COMMMUNITY eHEALTH ASSESSMENT – CENTRAL MASSACHUSETTS

REGION: Western/Central

COMMUNITY: Central MA

PARTICIPATING ORGANIZATIONS: Community Healthlink, Heywood Hospital, Family Health Center of Worcester, Gardner VNA, Notre Dame Health Care, VNA Care Network, Saint Mary Health Care, Grove Medical Associates, Reliant Medical Group, UMass Memorial Medical Center, Community Health Connections

DATE REVIEWED / UPDATED: 5/5/15

EXECUTIVE SUMMARY

Methodology

In order to better understand the health information technology and health information exchange ecosystem at the state and local level, MeHI conducted a needs assessment of healthcare stakeholders throughout the state's fifteen connected communities. The assessment utilized a semi-structured interview guide and data collection process to gather information from participants. In addition to organizational and HIT environment information, the interview centered on four domains which were focused on understanding the clinical/business needs, internal challenges, external barriers and ideas for improvement. Responses were collected, codified into categories and ranked by frequency of reporting.

Community roundtable meetings were held in each of the communities and the interview findings were presented and discussed. Categories and themes were reviewed and evolved through group discourse. Based on feedback and comments from the groups, categories were re-prioritized and focus areas were developed.

The goal of the assessment and group meetings is to shape the data into focus areas, identify eHealth priorities and develop actionable plans that demonstrate value for the community. The assessment findings, interview and meeting feedback and Community eHealth Plans will be integrated into the State eHealth Plan. Additionally, a subset of the identified themes will be incorporated into a community incentive/grant program to ensure alignment between plans and grants.

Findings

The overall findings for the community are found further down in this document in the **Report of Community Needs** section. Below, are the primary findings for the Central MA Community:

Identification of Needs: The primary need identified by stakeholders in this community is improved care coordination and interoperability. Specifically, the stakeholders would like the following:

1. Send and receive clinical information from hospitals to primary care providers upon discharge.
2. Improve workflow processes and operations through increased provider/staff education and training.
3. Advance the adoption and implementation of remote patient management.
4. Increase trading partner connectivity to local, regional and state HIEs.

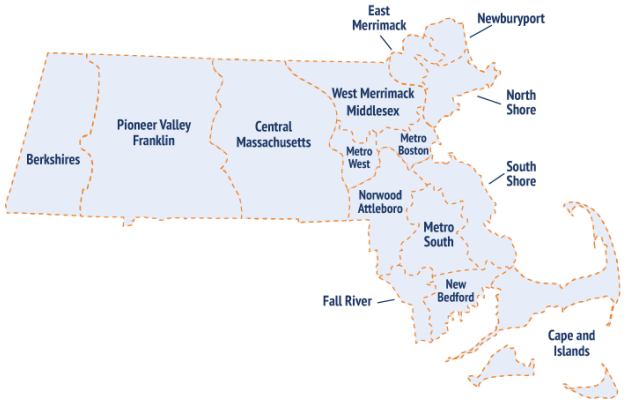
Identification of Internal Challenges and External Barriers: The primary barriers identified by stakeholders to addressing these needs are as follows:

1. There is a general gap or lack of common understanding of the uses of HIE and how they can be used and applied to solving clinical and operational needs. Each organizations is formulating individual plans or "point to point" plans for the exchange of clinical information, but each time that is done there is a sense of wonder if the right method was chosen.
2. With many options for clinical exchange yet immature standards and gaps in the overall plan or understanding of the uses and methods, the regional adoption and uses are limited or being addressed in an "as needed" basis, either to meet regulatory requirements or to address a specific need. This approach slows the overall use and adoption of HIT / HIE for advanced clinical uses such as care coordination and population health.
3. Internal barriers within each organization, primarily a lack of resources to accomplish HIT / HIE goals, combined with the lack of mature standards for exchange and the demands of operational and training needs. The hurdle for entry is high and not readily attainable for most.

Identification of Path Forward: Stakeholders identified the following ideas to address needs and barriers:

1. Define a set of local, regional and state uses of HIT and HIE to meet the goal of improving care coordination, processes and operations. Prioritize these as a community with time, cost and technology scope definitions, then begin from the highest priority in solving challenges.
2. Provide awareness of the above to all regional constituents participating in healthcare exchange and care coordination activities to set the "roadmap" in motion.
3. Determine and seek access to resources to develop and build identified priority uses.
4. Identify opportunities to leverage or re-use work developed elsewhere or in other communities to help solve local challenges.

Table 1: The fifteen communities comprise the foundational framework for the Connected Communities Program. These are aligned with the Health Policy Commission's Secondary Service Markets.



COMMUNITY DEMOGRAPHIC

Population - Total population of the Central Community is 751,778 living in the 1,371.23 square mile area. The population density is estimated at 548.25 persons per square mile which is lower than the Massachusetts population density of 847.02 persons per square mile. Between 2000 and 2010 the population in the Central Community increased by 43,973 persons, a change of 6.25%.

Income Per Capita - For the Central Community, the income per capita is $30,711. Massachusetts statewide income per capita at $35,763.

Poverty - In the Central Community, 25.02% or 182,086 individuals are living in households with income below 200% of FPL and 11.44% or 83,225 individuals are living in households with income below 100% FPL. These percentage rates are slightly higher than the Massachusetts state rates in the same categories.

Linguistically Isolated Populations – The Central Community has 4.71% of linguistically isolated populations which is slightly lower than the state percentage. This indicator reports the percentage of the population aged five and older who live in a home in which no person 14 years old and over speaks only English, or in which no person 14 years and over speaks a non-English language and speak English "very well." The Massachusetts state percentage is 5.19%

Population with Limited English Proficiency – This indicator reports the percentage of population aged five and older who speak a language other than English at home and speak English less than "very well." In the Central Community, this indicator is 7.33% compared to the Massachusetts state indicator of 8.87%.

Population by Race Alone - The racial make-up of the Central Community is 86.01% White, 4.43% Black, 4.12% Asian, 0.19% Native American, 0.03% Native Hawaiian, 2.75% Some Other Race and 2.48% Multiple Races.

Information acquired from **Community Commons** http://www.communitycommons.org/ (as of 4/28/15)

See **Attachment-1** for information on Community Commons, reporting methodology and data sources.

HEALTHCARE LANDSCAPE

Access to Primary Care – The Central Community has 101.33 primary care physicians per 100,000 population. The Massachusetts state rate is 102.65 per 100,000 population. Doctors classified as "primary care physicians" by AMA include: General Family Medicine MDs and DOs, General Practice MDs and DOs, General Internal Medicine MDs and General Pediatrics MDs. Physicians age 75 and over and physicians practicing sub-specialties within listed specialties are excluded.

Lack of a Consistent Source to Primary Care – This indicator reports the percentage of adults aged 18 and older who self-report that they do not have at least one person who they think of as their personal doctor or health care provider. For the Central Community, this indicator is 11.15%, or 68,005 people. This is slightly below the state indicator of 11.53%. This indicator is relevant because access to regular primary care is important to preventing major health issues and emergency department visits.

Facilities Designated as Health Professional Shortage Areas (HPSA) – The Central Community has a total of 15 HPSA facility designations; five in primary care facilities, five in mental health care facilities and five

in dental health care facilities. The state of Massachusetts has a total of 154 HPSA facility designations; 54 in primary care facilities, 50 in mental health care facilities and 50 in dental health care facilities.

Population Receiving Medicaid - In the Central Community, the percent of insured population receiving Medicaid is 22.26%, or 158,968 of the total population for whom insurance status is determined. This indicator reports the percentage of the population with insurance enrolled in Medicaid (or other means-tested public health insurance). This indicator is higher than the Massachusetts state indicator of 21.41%.

Information acquired from **Community Commons** http://www.communitycommons.org/ (as of 4/28/15)

See **Attachment-1** for information on Community Commons, reporting methodology and data sources.

Healthcare Organizations in the Community

The table below indicates the type and number of healthcare organizations known to MeHI. This is representative and not intended to be a complete inventory or count of healthcare organizations in the region.

Connected Community: Central MA (203 records)*	# Organizations
Hospital, General	7
Long-Term Post-Acute Care	58
Ambulatory, General	54
Community Health Centers	12
IDN/Health System/Network	36
Behavioral Health	36

REPORT OF COMMUNITY NEEDS

MeHI performed a needs assessment of healthcare providers and stakeholders representing the Central MA community. The assessment was comprised of stakeholder interviews which followed a semi-structured interview guide and data collection process. In addition to organizational and HIT environment information, the interview centered on four domains which were focused on understanding clinical/business needs, internal challenges, external barriers and ideas for improvement. Responses were collected, codified and prioritized. Community roundtable meetings were held in each of the communities and the interview data was discussed and re-prioritized based on feedback from the roundtable group. Categories and themes were shared at the community roundtables and evolved through group discourse.

During community roundtable sessions, stakeholders were presented with the state and regional interview findings and engaged in a much deeper review, discussion and clarification of categories and

themes. The multi-stakeholder review yielded a much richer understanding of the local needs, barriers and the experiences of some of the different care sectors within the community. As such, the group was able to **re-prioritize** certain areas that they felt would be the most essential and valuable to focus on within the community.

Reported Clinical-Business Needs

What clinical or business needs are you trying to solve with technology?

	Reporting Area-Frequency	
Clinical-Business Needs	**Central**	**MA**
Access to Clinical Information *	31%	21%
Improve Internal Processes & Operations *	14%	13%
Enhance Remote Patient Management *	11%	4%
Improve Care Management	7%	11%
Improve Population Health Analytics	7%	7%
Improve Care Transitions *	7%	2%
Meet Regulatory / Incentive Requirements	3%	10%
Improve Care Quality & Patient Safety	3%	9%
Improve Interoperability & Exchange *	3%	9%
Enhance Clinical Quality Reporting	3%	3%
Increase Public Health Reporting	3%	3%
Promote Patient- & Family-centered Care	3%	3%
Remain competitive and grow business	3%	2%
Enhance Alternative Payment Models (APM)	0%	4%
Know Patients, where they are & their status	0%	2%
Enable Interstate Exchange	0%	1%

**Identified as a top priority need during community roundtable*

The most frequently cited areas of clinical and business needs reported in the Central community interviews centered on the abilities to improve and enhance *Access to Clinical Information*, *Internal Processes and Operations* and *Remote Patient Management.* These are mostly consistent with the interview findings across the state although *Improve Care Management* and *Meet Regulatory / Incentive Requirements* were more frequently reported as areas of need by stakeholders across the state.

Care Coordination and Interoperability

This category was by far the most frequently discussed area of need by community stakeholders. There were multiple comments from interviewees surrounding the challenges of care coordination in general, and of highest importance was the need to gain access to clinical data both internally and externally. It was widely agreed that through better interoperability and exchange, care coordination would be improved. There is a strong desire to improve the capabilities of data exchange with trading partners, specifically discharge summaries and closed loop referrals. Also mentioned was the need for

standardization of data so that it is accessible for all providers. Commenters also discussed quality of the clinical information that is sent and received and how this affects quality of care that can be delivered.

One example given at the roundtable meeting was the need for improved transitions of care. Organizations need to know where the patient is going and what data is necessary for the hand off process. Also needed is improvement on patient tracking and monitoring. This affects workflow and operations. A primary driver of HIT / HIE use and adoption in the Central community is improving interoperability and exchange with the region. Stakeholders felt by doing that, in conjunction with increasing awareness and education, all other benefits for care coordination would accrue to the community. A roundtable participant suggested the creation of a "roadmap" to describe use cases and the best methods to accomplish them. Specifically, determine the individual steps and methods required for successful completion of a use case. An example of a use case roadmap could be for sending a discharge summary.

Processes and Operations

Building off of the care coordination topic were several comments made pertaining to the need for improving operations and workflow. Specifically it was mentioned the need for EHR adoption and use for the purposes of paper reduction, cost containment and improved communications with direct care staff. Also discussed was the need for lean training for process improvement. Healthcare organizations need to rely on multiple, complex processes to accomplish their tasks and provide value to patients. Any type of waste – time, money, paper, supplies – can potentially decrease the quality of care. Providers expressed a need for improving staff HIT skills as it was believed this would lead to improved business operations, workflow and revenue cycle.

Remote Patient Management

A significant theme emerged around the need for improved telehealth and remote patient management, especially for this community. The need to be able to facilitate remote patient care management and delivery of care was cited as a high priority area. This need is driven the by the geographic location of many organizations in Central MA. One area hospital pointed out that transportation is a problem for many patients in their community. There is a desire to increase telehealth capabilities to integrate with EHR systems. And, to expand these services into a multitude of subspecialty care areas as access to subspecialists is also a challenge. Telehealth can be utilized as an extension of the acute care setting for patient follow-up and many stakeholders would like to see decreased re-hospitalizations through expanded telehealth usage.

It was also discussed that due to high costs, there is a need to weigh the monetary impact of telehealth versus telemonitoring. Some organizations are having great success with telemonitoring. A large group practice in the region has 100 patients with home blood pressure monitors. The data is collected goes directly into the patient record. This integration of data is the key to this telemonitoring program being successful.

Community Priority Needs

The Central Community was able to identify a few core needs. The primary goals of the region are to facilitate access to clinical information through interoperability, improve processes and operations using HIT and advance remote patient management. The stakeholders indicated that improving interoperability and exchange to achieve improved care coordination as a high priority.

The community group specified the following ***priority needs*** to address;

1. Send and receive clinical information from hospitals to primary care providers upon discharge.

2. Improve workflow processes and operations through increased provider / staff education and training.
3. Advance the adoption and implementation of remote patient management.
4. Increase trading partner connectivity to local, regional and state HIEs.

Reported Internal Challenges and External Barriers

Internal Challenges

What are your top HIT related challenges within your organization?

Internal Challenges	Central	MA
Lack of Staffing Resources *	31%	25%
Lack of Financial Capital *	24%	22%
Meeting Operational and Training Needs *	14%	15%
Technology Insufficient for Needs	14%	9%
Sensitive Information Sharing and Consent	7%	3%
Meeting Regulatory Requirements	3%	4%
Leadership Priorities Conflict with IT Needs	3%	2%
Improve Medication Reconciliation	3%	0%
Managing Workflow and Change	0%	14%
Lack of Data Integration – Interoperability	0%	3%
Internet Reliability	0%	1%
Market Competition and Merger Activity	0%	1%
Data Relevancy	0%	0%

**Identified as a top priority challenge during community roundtable*

The most frequently cited internal challenges reported in the Central community interviews centered on the issue of lack of *Staffing Resources* and *Financial Capital, Meeting Operational and Training Needs* and *Technology Insufficient for Needs*. These internal challenges are generally consistent with the most commonly reported internal challenges across the state.

Staffing Resources and Capital

A major theme from the interviews and roundtable discussions was the challenge of maintaining adequate staffing and keeping them trained. Several organizations struggle with small IT departments which makes keeping up with "continuous changes in policies and regulations" very difficult. Providers understand the importance of training but often need to shut down operations for hours to several days to ensure all staff is properly trained on their EHR system. It is difficult to get all staff on the "same page" and there is an overall need for more education and awareness about HIE. There were also comments

about staff that do not have skills beyond EHR usage, for example staff that is unable to use email and calendar on Outlook, shared file drives and general organization skills on a computer.

Also frequently mentioned as an internal challenge was that organizations were lacking monetary resources to meet healthcare IT needs and these financial constraints are often the root of additional challenges that they face. For many stakeholders, healthcare IT feels like an unfunded mandate; they do not readily see the benefits nor do they feel the return will cut costs or reduce expenses. Another participant commented that healthcare IT infrastructure for an organization has become like a utility in a building that requires much upkeep and monitoring and significantly affects operational costs. Additionally mentioned was that upgrading outdated hardware and equipment is a financial stress for many, especially smaller organizations.

Operations and Training

Much aligned with *Staffing Resources, s*everal comments were made about the need for clinical staff to be properly trained, and that many are slow to accept the need to use an EHR system. Clinical staff, in general, are resistant to adopting new technologies and processes. One participant commented that ICD-10 is a concern, specifically that physicians may have a hard time with it. Several commenters stated that their organizations will not hire a new employee without EHR and computer experience because resources are not available for training post hire.

The need for managing and reporting data ties into operations and staffing issues. Reporting requirements are a burden. Payers want "more data but don't want to pay for an organization's ability to get more data." There were also several comments from stakeholders that need to use Virtual Gateway and how it is inefficient and can monopolize staff and time resources.

External Barriers

What are your top environmental (external) HIT-related barriers impeding your progress?

External Barriers	Central	MA
Lack of HIE / HIway Trading Partners & Production Use Cases *	32%	23%
Lack of Interoperability and Exchange Standards *	18%	23%
Meeting Regulatory Requirements *	18%	19%
Cost of Technology / Resources	7%	9%
Lack of HIE / HIway Education *	7%	6%
Sensitive Information Sharing and Consent	7%	6%
Vendor Alignment *	4%	4%
Market Competition & Merger Activity	4%	4%
Lack of Reimbursement/Unreliable Payments	4%	2%
External Attitudes and Perceptions	0%	1%
Market Confusion	0%	1%
Lack of EHR Adoption	0%	1%

**Identified as a top priority barrier during community roundtable*

The most frequently cited external barriers reported in the Central community interviews centered on lack of *Interoperability and Exchanges Standards, HIE / HIway Trading Partners and Production Use Cases* and *Cost of Technology / Resources*. These are consistent with the most commonly reported external barriers across the state. *Lack of HIE / HIway Education, Vendor Alignment* and *Sensitive Information Sharing and Consent* were additional barriers cited in this community.

HIE / HIway Partners, Interoperability and Education

The majority of comments about external barriers fell into the category of lack of trading partners on the HIway, specifically trading partner maturity and readiness. Also mentioned was a lack of HIway exchange capabilities. One stakeholder raised the issue of the HIway and its conflicting consent policy. HIV policies were used as an example, i.e. it's legal to send notes for a referral on a patient with HIV, but the same information sent on the HIway is illegal without patient consent. The laws are "very vague and confusing and inhibit care coordination." Another commenter stated that the HIway needs to be improved and that they "can't get anything answered." One stakeholder mentioned the need for better HISP to HISP connections and that a connection to insurance companies would be "phenomenal."

Also mentioned were difficulties with interoperability, specifically lack of EHR compatibility with trading partners and a need for unified standards. Commenters felt that data exchange standards are inconsistent and there needs to be efforts to map a universal vocabulary for successful interoperability. Long term care has unique data requirements that are often not addressed. Mentioned along with this discussion was the challenges providers face with state data reporting requirements. Again, Virtual Gateway was a topic of discussion and described as a barrier. It was expressed that, in general, there needs to be statewide coordination of activities. Enabling interoperability and exchange should be a parallel effort with awareness and education. Noted was the need for education on how to implement healthcare IT infrastructure. At a roundtable meeting it was suggested that a timeline for EHR implementation would be useful for providers to help them manage process and expectations.

Regulatory Requirements and Vendor Alignment

The difficulty managing and meeting regulatory, payer and program requirements was cited as a barrier by many participants. Discussion ensued around federal and state regulations, HIPAA constraints, highly variable data reporting requirements and difficulty using Virtual Gateway. All were clearly identified as external barriers and there was a great desire to see healthcare IT streamline these processes. It was mentioned that there are more demands on regulations but there is no additional funding available, and payments from Medicare and Medicaid are getting cut. Another pointed out that sometimes regulatory compliance deadlines are so rigid that it does not give the industry enough time to allow vendors to meet regulations in the system, or allow organizations to adopt, train and fully implement. Regulators are not allowing for the need for enough lead time for changes and compliance on the provider's end.

Vendor alignment was also cited as a barrier. Vendors often focus on meeting regulatory requirements but do not focus enough on optimizing the functionality within the software that is already built. Another vendor alignment issue was EHR compatibility and different systems "can't talk to each other." An example given was that home care EHRs are not compatible with hospital systems.

Community Priority Barriers

During the community roundtable sessions, there was some discussion on whether certain items/issues should be reflected as internal challenges or external barriers. It was noted that in some cases, external barriers are realized as internal challenges. And in other cases, the internal challenges in certain organizations and sectors, such as BH and LTPAC, are creating external barriers for other stakeholders.

Internal challenges and external barriers are combined here to mitigate and align these perspectives, and where possible identify barriers that would have the biggest impact for the most stakeholders, if removed.

The community group specified the following ***priority barriers*** to addressing needs;

1. There is a general gap or lack of common understanding of the uses of HIE and how they can be used and applied to solving clinical and operational needs. Each organizations is formulating individual plans or "point to point" plans for the exchange of clinical information, but each time that is done there is a sense of wonder if the right method was chosen.
2. With many options for clinical exchange yet immature standards and gaps in the overall plan or understanding of the uses and methods, the regional adoption and uses are limited or being addressed in an "as needed" basis, either to meet regulatory requirements or to address a specific need. This approach slows the overall use and adoption of HIT / HIE for advanced clinical uses such as care coordination and population health.
3. Internal barriers within each organization, primarily a lack of resources to accomplish HIT / HIE goals, combined with the lack of mature standards for exchange and the demands of operational and training needs. The hurdle for entry is high and not readily attainable for most.

Reported HIT Improvement Ideas

What are your top ideas where technology (or technology related policy) may improve healthcare in Massachusetts?

HIT Improvement Ideas	Central	MA
Enable Interoperability & Exchange *	35%	28%
Increase Education & Awareness *	32%	15%
Provide Funding & Resources *	14%	10%
Access to Clinical Information	3%	8%
Better Align Program / Policy *	3%	6%
Improve Care Quality & Patient Safety	3%	6%
Improve Care Management	3%	6%
Improve Vendor Cooperation	3%	3%
Promote Costs Savings	3%	3%
Enable Population Health Analytics	0%	4%
Expand Consumer Engagement Technologies	0%	3%
Improve Care Transitions	0%	3%
Enhance Reporting to State	0%	2%
Know Patients, where they are & their status	0%	1%
Enhance Alternative Payment Model (APM) Reporting	0%	0%

**Identified as a top priority idea during community roundtable*

The most frequently cited improvement ideas were enabling *Interoperability and Exchange* and *Increase Education and Awareness.* Also cited but not as frequently was *Provide Funding and Resources*. These are consistent with the most commonly reported ideas across the state.

Interoperability and Exchange

There were multiple comments to improve coordination of systems and advance interoperability between trading partners. Common standards are needed that allow transfer of data into any healthcare facility. It was suggested that the state require vendors to follow uniform standards. Stakeholders would also like HIway connection improvements with attention to "coordination, workflow and usability." Develop a set of standards of what functionality should be present in systems to keep up with technology, standards and future electronic processes. This will help organizations with less IT support choose vendors and ensure choices are sustainable for the long term.

Also suggested is the use of a "subscription model" for exchanging data. By subscribing, an organization has direct interface with a trading partner and can access patient information. This model also allows for automatic notifications about care transitions and data "nearly seamlessly rolls into EHR." It is a valuable and efficient model and ultimately saves money. Another stakeholder mentioned taking technology beyond the medical record, such as nurse call systems by allowing internal IT systems to talk to their own EHRs. Funding needs to be provided for optimization and internal integration of technology systems.

Education and Awareness

There were also many comments around the need for HIT education and awareness and to provide clear, consistent messaging on HIway / HIE matters. Mentioned was the need for guidance on a structured approach to setting up an infrastructure network and implementing an EHR, "a start to finish approach." Additionally, education and support resources should be provided for regulatory requirements. There is an overall lack of understanding of HIT / HIE. Developing a "roadmap" of uses and best approaches would be greatly beneficial to providers.

Funding and Policy

There were some ideas for the use of possible grant funds which included providing HIT training primarily to clinical staff, HIT workforce development and resources to fund project managers to implement HIE / HIT at provider organizations, particularly smaller ones that really need the guidance.

Finally, several comments were made about the "disconnect" between policymakers and the organizations actually doing the work. In particular, it was mentioned that long term care and behavioral health organizations are too often compared with medical care. They are different, have different care and data exchange needs and regulations should reflect these differences. It was also suggested that the consent process on the HIway be improved and there were comments that consent should be opt-out.

IDENTIFIED eHEALTH PRIORITY AREAS

1	Notifications around patient admissions, discharges and status changes to improve transitions of care.	
2	Implement closed loop referrals between primary care providers, specialists and other care settings.	
3	Increase trading partner connectivity to local, regional and State HIEs.	
4	A "full picture" of the patient record achieved by receiving accurate and consistent information in a timely manner from all care settings.	
5	Improvement on adoption and implementation of remote patient management.	

	HIT IMPROVEMENT IDEAS	
1	Define a set of local, regional and state uses of HIT and HIE to meet the goal of improving care coordination, processes and operations. Prioritize these as a community with time, cost and technology scope definitions, then begin from the highest priority in solving the challenges.	
2	Provide awareness of the above to all regional constituents participating in healthcare exchange and care coordination activities to set the "roadmap" in motion.	
3	Determine and seek access to resources to develop and build identified priority uses.	
4	Identify opportunities to leverage or re-use work developed elsewhere or in other communities to help solve local challenges.	
5	Share technical resources and best practices among organizations for efficient and focused interfacing support.	

ATTACHMENT - 1

Community Commons http://www.communitycommons.org/

Community Commons provides public access to multiple, public data sources and allows mapping and reporting capabilities to explore various demographic, social and economic and health indicators for defined areas and communities. Community Commons was specifically used to create custom, geographically defined report areas based on the towns/zip codes within each of the **MeHI Connected Community** regions.

Community Commons generates custom area estimates for the selected indicators using population weighted allocations. These estimates are aggregates of every census tract which falls within the custom area, based on the proportion of the population from the tract which also falls within the area. Population proportions are determined for each census tract by dividing the sum of each census block's population by the total census tract population. In this way, when a custom area contains 50% of the area of a census tract, but contains 90% of that census tract's population, the figure for that census tract is weighted at 90% in the custom area tabulation.

Indicator data was assembled utilizing known, publicly available data sources identified in the table below;

Table – Data Source

Indicator	Data Source
Total Population	US Census Bureau, American Community Survey: 2008-12
Change in Total Population	US Census Bureau, Decennial Census: 2000 – 2010
Income Per Capita	US Census Bureau, American Community Survey: 2008-12
Population in Poverty - 100% FPL	US Census Bureau, American Community Survey: 2008-12
Population in Poverty - 200% FPL	US Census Bureau, American Community Survey: 2008-12

Children in Poverty	US Census Bureau, American Community Survey: 2008-12
Linguistically Isolated Population	US Census Bureau, American Community Survey: 2008-12
Population with Limited English Proficiency	US Census Bureau, American Community Survey: 2008-12
Population Receiving Medicaid	US Census Bureau, American Community Survey: 2008-12
Access to Primary Care	US Department of Health & Human Services, Health Resources and Services Administration, Area Health Resource File: 2012
Facilities Designated as Health Professional Shortage Areas	US Department of Health & Human Services, Health Resources and Services Administration, Health Professional Shortage Areas: April 2014
Federally Qualified Health Centers	US Department of Health & Human Services, Center for Medicare & Medicaid Services, Provider of Services File: June 2014