(NIH/ARRA funds)</p>	<p>Chronic disease management</p> <p>Plans: Would like to expand the network to other rural areas of the state.</p>	Interactive video, handheld wireless monitoring devices	Last Mile; Reimbursement of Private Payers; State Leadership

<b>Lead partner / Other partners</b>	<b>Project</b>	<b>Date</b>	<b>Funding</b>	<b>Services</b>	<b>Technology</b>	<b>Barriers</b>
Mid Shore Mental Health Systems in partnership with Allegany County Health Department	Bridge to Hope	Dec 2009 to present	\$40,000 state Maryland Community Health Resources Commission	Mental Health and Addictions Treatment	Interactive video	Interoperability of Equipment and firewalls of Health Dept.
Johns Hopkins Medicine with Howard County Hospital	Pediatric Critical Care	2009 to present	Private (\$5,000 Annually)	Pediatric Emergency Medicine	Patient Management with video and web based software	Reimbursement and physician utilization, last mile
Johns Hopkins School of Nursing with Johns Hopkins Congestive Heart Failure Clinic	Telehomecare for Community Dwelling African Americans	April 2010 to present	Federal NIH grant. No reimbursement  Annual cost: \$100,000	Cardiology and chronic disease management; diagnostic, imaging, patient management	Intel HealthGuide Telemonitoring/ Telehomecare Device	Financial planning;  Teleconnectivity, low computer literacy amongst some patients
University of Maryland Medical System Greenebaum Cancer Center	University of Maryland Greenebaum Cancer Center (UMGCC) Telemedicine Program	April 2010	Grants. Professional fees, where applicable. No reimbursements  Annual Cost: \$200,000	Cardiology, Emergency, mental health, neurology, OB/GYN, Genetic Counseling, Critical Care – monitoring and patient management	Desktop, wireless, interactive video, robotics, web-based	Security, time delay
National Rehabilitation Hospital (Washington, D.C.) provides services in DC/Baltimore region (Medstar)	Assistive Technology Research Center at NRH	Fall 2010	Federal grant (100%)  No Reimbursements  Annual: \$150,000	Mental health, therapy- speech language pathology; patient monitoring	Desktop software	Financial, staff, technology, reimbursements

<b>Lead partner / Other partners</b>	<b>Project</b>	<b>Date</b>	<b>Funding</b>	<b>Services</b>	<b>Technology</b>	<b>Barriers</b>
Johns Hopkins Division of Pediatric Dermatology	Dermatlasconsult.org	Current	Looking for Funding – Pending negotiations with some third party payers	Dermatology consults	Consultations to Primary Care Providers with web based software	Physician utilization; reimbursement of Medicaid and private payers
UMMS and Johns Hopkins Medicine	Maryland Telestroke	2011	Private, nonprofit funding; party payer	Neurology diagnostic, imaging, and patient monitoring	Web based, handheld wireless monitoring devices, video	Licensing of providers and ongoing funding

**Appendix #2**  
**Selected Results from the THTM Survey Grant Report**

*\*NOTE: The information below is excerpted from the Final Grant Report, submitted by the Maryland Rural Health Association and the Upper Shore Regional Council to the Maryland Agricultural Education and Rural Development Assistance Fund, which is administered by the Rural Maryland Council.*

A total of 30 targets responded to the survey online; 20 completed the survey, and 10 completed only part of the survey. Twelve respondents clearly identified they had no THTM project, either in the past or currently. This included 2 rural health departments and 4 community health centers. Two of the completed surveys were done via telephonic interview. The following organizations participated in the survey with multiple projects identified at some institutions (Johns Hopkins Medicine and University of Maryland School of Medicine).:

1. Atlantic General Hospital
2. Calvert Memorial Hospital
3. Chester River Health System
4. Dorchester County Health Department
5. Good Samaritan Hospital, MedStar Health
6. Johns Hopkins Medicine
7. Johns Hopkins Schools of Nursing and Medicine
8. Mid Shore Mental Health Systems
9. National Rehabilitation Hospital, MedStar HealthSheppard Pratt Health SystemSt. Mary's Hospital
10. University of Maryland Medical System
11. University of Maryland School of Medicine
12. Washington Hospital Center
13. Western Maryland Regional Medical System
14. Wicomico County Health Department

**Summary of Aggregate Findings**

The following summarizes the aggregate findings of all surveys received in the four sub-categories of questions asked: Funding, Applications, Technology, and Future Steps

**Funding:** Only 15 of the respondents indicated how their telemedicine projects are funded. The following table illustrates the funding sources of the named telemedicine projects:

**Table Two: Funding Distribution of Projects**

	Number of Response(s)
Federal Grant	4
State Contract	2
State Grant	6
Private/Non-profit	4
Private/Commercial	2
Consumer	1
Other	4
Comments include: Verizon Foundation (2), Zero Funding, and Looking for a solid funding source; and County partner locations.	

**Clinical Applications:** Most respondents who completed the survey indicated what clinical applications are provided by their organization’s telehealth project.

**Table Three: Distribution of Clinical Services offered via TMTH across the State**

	Number of Response(s)
Cardiology	4
Chronic Disease Management	2
Dermatology	1
Emergency Services	4
General Medicine	1
Mental Health	8
Neurology	5
OB/GYN	2
Pathology	1
Pediatrics	2
Radiology	2
Other: Plastic Surgery (Burn Center); Psychiatry; Translation; Genetic Counseling and Critical Care; Otolaryngology; Speech Language Pathology; ICU and Addictions Treatment.	10

**Procedures:** Patient management was the most common procedure identified that organizations were served followed closely by diagnostic.

**Table Four: Procedures offered via TMTH across the State**

	Number of Response(s)
Diagnostic	10
Imaging	7
Monitoring	4
Patient Management	13
Other include did not respond, none, and medication management.	3

**Improvement to Delivery of Care**

Although some respondents cited that it was too early to determine whether the delivery of specialized clinical care has improved the delivery of care at their facility, several respondents cited that they have experienced improved delivery of care in the following areas with increased access and quality to clinical care as being the most cited.

**Table Five: Reported Improvements to Delivery of Care from TMTH Projects**

	Number of Response(s)
Increased Access to Clinical Care	15
Increase Revenue	3
Enhanced Patient Satisfaction	12
Enhanced Provider Satisfaction	9
Improvement in Quality of Care	14
Other include access to specialist provider care; project aims to document enhanced patient satisfaction and increased access; increased family and counselor visitation for inpatient youth; pending; too early; and new services.	6

**Technology:** There were 17 responses that identified the Internet providers they used for telemedicine projects. They include Verizon (dedicated lines), the local phone companies, Comcast, University of Maryland Baltimore, Sprint WiMax, Atlantic Broadband, Wavelength/Verizon, TWR, and Airband. Additionally, 16 respondents indicated they use a dedicated/proprietary secure network to transfer data, whereas no one answered that they do not use a secure network. At least one respondent did not know whether the facility used a dedicated network and another respondent indicated that they used a Federal Drug Administration (FDA) approved appliance and were not testing data transfer. Nine respondents indicated they had a point-to-point T1 secure private line, whereas seven answered “no” to having a secure private line. One respondent indicated that the clinics have dedicated lines. Nine respondents indicated that they transfer data through a public internet service, but one commented that although their transfer is public, the videoconferencing equipment is encryptable. Five respondents indicated that they do not transfer data through a public internet service. More than half of the respondents were able to indicate what type of network they were operating. Seven respondents named a TCP/IP network, one was strictly IP, one IPX, WiMax 4G, and one had IP and dial-up. At least two respondents answered that they did not know and the remainder of respondents did not answer at all. Seven respondents were able to answer the question dealing with the speed of their network and they include 50 mb, 1.5 mb down, 1.5 mb up, 1gb up and down, 20 mg down and 1.5 up, gigabit network, ISDN 384; circuits and IP connection. Robots and Intel Health Guide Telemonitoring/Telehomecare were the two “other” indicating what type of equipment being used to deliver services.

**Table Six: Type of Equipment Used to Deliver TMTH**

	Number of Response(s)
Desktop software	10
Handheld wireless monitoring devices	3
Interactive video	16
Robotics	2
Web-based software	7
Other	2

Eleven respondents answered the question regarding network barriers. Most network barriers were cited to be with the interactive video. “Other” responses included none; the duplication of paperwork was resolved by the SharePoint reporting system, firewalls, new services, and accessibility of broadband vendor in rural locations.

**Table Seven: Reported Network Barriers of TMTH across the State**

	Number of Response(s)
Accessibility of vendor	1
Inoperability of sites	3
Redundancy	1
Security	2
Time delays	5
Other	6

When asked whether facilities were experiencing barriers with equipment, seven respondents answered. One respondent explained that they are unable to connect to health departments because of the departments' firewalls, four cited there were none, and one cited services.

**Table Eight: Reported Equipment Barriers of TMTH across the State**

	Number of Response(s)
Accessibility of vendor	0
Redundancy	0
Security	0
Time delays	1
Other	6

Only a few respondents expanded on whether they experienced other technical related issues and had concerns or successes they shared and none elaborated when asked. One project quoted that "firewalls inherent to health departments are a problem. Duplicated faxing of paperwork (as a result of Health Insurance Portability and Accountability Act (HIPAA) compliance) has been resolved by implementing a HIPPA compliant SharePoint system."

#### **D. Future of Telemedicine**

##### Strategic Plans

There were 12 responses to the question pertaining to the TMTH plans that organizations include in their strategic plan. The most cited was expansion to other rural parts of the state. Other specifics included seeking out more grant funds and expanding the specialty care their site was offering via TMTH. Two respondents hoped that recent Electronic Health Record (EHR) expansion would enable better plans for TMTH projects with better data sharing between physicians in their areas.

##### Next Steps

When asked what the next identified steps organizations need to take to provide or receive desired services, most respondents indicated it dealt with increased financial and staffing support as well as provider licensing across state lines, and securing network. Comments provided include expanding upon existing partnerships; and reimbursement of the provider (direct service), reimbursement of site (administrative services), corporate infrastructure, planning and support.



**Table Nine: Reported Next Steps for TMTH Projects**

	Number of Response(s)
Financial	14
Provider Licensing (within the State)	3
Provider Licensing (across state lines)	5
Secure Network	5
Staffing	7
Technology	8
Other	0

**Priorities for Maryland**

Respondents were asked to rank the next steps in Maryland for TMTH in order to increase the use within and bordering the state. Seventeen respondents responded to this question. One was considered the highest priority and nine the least priority. Using the cumulative ranked score, reimbursement of Medicaid was identified as the top priority (2.9) with 9 or over half those that responded ranking this as the number one priority. No respondent ranked reimbursement of Medicaid below a 5 in numerical priority. The second ranked priority was reimbursement of private payors. . State leadership,, physician utilization/training (three ranked this as highest), and regulatory changes were close thirds as the next priority. Finally, last mile infrastructure was also ranked high with three respondents indicating this as the number one priority for Maryland.

**Table Ten: Ranked Priorities by Projects for Advancing TMTH Forward in Maryland**

Priority for Maryland	Ranking Score
Reimbursement of Medicaid	2.9
Reimbursement of Private Payors	3.8
State Leadership	4.0
Physician Utilization/Training	4.2
Regulatory Changes	4.9
Infrastructure - Last Mile	5.3
Provider Licensing Changes	5.7
Infrastructure - Redundancy	6.1
Other	8.0

## Appendix #3:

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## Appendix #4

### Remarks from the Rural Maryland Council on the Health Care Reform Coordinating Council's Draft Recommendations December 8, 2010

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The Rural Maryland Council applauds the work of the Health Care Reform Coordinating Council and its efforts to ensure that the Patient Protection and Affordable Care Act is implemented in a careful and thoughtful manner. We do not take issue with any of the recommendations proposed by the HCRCC to date; however, we do believe one important recommendation has been left out.

We encourage the Coordinating Council to recommend that the State of Maryland commit itself to implementing a robust statewide telehealth/telemedicine network as a tool to improve and even ensure access to quality care in rural and underserved areas of the state.

The Rural Maryland Council, which works with rural communities across the state to identify and address their unique challenges, has been studying the potential of telehealth/telemedicine for more than two years. We are convinced that a robust network would improve access to quality care for our most vulnerable citizens in our most distressed, remote and underserved neighborhoods. Such a network, however, cannot be implemented without the support, endorsement and partnership of urban and suburban providers. Thus, statewide leadership and coordination is a critical and necessary component to constructing such a statewide network. Rural areas simply can't do it alone.

While most areas in Maryland suffer from a healthcare work force shortage, the shortages in rural Maryland are the most severe and will be worse with time unless solutions proposed by the Workforce Workgroup are implemented. Included in the solutions is Comprehensive Workforce Planning. We encourage a statewide telehealth/telemedicine network to be part of this planning to connect our urban medical institutions with the rural areas in our state. Maryland is blessed to have some of the best medical institutions and providers in the country. Technology is the only cost effective way for those providers to reach and care for their rural brothers and sisters.

During the past year, the Rural Maryland Council and Maryland Rural Health Association conducted a survey of telehealth projects currently underway in the state in hopes we could find ways to use that technology more effectively in rural areas. We identified 95 sites to survey and 26 responded. However, those 26 facilities represented 48 different telehealth/telemedicine clinical sites in the state. Many of them noted that better statewide coordination and leadership could improve their viability and expansion. We are not asking the state to "control" or "allow" these projects, but to create a network or coordinating body that allows all players to be aware of each other and to facilitate more effective usage of telehealth/telemedicine technology to serve all citizens.

Governor O'Malley's Health Quality and Cost Commission recently created a Telemedicine Task Force which has recommended creating a Maryland Telehealth Network, starting with stroke. We heartily and enthusiastically endorse this effort; however, as our survey found, other physicians and medical facilities are also moving forward, using technology to treat their own patients and build their own networks with varying funding sources. Synchronization of all existing and future telehealth efforts must be coordinated to help solve the workforce shortage issues in rural areas. If the state designated an agency, office, commission, institution, etc. to coordinate

all telehealth initiatives in the state, we believe that both those providing and receiving telehealth/telemedicine services would be able to more easily coordinate efforts, share best practices, identify gaps (and even excess capacity), ensure interoperability and encourage the creation of more partnerships at more locations.

With the recent award of a \$115 million American Recovery and Reinvestment Act (ARRA) grant to the State of Maryland, the statewide broadband network is scheduled to be completed by the end of 2013. By beginning to implement a coordinated statewide telehealth network now, Maryland could truly be the first state in the country to genuinely ensure that all of its citizens have access to quality health care.

The Rural Maryland Council stands ready to support the HCRCC efforts to implement a statewide telehealth network.

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