

Getting to Healthy: Improving Access to Care -- a study for the Cooley Dickinson Health Care (CDHC) Healthy Communities Committee

*Pioneer Valley Planning Commission (PVPC) &
United Way Hampshire County (UWHC)*



Foreword:

The Cooley Dickinson Health Care service area enjoys strong employment, low crime, high educational attainment, low poverty and consistently high indicators of childhood health. The area is, in the aggregate, extraordinarily healthy.

In fact, a June 16, 2014 article in U.S. News, named Hampshire County, MA the 12th “healthiest community for kids” in the nation.¹ The article was based on data from the County Health Rankings and Roadmap project. Yet, beneath this aggregate data is the story of a small and often invisible segment of the region’s population that recurrently finds itself disconnected from the health and prosperity of the general population. While statistically small, this group struggles to meet its health needs and functions collectively as a disproportionately high driver of health care costs. This population includes individuals and families who may be elderly, physically disabled, limited in English proficiency, mentally ill, addicted to substances, and often low-income. This population is especially impacted by the social determinants of health, defined by the CDC as “the complex, integrated, and overlapping social structures and economic systems that are responsible for most health inequities... including the social environment, physical environment, health services, and structural and societal factors. Social determinants of health are shaped by the distribution of money, power, and resources throughout local communities, nations, and the world”.²

Getting to Healthy explores these dynamics through the lens of transportation and recommends strategies to promote better quality of life and health outcomes.

Summary: Cooley Dickinson Health Care (CDHC) completed a Community Health Needs Assessment (CHNA) in 2013. Results of a regional survey showed that transportation is a barrier to living a healthy life for a segment of the population. Follow up focus groups and community meetings confirmed that more study was needed to understand how transportation impacts health. Cooley Dickinson contracted with the Pioneer Valley Planning Commission (PVPC) and United Way of Hampshire County (UWHC), to further study transportation issues and to identify possible solutions. As the project developed, it became clear that some possible solutions, such as telemedicine, were not transportation related, but might have an important contribution to make toward improving access and reducing the need for transportation. As a result, work that began as a Transportation Gap Analysis now also includes research into best practices related to:

¹ <http://health.usnews.com/health-news/best-childrens-hospitals/articles/2014/06/16/americas-50-healthiest-counties-for-kids>

² www.cdc.gov/socialdeterminants

- co-location of services
- bringing care to patients
- using technology to mitigate the need for patients to travel to the hospital, and
- transferring hospital specialist knowledge to primary care providers to expand access to such care, possibly combined with use of new technology

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Problem / Opportunity Statement

Cooley Dickinson Health Care (CDHC) completed a community needs assessment in 2013 and found that some community members lack sufficient access to transportation and care. At first this issue was framed as a transportation problem. The Pioneer Valley Planning Commission (PVPC) was engaged to conduct a transportation gap analysis. The United Way Hampshire County was engaged to conduct additional primary research of the population identified as experiencing transportation barriers with accessing care: elderly, disabled, limited English proficiency, mentally/emotionally challenged, economically disadvantaged.

Over the course of the project, however, as the PVPC staff researched best practices of addressing access to care issues, combined with the insights, knowledge, skill, expertise and experience of the Advisory Committee, the problem of access to care evolved into an opportunity to research and propose improvements to patient care by recommending modifications to not only the transportation system but also to the health care delivery system. Improvements which may now be possible because of the rapidly evolving health care system in the United States.³

The idea of bringing care to patients is not a new phenomenon. Indeed, some people still remember the physician who would make house calls. As the need to provide excellent care to patients merged with needs of efficiency, it made sense to concentrate large numbers of patients in hospitals where providers could maximize service delivery. Now, however, the limitations of concentrating all patients in one place are becoming clear and it seems possible to achieve a vertically integrated health care delivery system which includes a variety of means of providing care.

CDHC already brings care to patients via a robust home care and hospice program. What is potentially innovative is the idea of 'bringing care to patients' as part of a solution to transportation barriers in the region. Patient care at a hospital or other primary care office is reimbursed by insurance, but it is not clear, currently, how such care provided in the patient's home or at a satellite center would be reimbursed. There are criteria that make one eligible for home health care, however, lack of access to transportation is not one of the criteria that make one eligible for home health care. Medicare Guidelines indicate that a patient has to be home-bound as a result of a physical or cognitive impairment.

Tele-medicine (also referred to as Tele-health) is an innovation that is being pilot tested in Massachusetts and elsewhere, to improve patients care (for example, for patients who need more monitoring, i.e. congestive heart failure), and it could also be used in cases where patients have barriers with respect to transportation. These are not innovations in the provision of health care, but it is innovative to apply these solutions to the problem of limited alternative transportation.

³ Coincidentally, as we were completing this report there was an article on new possibilities in health care because of telemedicine published in The Atlantic Magazine, Nov 2014 "The Virtual Housecall" James Hamblin

A significant barrier to solving the identified issues of access to care for CDHC is that the current reimbursement system only reimburses for face to face interactions. It is undeniably a good idea to 'bring care to the patient' in many cases, but it is not automatically understood who will be responsible to pay for such care. While the traditional 'fee for service' model is being adapted and modified as part of health care reform with a slow transition to 'global payments', additional changes may be necessary to support the kinds of innovations recommended in this study. At the same time, examples of bringing care to patients are emerging every day, especially from the private sector, suggesting the inevitability of this transition. For example, during the course of this study, CVS, long known as a pharmacy/convenience store, re-branded itself as CVS Health and in doing so has begun offering "minute clinics" for its customers.

Bundled schemes, or global payment (in which health care providers are given a set amount of money for patient care) are being pilot tested and will increasingly become the norm—this approach thrives on efficiency and may well reveal the wisdom and sense of bringing care to patients and of integrating telemedicine and other technological innovations into health care provision.

As the advisory committee responded to results of the consultants' research, it became clear that a sequential or developmental approach to improvements makes the most sense. Solving the problem of access to care, especially for people who experience transportation barriers, i.e. those without reliable access to a car or unable to drive—the poor, disabled, and some elderly, is not an either/or issue. Solutions need to be both/and. Because people receiving care are human beings with unique needs and experiences, one size does not fit all. In the case of drawing a patients' blood, the following five solutions could make sense in a variety of situations.

- 1) Send Lab staff to a patient's home—seems to be the easiest for the patient and lowest cost. However, our primary research revealed that some people are not comfortable with the idea of having outsiders come to their home.
- 2) Create Lab drawing stations at senior centers, survival centers, offices of the Division of Transitional Assistance, naturally occurring retirement communities (NORCs) or other locations where groups of people who have a higher proportion of individuals without access to a car and/or the ability to drive, already go. This seems to be one of the most promising long term solutions to the issue of access to care, especially as evidenced by the movement of the private sector into this arena, such as CVS.
- 3) Health care providers offer a Van/Mini-bus service and/or pay for taxi, car-sharing costs.
- 4) Train patients to draw their own blood and/or perform other types of monitoring and self care.
- 5) Train/create adjunct health care workers out of people the patients are already seeing and interacting with on a regular basis, such as their mail carrier, staff at the Senior Ctr/COA, the Meals on Wheels delivery person, and first responders.

Examples of pilot initiatives that can be categorized into all five types of improvements are happening all across the globe, and a selection of case studies are included in the resource section at the end of this report.

An example of technology changes over time that has dramatically affected patients' needs for transportation is the case of Blood Glucose testing. Previously, patients needed to travel to a lab for blood draw and then wait for results. Now, everyone uses a glucometer.

The Advisory Committee and consulting team noted that access to health care is only one of several social determinants of health that impact vulnerable populations. Access to jobs, education, safe and affordable housing and political capital all influence health. Co-location of health care and other services is emerging as a high potential solution.

At the end of this report we include a number of recommendations to consider that address the barriers to care being experienced by some community members. Solving transportation barriers will require aligning the health care system and community partners around a common goal of access to care by all residents. The specifics of how that is accomplished will take many forms, including buses, taxis, technology, care at home, and changes in how and where services are located. We encourage CDHC to continue to play a lead role in convening broad community participation to improve access and to identify and fund pilot projects that can be scaled up.

Documenting/Quantifying and Clarifying the Need/Assessment

We took a three-pronged approach to researching and elaborating on the need identified by the CDHC community health assessment. PVPC staff completed a transportation gap analysis, assessing access to CDHC services via personal automobile, bicycle, transit, on foot, and through the variety of ride services available, including but not limited to taxi's, Council on Aging, Senior Center services, ride sharing, and ambulance. The United Way of Hampshire County conducted a series of focus groups and convenience sample surveys of likely users of Hospital Care at CDHC, targeting people who may not have access to a personal vehicle or who face other access challenges. PVPC staff researched best practices to address access to hospital and other primary health care services, especially for 'vulnerable populations'.

Transportation Gap Analysis

Accessible transportation is necessary for the continuing health and well-being of all individuals. This *Transportation Gap Analysis* identifies the existing transportation services available to the main campus of Cooley Dickinson Health Care on 30 Locust Street in Northampton, Massachusetts from the communities in their primary and secondary service areas. These service areas are shown in Table 1.

Table 1 – Cooley Dickinson Health Care Service Areas

Primary:

Amherst	Goshen	North Amherst	Whately
Chesterfield	Hadley	North Hatfield	Williamsburg
Cummington	Hatfield	Northampton	
Easthampton	Haydenville	Pelham	
Florence	Leeds	West Hatfield	

Secondary:

Ashfield	Leverett	South Deerfield	West Chesterfield
Belchertown	Plainfield	Southampton	Worthington
Huntington	Shutesbury	Sunderland	

As a full service community hospital, Cooley Dickinson offers a variety of services to assist residents of the Pioneer Valley to maintain a healthy quality of life. A recent regional survey identified transportation accessibility as a significant barrier to receiving necessary health care. By reducing the

existing gaps in the local and regional transportation system, improvements can be made to enhance access to existing services and meet unmet transportation demands.

Roadway Network

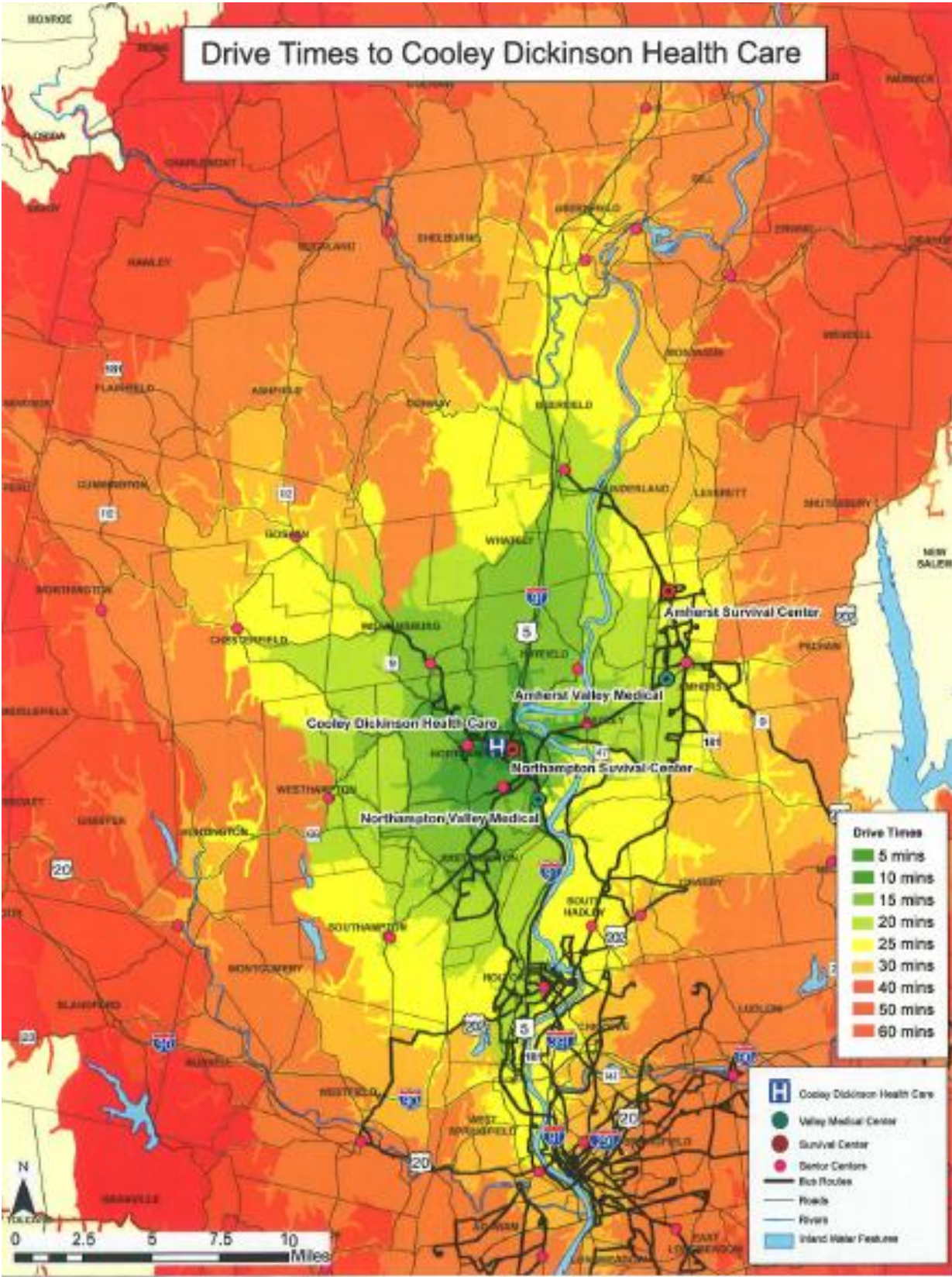
Cooley Dickinson Health Care is located at 30 Locust Street in Northampton, Massachusetts. Locust Street is designated as Route 9 and is a main arterial roadway providing regional east/west access. Cooley Dickinson Health Care is also served regionally by Interstate 91, Route 5, Route 10, and Route 66. As a result, the hospital is easily accessible by automobile. Ample parking is provided on the main campus and valet service is also available.

The mode of personal travel in the Pioneer Valley region tilts heavily toward private automobile. The 2006-2008 American Community Survey (ACS), shows that approximately 81% of commuters in the Pioneer Valley region drive alone to work. Public transportation in the region accounts for 1.9% of commuters traveling by transit compared to 9% statewide.

Non-congested travel times were calculated along the regional roadway network serving Cooley Dickinson Health Care. This analysis was completed using the regional Geographic Information System (GIS) based on driving distance and posted speed limits. The results of the analysis indicate that much of the primary service area is located within a 20 minute drive of Cooley Dickinson Health Care. This information is depicted graphically on Figure 1.

The main access driveway to Cooley Dickinson Health Care intersects with Locust Street (Route 9), North Elm Street and Prospect Street to form a five-way intersection. This intersection operates under traffic signal control and has push button actuated pedestrian signals and traffic signal pre-emption equipment for emergency vehicles.

Figure 1



Public Transportation Services

Pioneer Valley Transit Authority (PVTA)

PVTA is the regional transit authority for the Pioneer Valley. It was created in 1974 to consolidate public transportation in the region. Today, PVTA provides service on 44 scheduled bus routes and on-demand paratransit van service in 24 communities.

PVTA currently operates six fixed transit routes that serve the City of Northampton. Only one route, the R42, provides direct service to the Cooley Dickinson Health Care campus. This bus stop is located on Route 9 and has a covered shelter. Passengers can transfer from any of the other five PVTA routes to the R42 at the Academy of Music. The following provides more information on each of the routes. Information on the accessibility of transit from the Cooley Dickinson service area is provided in Table 2 and on Figure 2. Specific information on transit services on holidays is available on www.pvta.com.

- **R42:** Provides service between Northampton and Williamsburg, serving Cooley Dickinson, Florence, the VA Medical Center, Leeds, and Haydenville. Trips are provided on a near-hourly basis between 5:50 AM and 8:20 PM.
- **R41:** Provides service between Northampton and Holyoke Community College via Easthampton. Trips are provided on a near-hourly basis between 6:15 AM and 6:48 PM.
- **B43:** Provides service between Northampton and Amherst, serving Smith College, Hadley, the Hampshire Mall, UMass Amherst, and Amherst College. As the busiest bus route in the Northampton area, the B43 provides a crucial link between Northampton and the various bus routes operating around Amherst. Trips are provided at roughly 20-minute intervals during weekdays in the school year; trips are provided on an hourly basis on Sundays and during school vacations. During the summer the B43 drops to hourly service on weekdays.
- **P31:** Provides service between Sunderland and South Amherst, serving North Amherst, UMass Amherst, and Amherst Center. Trips are provided at roughly 15-minute intervals during weekdays in the school year; trips are provided at roughly 70-minute intervals on weekends and 40-minute intervals during school vacations. During the summer the P31 drops to 35 minute service on weekdays.
- **G45:** Provides service between Belchertown and Amherst, serving Echo Hill and UMass Amherst. 8 trips are provided at irregular intervals between 6:30 AM and 11:00 PM on weekdays, with reduced service on weekends.

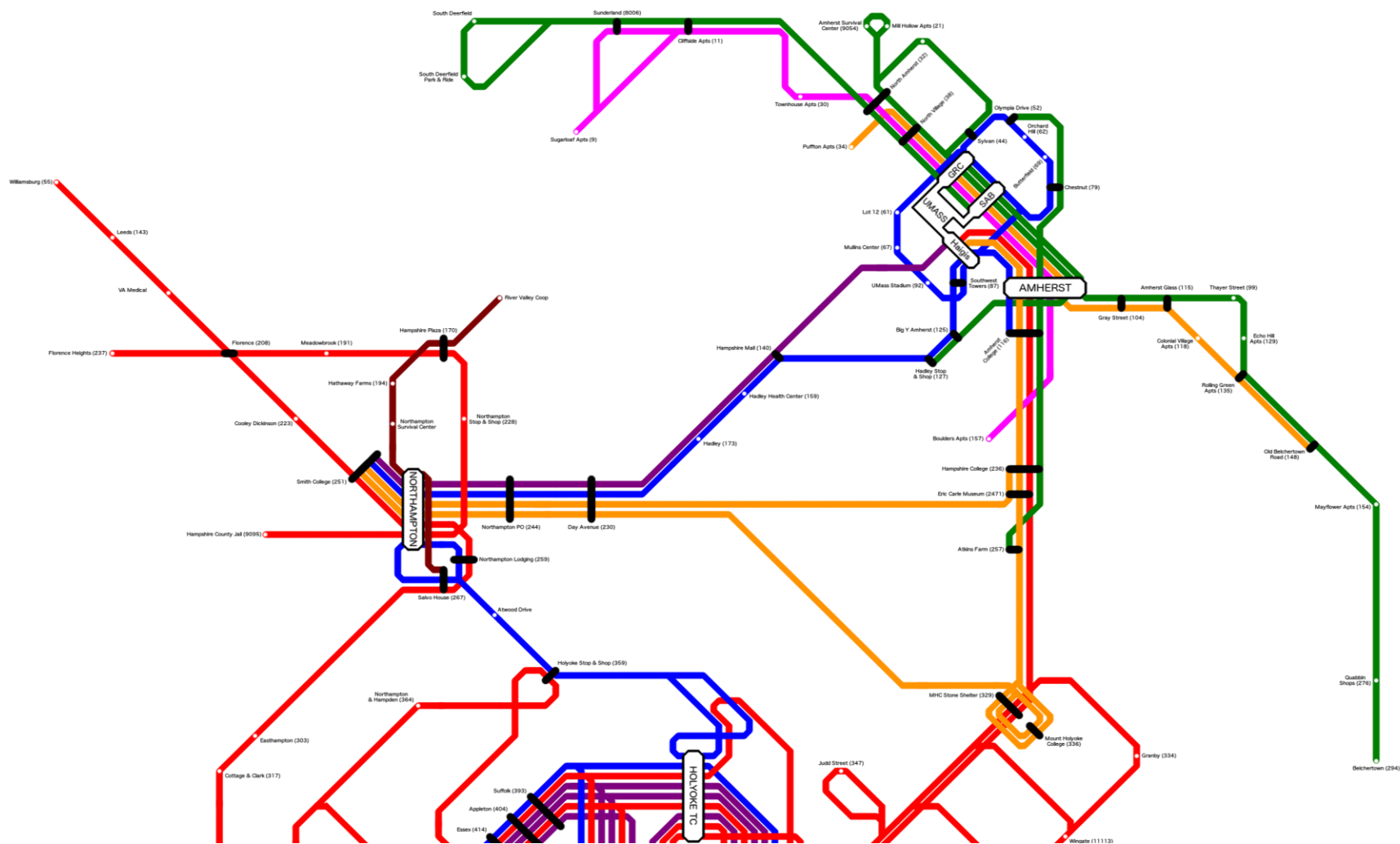
- **G46:** Provides service between South Deerfield and Amherst, serving Sunderland, North Amherst, and UMass Amherst. 6 trips are provided at irregular intervals between 6:50 AM and 10:35 PM on weekdays, with reduced service on weekends.

Table 2 – PVRTA Transit Service from the Cooley Dickinson Service Area to the City of Northampton

NAME	MILEAGE	CAR TIME	TRANSIT	TRANSIT TIME	TRANSFERS	ROUTES	TRANSIT COST
Amherst	8.5	17	Y	65	1	B43, R42	\$1.50
Chesterfield	12.8	20	-	-	-	-	-
Cummington	18.3	29	-	-	-	-	-
Easthampton	6	11	Y	80	1	R41, R42	\$1.50
Florence	1	2	Y	4	0	R42	\$1.25
Goshen	11.7	19	-	-	-	-	-
Hadley	4.2	9	Y	35	1	B43, R42	\$1.50
Hatfield	5.3	10	-	-	-	-	-
Haydenville	4.4	8	Y	17	0	R42	\$1.25
Leeds	3.1	7	Y	12			
North Amherst	10.6	19	Y	71	2	P31, B43, R42	\$1.50
North Hatfield	6.8	9	-	-	-	-	-
Northampton	1.7	4	Y	10	0	R42	\$1.25
Pelham	14.9	28	-	-	-	-	-
West Hatfield	3.2	6	-	-	-	-	-
Westhampton	8	17	-	-	-	-	-
Whately	8.1	14	-	-	-	-	-
Ashfield	19	30	-	-	-	-	-
Belchertown	15.8	27	Y	147	2	G45, B43, R42	\$1.50
Huntington	18.5	29	-	-	-	-	-
Leverett	17.8	25	-	-	-	-	-
Plainfield	21	36	-	-	-	-	-
Shutesbury	18.1	33	-	-	-	-	-
South Deerfield	11.6	14	Y	82	2	G46, B43, R42	\$1.50
Southampton	9.9	19	-	-	-	-	-
Sunderland	12.6	15	Y	82	2	P31, B43, R42	\$1.50
West Chesterfield	15	24	-	-	-	-	-
Worthington	19.9	32	-	-	-	-	-

RED = No Fixed Route Transit Service GREEN = Fixed Route Transit Service

Figure 2 – PVRTA Transit Service Map



While it is possible to access Cooley Dickinson by fixed route transit from eleven of the communities in their service area, the total time of the trip is significantly longer than the time of an automobile to travel a similar distance. Sixteen communities in the service area have no fixed route transit stops. It is clear the region is dependent on the automobile for most trip purposes.

As an example, an automobile trip from North Amherst to Cooley Dickinson was calculated to take 19 minutes during off peak or non-congested conditions. The same trip by fixed route transit would take 71 minutes and require two route transfers. A transit trip from Easthampton could take up to 80 minutes and require one route transfer. It should be noted that the transit travel time estimates do not include the time spent waiting for the bus to arrive.

Beginning in the Fall of 2014, the R42 and R41 routes were combined. Trip frequency on both routes increased to an hourly basis. This service change enables single-seat rides from HCC and Easthampton directly to Cooley Dickinson Hospital.

Ridership on the R42 route is available through PVTA's passenger counting equipment. Data from Monday April 7, 2014 shows a total of 12 passengers boarded the inbound bus at the bus stop in front of Cooley Dickinson, while 3 passengers alighted or got off of the bus over the course of the service day. Five passengers alighted the outbound bus and no passengers boarded the bus on the same service day. A summary of ridership information on the R42 by bus stop is provided in Table 3.

Boards and alights do not match on a given day because the statistics are collected automatically by a motion sensor. While these numbers provide a good impression of relative magnitudes of ridership at different stops and on different routes, they must be validated before being considered perfectly accurate. In addition, ridership data at a given bus stop is occasionally recorded at an adjacent bus stop due to an issue with the sensitivity of the GPS equipment. This potentially could be happening at the Cooley Dickinson and adjacent Child's Park bus stops, but the data must be validated to confirm this.

Table 3 - Ridership at Selected Stops on R42 on Monday, April 7th, 2014

VA Medical Center (Both)

Courthouse (Out)

Prospect Street (Out)

CDH (to Northampton)

CDH (to Florence)

Child's Park (Out)

Trip	Fare		Total	Trip	Fare		Total	Trip	Fare		Total	Trip	Fare		Total	Trip	Fare		Total	Trip	Fare		Total
	Off	On			Off	On			Off	On			Off	On			Off	On					
0550-N	2	0	2	0550-N	0	1	1	0550-N	1	0	1	0615-S	0	2	2	1245-N	2	0	2	0550-N	0	1	1
0615-S	0	1	1	0650-N	0	2	2	0650-N	1	1	2	0825-S	1	2	3	1540-N	3	0	3	0650-N	1	0	1
0650-N	3	0	3	0755-N	0	4	4	0755-N	1	4	5	0930-S	0	1	1					0755-N	1	0	1
0720-S	0	1	1	1245-N	0	5	5	0900-N	0	6	6	1045-S	0	3	3	Total	5	0	5	1245-N	1	0	1
0755-N	4	0	4	1425-N	0	4	4	1245-N	0	4	4	1310-S	1	2	3					1425-N	1	3	4
0825-S	1	4	5	1540-N	0	3	3	1425-N	0	4	4	1500-S	1	0	1					1540-N	1	0	1
0900-N	5	0	5	1655-N	0	1	1	1540-N	0	8	8	1615-S	0	2	2					1810-N	1	1	2
0930-S	0	6	6	1810-N	0	5	5	1810-N	0	6	6									1915-N	2	0	2
1245-N	1	0	1	1915-N	0	2	2	1915-N	0	4	4	Total	3	12	15								
1310-S	0	3	3													Total			8	5	13		
1425-N	5	1	6	Total	0	27	27	Total	3	37	40												
1500-S	0	1	1																				
1540-N	3	0	3																				
1615-S	1	1	2																				
1655-N	1	0	1																				
1840-S	1	1	2																				
Total	27	19	46																				

PVTA Paratransit Service

ADA Paratransit Service is for individuals with a disability that prevents them from using the accessible fixed route bus. If you require a Personal Care Attendant (PCA), that person rides for free. You may also bring one traveling companion who must have the same pickup and drop off location as the paratransit rider. A companion pays the same fare as the paratransit traveler. Individuals must apply for ADA service and be determined as eligible under the guidelines of the American with Disabilities Act. ADA Rides can be booked seven days a week between 8:00 AM and 4:30 PM and as early as seven days in advance but no later than 4:30 PM the day before the trip. PVTA Paratransit trips to the Cooley Dickinson Health Care main campus were estimated for the month of October 2013 through a GIS analysis of trip origins and destinations. During the month of October, seventeen round trips, six one-way trips were made using PVTA paratransit. PVTA does indicate that paratransit trip priority is given to certified ADA passengers.

PVTA offers shared ride, demand responsive, accessible van service to seniors over the age of 60 throughout the PVTA's 24 member communities. There is no application process for PVTA's Senior Service. Anyone 60 years of age or older that lives within PVTA's service area can register and book a trip. Registration cannot take place unless a trip is booked. Senior Service Rides can be booked Monday through Friday between 8:00 AM and 4:30 PM. Rides can be booked as early as 7 days in advance but no later than 4:30 PM the day before the trip. The Senior Service is not a guaranteed service and trips may be denied due to capacity issues with priority ADA service. Comments from past passengers of this service indicated that reliability of this service could be an issue. Some passengers reported their trip was cancelled due to the need to transport a priority patient at the same time.

Human Service Transportation Office

In Massachusetts, The Human Service Transportation Office (HST) serves as a resource to improve access to health and human services, employment and community. Operating under the Executive Office of Health and Human Services (EOHHS), the HST encourages coordination and mobility management strategies for transportation services. HST works in cooperation with MassDOT to connect riders with transportation services. Under the MassMobility initiative, the HST works to raise the awareness of existing transportation services to increase the mobility for all who lack transportation access in Massachusetts.

Regional Coordinating Councils

Massachusetts enacted Executive Order 530 in 2011 to enhance the efficiency of community and paratransit transportation services in the Commonwealth. The order seeks to align the paratransit needs of the Commonwealth with current levels of service and assess if the current services conform with federal and state requirements. A major product of Executive Order 530 was the Community, Social Service and Paratransit Transportation Commission Report. This report recommended the formation of Regional Coordinating Councils (RCC) to identify and address existing service gaps at the local level. RCCs are voluntary advisory bodies that seek to:

- Identify unmet service needs
- Develop regional priorities
- Coordinate existing services to serve more people at the local level
- Report unmet needs to the appropriate government agency (i.e. MassDOT)
- Raise awareness of the important role community transportation services play for all

Based on information provided on the EOHHS website, Cooley Dickinson Healthcare is currently served by RCCs in Franklin County, the Pioneer Valley, and a third RCC for the Hilltowns. More information on each RCC is provided in the table below.

RCC	Coverage Area	Contact	Meeting Schedule
Pioneer Valley	Agawam, Amherst, Chicopee, East Longmeadow, Easthampton, Granby, Hadley, Hampden, Hatfield, Holyoke, Longmeadow, Ludlow, Monson, Northampton, South Hadley, Springfield, West Springfield, Westfield, Wilbraham	Theadora Fisher, HST	Every 4 th Tuesday at the office of the Pioneer Valley Planning Commission
Franklin County	Ashfield, Bernardston, Buckland, Charlemont, Colrain, Conway, Deerfield, Erving, Gill, Greenfield, Hawley, Heath, Leverett, Leyden, Monroe, Montague, New Salem, Northfield, Orange, Shelburne, Shutesbury, Sunderland, Warwick, Wendell, Whatley	Rachel Fichtenbaum, HST	Meeting dates and times vary
Hilltowns	Becket, Blandford, Chester, Chesterfield, Cummington,	Theadora Fisher, HST	Meeting dates and times vary

	Dalton, Florida, Goshen, Granville, Haydenville, Hinsdale, Huntington, Middlefield, Williamsburg		
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Franklin Regional Transit Authority (FRTA)

The Franklin Regional Transit Authority provides fixed route and paratransit services throughout Franklin, Hampden, Hampshire and Worcester Counties. Fixed route service is provided Monday through Friday along six routes. Route 31 connects Greenfield to Northampton via the communities of Deerfield, Whately, and Hatfield. This route makes 3 stops in the morning and 3 stops in the afternoon at the Academy of Music in Northampton. The current fare for this route is \$1.50.

Client Specific Transportation Services

Senior Centers and Councils on Aging

Transportation services are provided by many of the Senior Centers and Councils on Aging in the Cooley Dickinson Health Care service area. In addition, many of these facilities provide meals and a variety of other amenities. A survey was developed to assist in summarizing the level of services provided at each location. This information is summarized in Table 4.

Table 4 – Services Provided at Senior Centers and Councils on Aging

Location	Ride Services		Food Services		
	Van Service	Volunteer Ride Service	Hot Meal on Site	Home Delivered Meal	Grocery Delivery
Amherst Senior Center	Yes	Yes	Yes	Yes	No
Ashfield Senior Center	Yes	Yes	Yes	No	Yes
Belchertown Senior Center	Yes	Yes	Yes	Yes	No
Chesterfield Council on Aging	Yes	Yes	No	Yes	No
Cummington Council on Aging	Yes	No	Yes	No	Yes
Easthampton Senior Center	Yes	No	Yes	Yes	Yes
Goshen Council on Aging	FRTA	No	Yes	No	No
Hadley Council on Aging	Yes	No	Yes	Yes	Yes
Hatfield Council on Aging	Yes	No	Yes	Yes	No
Huntington Council on Aging	Yes	Yes	No	Yes	No
Leverett Council on Aging	PVTA	No	Yes	No	No
Northampton Senior Center	Yes	Yes	Yes	?	?

Pelham	No	Yes	Yes	No	Yes
Plainfield Council on Aging	FRTA	No	No	Yes	No
Shutesbury Council on Aging	Yes	No	Yes	No	No
South County Senior Center (S. Deerfield)	Yes	No	Yes	Yes	No
South County Senior Center (Sunderland)	PVTA	No	Yes	Yes	Yes
Southampton Council on Aging	Yes	No	Yes	No	No
Westhampton	No	Yes	Yes	No	No
Williamsburg Council on Aging (Haydenville)	Yes	Yes	Yes	Yes	No
Worthington Council on Aging	Data unavailable	Data unavailable	Data unavailable	Data unavailable	Data unavailable

Most of the twenty one centers surveyed provide some level of transportation service. This can vary from volunteer drivers to transport seniors to medical appointments to paratransit van services. A “yes” in this column indicates the location has its own vehicle for transportation, otherwise the transit agency responsible for the service is listed. A “?” was used when the information could not be confirmed through a website or phone interview. Most of the centers provide food services, both on-site and through brown bag food delivery programs. Many have a grocery delivery program as well. Other programs include a variety of arts, entertainment, exercise, and social programs that vary by location. Copies of all completed surveys are included as part of the Appendix to this document.

MassRides

MassRides is a private non-profit organization working with the Massachusetts Department of Transportation (MassDOT). The MassRides Employer Partner Program helps businesses and their employees cut commuting costs, shorten travel times, and improve the quality of commutes. MassRides holds commuter events at a participating business’s worksite(s) to provide information to employees. Also, MassRides can help set up carpooling, vanpooling, preferential parking, transit, teleworking, flexible work hour programs, or other cost-saving programs, such as pre-tax payroll deductions of transit costs. NuRides has recently partnered with MassRides to offer rewards to people who take greener trips. It provides ride matching services for people who like to carpool to similar destinations.

Commercial Transportation Services

Zip Car

Zip Car is a membership based national car sharing service. Annual membership fees are \$60/year with an initial \$25 application fee. Members may reserve vehicles from the Zip Car fleet at a rate of \$8.50/hour or \$69/day. Six cars are currently available for rent to members in the study area. These cars are housed at Smith College. An additional 2 cars were

recently added to the local Zip Car fleet. They are located in downtown Northampton in a parking lot directly behind the Northampton City Hall.

Taxi

Seven taxi companies were identified that provide service in the Northampton area. While rates varied between each company, most companies offered a flat rate for each trip based on the destination. As an example, local trips in the City of Northampton varied from \$6.50 - \$7.50 per trip based on posted internet rates.

Valley Transporter

The Valley Transporter provides passenger transportation to regional train stations and airports. Advance reservations are required, but door-to-door service can be provided either via a shared van or exclusive ride. Charter service can be booked on an hourly basis.

Peter Pan Bus Lines

Peter Pan Bus Lines serves the City of Northampton via its terminal located at 1 Roundhouse Plaza. They offer regular service to a number of regional facilities and have stops in Amherst, Holyoke, and Springfield Massachusetts.

Passenger Rail

As demand continues to grow for transportation options for intercity travel, passenger rail has gained support in both popularity and funding to become a viable alternative mode of travel in the Pioneer Valley in the near future. The Vermonter service runs one train/day in each direction between Washington D.C. and St. Albans, Vermont via Amherst and Springfield, MA. Recently, improvements to the region's Connecticut River line were funded allowing the Vermonter to be rerouted to better serve the region's urbanized area with stops in Greenfield, Northampton and Holyoke, MA. The project resulted in upgrades to the existing railroad ties and track along the line while improving the safety of at-grade crossings. This service is anticipated to return to the line in late 2014 or early 2015. The Pioneer Valley Region and Connecticut have also been working toward the implementation of expanded passenger rail service between the three core cities of Springfield, Hartford, and New Haven.

Private Medical Transportation

Some local medical practices are now beginning to offer transportation services to their clients. Transportation is provided through their own fleet of vehicles and drivers. One example of this type of service is Thayercare in

Hadley, MA. Thayercare offers a complete day program for elderly and disabled persons. Transportation is provided through their fleet of 9 vehicles, including 4 vehicles that are equipped with wheelchair lifts. MassHealth reimburses Thayercare for the cost of the transportation at a fixed rate.

Uber

Uber is a ridesharing application available in many major cities in the United States. The Uber Smartphone application connects riders to drivers in over 70 cities. Drivers register with the company and advertise their availability to provide rides through the smartphone app. Similarly, people looking for a ride can request one through the smartphone app. The pricing structure is similar to metered taxis, but is billed completely through credit cards via the smartphone app. Uber is not currently available in the Northampton area, but could be in the future.

Ambulance and Other Medical Vehicles

Approximately 22 different municipal, private, hospital based and volunteer ambulance services transport patients to the Cooley Dickinson Health Care main campus. In addition, many first responder agencies (police and fire departments) do not transport patients, but provide direct emergency medical services in the community. There is the potential for the misuse and overuse of ambulance services to transport patients to routine medical appointments. Many insurance providers only reimburse ambulances for their service if they transport a patient to the hospital.

Bicycle and Pedestrian Network

The City of Northampton is a very bicycle friendly community with a number of on and off-road bicycle facilities. On the Cooley Dickinson Health Care main campus, bicycle access is easy, but there is limited bicycle parking and no covered bicycle parking. Cooley Dickinson is very accessible for pedestrians through a network of sidewalks on the surrounding roadways as well as internally on their main campus. Push button actuated pedestrian signals are located at the intersection of Route 9 and the main entrance to the hospital.

In sum, transportation to CDHC in Northampton is difficult if one does not have access to a car, as bus service is extremely time consuming and inconvenient. However, ride services, car-sharing and taxi service is widely available and may need to be better publicized.

There is no direct count of people without access to a car in Hampshire County, but analyzing data from the US Census' ACS 2013 suggests 29,486 workers (35%) have no vehicle available. We do not have an estimate of

the total number of licensed drivers who are classified as non-workers, but it would certainly add to this number of individuals relying on alternative transportation.

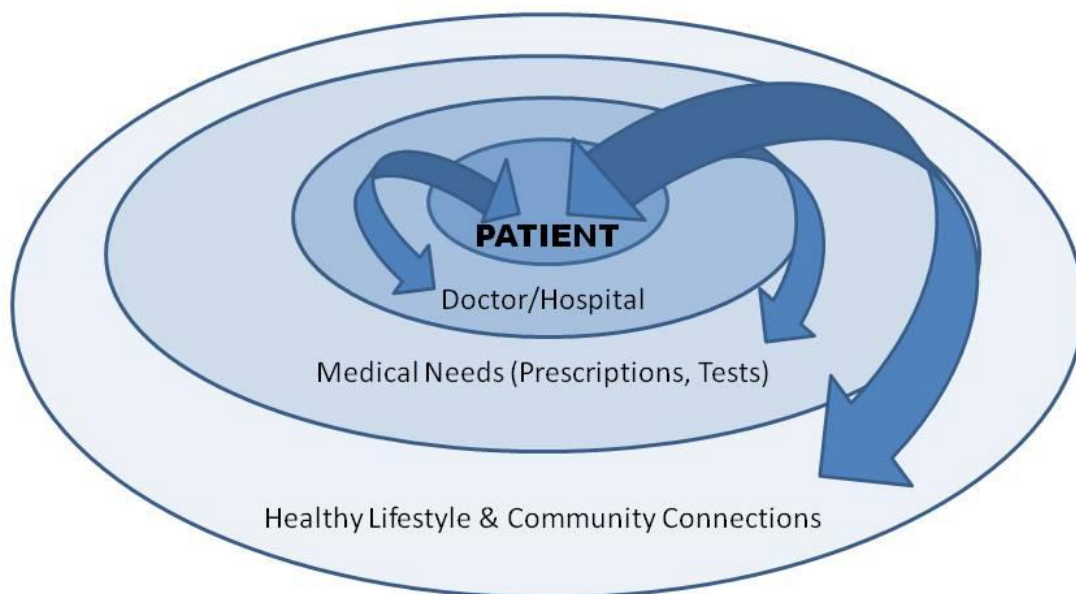
Focus Groups and Surveys of Target Population(s)

Approach:

United Way of Hampshire County engaged a total 487 individuals in identifying the health access challenges they face, including but not limited to transportation challenges. Targeted in this process were community members who were elderly, physically disabled, limited in English proficiency, mentally ill, addicted to substances, and low-income.

Participants were asked to reflect not only on how transportation and other barriers have affected their access to health services at Cooley Dickinson Hospital and in physicians' offices, but also how these factors have affected their access to related health services and activities that would support them in leading a healthy life. This conceptual framework is represented in the diagram, below.

Getting To Healthy



Of these participants, 372 completed a written survey either on their own or in conjunction with a health outreach professional, such as a visiting nurse, outreach worker or meal delivery volunteer.

"I know if I didn't have a car it would be impossible for me to make my children's appointments"

Another 115 individuals took part in small group, face-to-face focus groups that were conducted in community settings, referred herein as focus groups or listening sessions. Locations included local food pantries, ESL classes, community mental health programs and disability support groups. Groups averaged twelve to fifteen participants per session.

Survey Findings:

Lack of adequate transportation is not a challenge for the majority of those in the region's general population, who have access to a car. Yet, among members of the target population, 47% of respondents report that transportation difficulties or a lack of transportation has affected the quality of their health care experience. These individuals are roughly twice as likely to access appointments through a mode of travel other than their own car; instead relying upon rides from friends/family, bus travel or special needs transportation (*listed in order of frequency cited*).

"Taking the bus makes it nearly impossible to go grocery shopping."

Consistent with this trend, 57% report having missed health care appointments as a result of transportation challenges.

"I have a medical condition that prevents me from using public transportation. I'm on oxygen, and it makes getting to appointments so difficult."

Moreover, within the target population, 81% of respondents reported that transportation difficulties or a lack of transportation make it harder to do healthy things such as buy fresh groceries and exercise. Less than 10% cite this as *never* being a concern. The result is that not only does the target population have greater difficulty in accessing needed services, but also that preventative factors which might reduce their need for such care are further from reach.

When asked to identify their top concerns related to using public transportation to get to health appointments, respondents cited travel time (23%), cost (20%) and inconvenience (18%) as their primary concerns.

Respondents were also given an open ended opportunity to share their thoughts and ideas related to transportation and other barriers to health.

These responses are listed in their entirety in the appendix. Particularly illuminating comments are included in the sidebars.

"There's no public transportation in the Hilltowns. It's a huge barrier."

In order to gauge receptiveness to potential remedies or best practices, respondents were asked to reflect on their receptiveness to both telemedicine and in-home appointments. 51% responded they would be comfortable having a doctor or nurse visit their home for regular check-ups or tests. 42% would be comfortable using technology like video calls to talk with doctors or nurses about health concerns.

"Many elders need a steadying hand to get on or off a van or out of a vehicle and most drivers will not provide this. It is also very time consuming to use PVTA vans as they often have to pick people up long before an appt. and do not pick them up until long after their appointment."

It should be noted that of the 372 respondents, roughly 240 were representative of the target population. An additional 132 respondents completed the survey at regularly scheduled appointments at Valley Medical Group, the area's largest outpatient primary care provider. As these patients were not screened for their alignment with target population characteristics, their responses are believed to be more indicative of the general population in the region. Within this de facto control group 88% report that neither transportation difficulties nor a lack of transportation has affected the quality of health care they have received.

"Doctor's always run late which makes asking for rides difficult. I shouldn't have to ask my friends to wait and wait and wait."

Focus Group Findings:

The majority of people participating in target population focus groups reported using buses, vans, and cab rides as their primary mode of travel to hospital or doctor appointments, with several reporting that they routinely call for ambulances even in non-emergency situations. While some participants had their own cars, many reported difficulty in keeping these vehicles adequately maintained, insured and fueled, and as such, faced similar barriers to those without vehicles.

Almost all participants had missed appointments as a result of transportation challenges - some occasionally, many more frequently. The exceptions were those individuals enrolled in adult day programs through which coordinated transportation to health services is a provided benefit. While many missed appointments were rescheduled, others were not, and as such health concerns for many participants were never diagnosed or treated.

For those utilizing bus services frustrations were consistent from group to group. Many riders spoke of travel and travel-planning as being stressful

and time-consuming. "A simple appointment can take the entire day," was a phrase commonly used. This, in turn, led to missed work time for adults and school absence for children, even for the most routine appointments. When compounded over time these absences have potential destabilizing affects for job security and education, which in turn impacts health – one of many such "vicious cycles" encountered in this study.

Bus riders reported spending significant time waiting, and routinely cited challenges such as poor scheduling of routes, problematic transfers, and service that is unavailable during college/school vacations. Walking to and from bus

A participant from the Amherst Survival Center focus group has a chronic condition that occasionally causes seizures that require medical attention. Having called the ambulance on several occasions, she found the costs too great to manage.

Subsequently she risked a bus trip to the hospital. On the way, she had a seizure. An ambulance was called to meet the bus at the roadside. Although she weathered the seizure she felt stressed and awkward to be the focus of so much public attention and to impact so many other travelers.

A participant at the ServiceNet listening session has a disability that causes his hands to shake. When boarding the bus, he was unable to feed his dollar bill into the narrow slot to pay his fare. He asked for assistance. However, the bus operator informed him that if he was unable to pay the fare, he would have to get off of the bus. Fortunately another rider stepped up to offer help.

He has since been reluctant to use public transportation, at times missing appointments as a result.

stops to destinations was named as frequently challenging due to snow, rain and extreme heat. Furthermore, distances from bus stops to destinations, inadequate sidewalks and crosswalks, limited street lights, and lack of bus shelters further challenge riders.

Participants also spoke frequently about frustration with the quality of their experience with public transit - speaking about a lack of dignity and respect in their experience. This included having to wait in situations that are less than safe and feelings that drivers and other riders are insensitive to their own particular challenges related to disability, language and or mental/emotional challenges.

Those using scheduled transportation such as cab and van rides spoke of complications when physician practices change or cancel appointments, or when need the need for rides is sudden (e.g. child's fever spikes). Financial factors included cost of cab rides and the cost of using up finite cell phone minutes on extended hold times.

The mother of an autistic child in the Amherst area has to use a complicated method to bring her son to medical appointments and the hospital. Due to his sensitivities, he is unable to handle the noise, crowding and stress of public transportation.

She often borrows a friend's car, but to do so must leave her son at home in the care of a friend, take the bus to the home where the car is, return with the vehicle, and only then drive to the medical visit. Afterward she must repeat the same complex routine in reverse -a routine that encompasses her entire day.

Several participants described being released from the hospital and needing to take public transportation to get back home. They felt extremely vulnerable since they were often under the influence of medications or overly stressed from the pain and difficulties of treatment.

One patient described being discharged at 3:00 a.m. while still on morphine. She needed to return home and felt scared riding with a driver she did not know and handling cash in this state.

Another woman was discharged in the afternoon while medicated. To get home she had to take two buses with schedules that did not align, and then walk a significant distance to her apartment. She recalled being unable to remember the trip once she arrived home.

Others spoke of being released from the Emergency Department late at night long after busses stopped running, without resources for cab fares.

Many participants spoke of selecting primary care practices and pharmacies based on ease of travel. However, for secondary levels of care such as specialists or diagnostics, convenient choices may not exist. Some participants spoke of selecting specialists as far away as Boston because bus travel is easier and in some cases quicker than local options.

Consistent with survey data, participants universally shared ways in which transportation difficulties or a lack of transportation make it difficult to lead

healthy lives. Access to nutritious food, opportunities for socialization, ways to exercise and opportunities to feel a part of the community were all seen as limited.

Best Practice Options:

Among listening session participants there was some receptiveness among focus group participants to telemedical strategies. However many respondents were uncomfortable with technology and in particular the idea that the “human touch” they have come to know might be missing. Others were concerned that their own health challenges might be too complex to handle over the phone.

There was significant interest in the idea of mobile health services such as a mobile health van – an option that was much more popular within every group than telemedicine. Participants overall thought it could be useful for lots of routine testing and medical needs. Also many wondered if a van could be used to deliver basic or common prescriptions. Some suggested that various vans could have specialties like pediatric medicine, dentistry, or women’s health. Then services at sites (senior centers survival center, housing complex, etc.) could be rotated to include various vans each month or season.

House calls or home-based health services were of interest to many of the participants. There were some privacy concerns, but most liked the idea of routine exams, regular home testing, physical therapy, or mental health visits. Participants were also open to home visits for blood work or other routine diagnostics

The following were common suggestions from the groups:

- Make bus schedules more convenient and reliable. Have bus service run longer so that it is easier to get home from appointments. Bus travel to/from various town centers is very difficult, confusing, and time-consuming.
- Ensure that hospital discharge policies are in place so that people on certain medications are not released without supervision/support to get home. Late night discharge times, particularly from the Emergency Department, create problems for getting home. Could discharged patients have a lounge/waiting area to rest until buses and cabs are running again?

“I’d like to see on-call nurses for children with small problems so ER visits aren’t necessary”

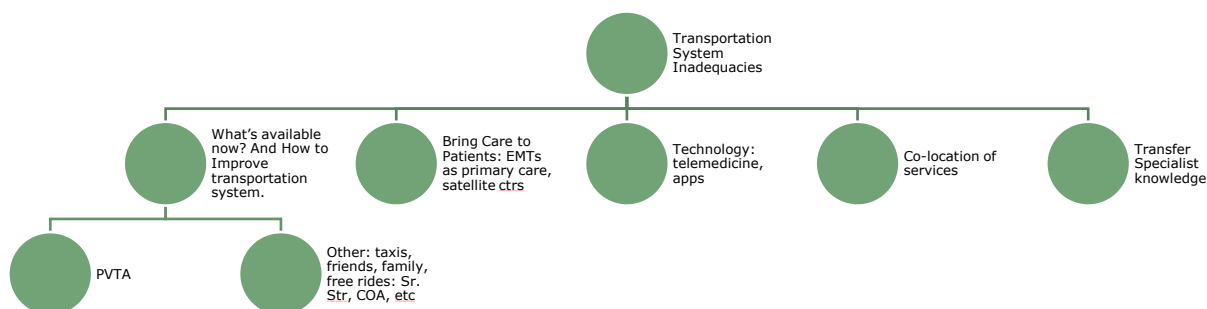
- Centralize non-urgent medical facilities so that various specialties, basic diagnostics, physical/mental health therapies, and prescriptions are available at a single location. Could this also include eye care and dental care? This could be done in commercial space or community space such as a community center or senior center.
- Mini-clinics could be located next to common destinations such as large retailers and grocery stores which already have pharmacies, blood pressure checks, flu shot clinics, etc. Then wait times could be used for other activities.
- Public education is needed regarding disabilities. People with visible disabilities and seniors sometimes get preferential treatment for transit services, while the needs of those with invisible disabilities get overlooked. Could training be provided to drivers to improve treatment of disabled passengers?
- Medical information online is not always useful since so many in the target population lack access to the web, instead relying on public library computers.

Beyond Transportation Improvements

As we launched the process of researching best practices in improving transportation access to medical care, we learned that improving patients' transportation to hospital services is not always the best solution. Research illuminated four additional pathways to improve patients' hospital-related care. They are:

- 1) Co-location of health care services with other essential services/needs
- 2) Bring the care to the patients by transporting hospital staff, equipping mobile vehicles, creating satellite centers and/or training intermediaries
- 3) Use technology to mitigate the need for patients traveling to the Hospital
- 4) Transfer hospital specialist knowledge to primary care providers to expand access to such care, possibly combined with use of new technology

This report is informed by case studies from both around the world and in our region, of examples of Hospitals employing these various approaches. Given the need to reduce health care costs it is recommended that CDHC continue its investments in these four approaches and collaborate with partners, striving to understand and clarify when patients have to be at the Hospital, and when they could be cared for without the trip.



Preliminary Recommendations

All of the recommended improvements to the health care delivery system are anticipated to reduce costs and improve care over time. If people are unable to access health care, their health problems become worse and the costs, both to the individual and to society increase. As is demonstrated in the case study of “Million Dollar Murray” discussed by Malcolm Gladwell in his New Yorker article, Feb 2006, municipal officials described their treatment, or lack thereof, of a homeless man with alcoholism, “...it cost us one million dollars not to do something about Murray”.⁴

Recognizing that this moment in time in the United States is a period of great transition with respect to health care delivery, this study acknowledges the potential benefits of additional research conducting a comprehensive benefit/cost analysis of the different approaches recommended to improve patient access to care: improving transportation—through improvements to existing transit and/or through direct rides, subsidized services and/or car-sharing etc, and our four non-transportation-related solutions: co-location of services, bringing care to patients, the use of technology, and transfer of specialist knowledge to primary care providers. Within each of the broad categories of improvements, there are substantive variations in the benefits and challenges associated with each improvement, including economic, social and political costs. As part of this research project, CDHC is organizing a regional forum on the subject of transportation and access to health care and we anticipate using these preliminary recommendations as a starting point for robust discussion about the benefits and challenges associated with each type of improvement.

⁴ <http://gladwell.com/million-dollar-murray>

Type of improvement	Benefits	Challenges	Comments
Co-location of Health Care services	Can solve more than one problem at once, i.e. food access as well as health care access; efficiency; potential for dramatic savings	Requires intense collaboration and pre-planning; infrastructure may not exist to accommodate and/or support size of development	Can have greater positive impacts as people might be able to walk to a number of services v. driving which improves community health and well-being
Bring care to Patient: a) Health care professional (HCP) travels to patients' home b) Provide mobile care through specially equipped vans or other vehicles c) HCPs travel to place where patients already gather d) Create satellite offices of HCP e) Train non health care professionals to provide basic evaluation/care (as appropriate and practicable)	Extremely easy for patients; creates potential for earlier detection and treatment, as well as potential for reliable follow-up	Patient confidentiality; accreditation and training of non health-care professionals could be a long term process	
Improve transportation: a) Collaborate with PVTa, state legislature etc to advocate for more funding of public transit in the region b) Direct purchase of a vehicle by CDHC to provide rides for patients c) Pre-pay and/or reimburse taxi service for patients d) Create/promote car-sharing e) Train PVTa drivers to better understand the needs of differently-abled riders, emphasizing that not all disabilities are visible f) CDHC to adopt a policy stating that access to transportation will not be a barrier to care	Directly attacks identified problem; depending on approach could be relatively inexpensive (as noted, most Senior Ctrs/COAs already have volunteers recruited and trained to provide rides)	Funding for transit in MA is severely constrained, and the PVTa just completed a major review and modification to its services so additional changes might be unlikely for a number of years	There may be grant funds to offset start up costs for van/mini bus service. If a significant sub-set of patients is regularly using ambulance services to get to the CDHC, then the costs to society could go down dramatically if this practice was stopped.
Use technology: a) Video appointments via phone/computer b) Satellite video-conferencing center (esp important for hill towns with no DSL)	Could be relatively inexpensive for patients.	Need to address reimbursement issues; older adults may be uncomfortable with technology	As with glucometers, costs go up at first, but over time, savings patients experience + reduced trips to provider = improved health care outcomes

Type of improvement	Benefits	Challenges	Comments
Transfer Specialist knowledge to primary care providers—with the goal of mitigating need for trip to Hospital	Shift from having to move patients to moving knowledge, so patient is less burdened.	Time-consuming, long, slow process.	Experience of curing Hepatitis C in New Mexico suggests massive long term cost benefit to this approach including un-anticipated benefit of better follow through from patients who work with primary care provider v. specialist

Best Practices Research and Case Studies

Bring the Services to the Patients -- Case Study from Cambodia



Instead of transporting patients to the Hospital, bring the services to the patients June 26, 2012
In response to the transportation barriers .., Angkor Hospital for Children has focused heavily on not only staffing its hospital – but also **capacity building** – to achieve sustainable impact. The hospital provides extensive medical training for doctors and nurses in local communities. Angkor has piloted programs

which send doctors and nurses who have been highly trained at Angkor into local neighborhoods to both treat people in rural areas, and to provide additional training to local medical practitioners. Less than \$1 million funds the hospital for a year thanks to their innovative measures to keep costs down and increase effectiveness. Its focus on outreach has reduced the number of deaths that occur in children en route to the hospital (which can be a long and treacherous journey in rural areas with poor infrastructure). By providing better training to the staff at 40 regional hospitals in Cambodia, Angkor attempts to provide the highest quality care in the most effective and cost efficient manner possible. Angkor employees and volunteers teach individuals in rural areas about basic health, nutrition, and hygiene, helping to prevent many incidences of disease which could otherwise become serious. Home visits are also provided through the Angkor home care program, since returning to the hospital is often too expensive for patients needing preventative care. At the same time, providing home visits rather than treating these patients in the hospital is more cost effective.

Cambodia

<http://iucb.wordpress.com/2012/06/26/innovative-approaches-to-increasing-the-access-to-health-care-the-cambodian-example/>

Transferring Specialist Knowledge to Primary Care Providers

Case Study from New Mexico (from NYT June 11, 2014)

Ten years ago Dr. Sanjeev Arora, a hepatologist at the University of New Mexico in Albuquerque, realized that he would need to change the way he practices medicine if he was going to prevent his patients from dying. Today, the solution he developed could transform health care. (from NYT, June 11, 2014) Arora had been specializing since 1990 on the treatment of chronic hepatitis C, a disease that affects 3 million Americans. Most Americans don't know they're infected, which is one reason why it remains the leading cause of cirrhosis and liver cancer, resulting in 15,000 deaths each year in the United States.

Dr. Naomi Clancy with patient

In 1990, when drugs started emerging to treat the disease, the cure rate was just 6 percent. By 2003, however, the cure rate has climbed to 45 percent for some patients, and 70 percent



for others. "it had become a curable disease," Arora recalled. The few specialists in New Mexico who treated it were in urban centers and most patients went without treatment. Those who sought help had to wait six to eight months to get an appointment in a clinic. Many could not afford to drive hundreds of miles to Albuquerque, let alone make an average of 12 to 18 trips to complete a course of treatment.

The result: less than 5 percent of the estimated 34,000 chronic hepatitis C patients in New Mexico had been treated.... "The people who weren't very sick yet couldn't get into the clinics," Arora said. "And the people who got in already had liver cancer or their liver was failing and it was too late to treat. So it was very frustrating. The thought came to me: If only I could expand my capacity in some way, and reflect my expertise on a much larger number of patients, lives could be saved."

Could a system be built to "de-monopolize" health care knowledge? To move it out of the heads of specialists into networks of primary care providers in remote places so they could manage complex illnesses in their local settings? And could rural clinicians provide care that was on par with specialists?

Arora set out traveling around New Mexico, recruiting local providers one by one, explaining how hepatitis C was killing their patients, that there were effective treatments for it, but they were complicated to manage. He made an offer. If they volunteered to spend two hours a week with him, he and other specialists would work with them in close collaboration until they could manage their own cases.... In 2011, the New England Journal of Medicine published a study that compared the cure rates of patients treated at the University of New Mexico's HCV clinic with those treated by primary care clinicians in 21 remote ECHO sites... The study reported that the primary care clinicians achieved slightly *better* cure rates

and **their patients had fewer serious adverse events**. (emphasis added) The research suggested that, when treated in local settings, patients adhered better to treatments; and primary care doctors more familiar with patients' medical histories and personal situations could better coordinate care and anticipate problems....

...Project ECHO's model represents a fundamental design shift – “from moving the *patient* to moving the *knowledge*” –that is needed to build a health care system capable of meeting today's soaring demands for care.

Using Technology -- Case Study from Pennsylvania

Published in 2012--Solo practitioner and general surgeon David Faber enjoys practicing medicine in rural Bedford, Pa., a small town in the southern part of the state.

The only downside is that when patients need more than he can give them — for example, highly specialized colorectal surgery — he often has to refer them to see specialists in Pittsburgh, a two- to three-hour drive, depending on traffic.

But thanks to a **new telemedicine partnership between Faber and University of Pittsburgh Medical Center (UPMC)** colorectal surgeon Andrew Watson, patients with certain colorectal health conditions requiring surgery don't necessarily have to make the Pittsburgh pilgrimage more than once. Watson and Faber's partnership allows Faber to send his patients just 10 minutes up the road to the town's hospital, UPMC Bedford Memorial, to **experience a virtual visit with Watson via a high-tech connection.**

Though the idea of a virtual visit sounds as simple as a video Internet call, Watson can **do more than just see and converse with the patient** on the other end, who is joined by an attending nurse from Faber's practice. During the visit Watson **uses a series of plugged-in medical tools, including a digital stethoscope and webcam, allowing him to see the patient's ears, mouth, and throat.** He also instructs the attending nurse to do a physical examination of the patient. So when the patient finally has to go to Pittsburgh, he can go straight into surgery with Watson.

"He's more specialized and works in a tertiary care center with all of the necessary resources to handle more complicated cases I can't here," says Faber. "I've been a solo surgeon since 2002, and in a rural community, I sometimes feel like I am performing without a backup."

The relationship between Faber and Watson that allows for virtual visits offers numerous benefits to both physicians and to Faber's patients. **This relationship also represents the cutting edge of medicine,** a field that is getting more notice in the day and age of shared-savings plans, high-tech doctoring, and outcomes-oriented care.

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- See more at: <http://www.physicianspractice.com/technology/virtual-patient-visits#sthash.6kncn9fA.dpuf> edited for inclusion in this report

Resources

Comino, Elizabeth Jean, Gawaine Powell Davies, Yordanka Krastev, Marion Haas, Bettina Christl, John Furler, Anthony Raymont and Mark F. Harris. **"A Systematic Review of Interventions to Enhance Access to Best Practice Primary Health Care for Chronic Disease Management, Prevention, and Episodic Care."** *BMC Health Services Research* 12, no. 1 (2012): 415-423.

Major findings: Contains a table of most effective strategies to enhance access to care, broken down into four main categories—practice/service reorganization, patient support, new services, and financial incentives.

Schnall, Rebecca, Alex Carballo-Diéguez, and Elaine Larson. **"Can the HIV Home Test Promote Access to Care? Lessons Learned from the In-home Pregnancy Test."** *AIDS and Behavior* (May 22, 2014) [Epub ahead of print].

Major findings: HIV home testing could improve detection of HIV and follow-up care, especially among adolescents.

Zhou, Yin, Gary Abel, Fiona Warren, Martin Roland, John Campbell, and Georgios Lyratzopoulos. **"Do difficulties in accessing in-hours primary care predict higher use of out-of-hours GP services? Evidence from an English National Patient Survey."** *Emergency Medicine Journal* 31, no. 6 (2014).

<http://emj.bmj.com/content/early/2014/03/25/emmermed-2013-203451.full.pdf+html>

Major findings: A study of over 500,000 patients in England. Worse in-hours access was associated with greater use of out-of-hours primary care. An 11% relative reduction in use of out-of-hours primary care services in England could be achievable if access to in-hours care were optimal.

Fang, Jing, Quanhe Yang, Carma Ayala, Fleetwood Loustalot. **"Disparities in Access to Care Among US Adults With Self-Reported Hypertension."** *American Journal of Hypertension* 27, no. 6 (2014).

Major findings: A study of Behavioral Risk Factor Surveillance System 2011 data focusing on adults with self-reported hypertension. Variables relating to access to care included questions about health insurance, having a personal doctor, and cost barriers to visiting a doctor. "Overall, 159,947 eligible participants reported having hypertension. Among them, 19.1% had no health insurance, 18.1% had no personal doctor, and 23.6% could not visit a doctor because of cost. Among those with hypertension by state, age-standardized prevalence of no health insurance ranged from 6.3% in Hawaii to 28.1% in Texas. The prevalence of those without a personal doctor ranged from 9.2% in Massachusetts to 32.7% in Nevada, and the prevalence of cost barrier to visiting a doctor ranged from 10.8% in North Dakota to 35.1% in Tennessee. By sociodemographic characteristics, the prevalence with no health insurance was highest among those aged 18–44 years (25.9%), Hispanics (28.1%), those with less than a high school education (32.8%), and those with a household income of less than \$25,000 (31.6%). Similar disparity patterns were noted for estimates of the other access-to-care variables."

Johansson, Annette, Inger Lindberg, and Siv Soderberg. **"The Views of Health-Care Personnel About Video Consultation Prior to Implementation in Primary Health Care In Rural Areas."** *Primary Health Care Research & Development* 15 (2014): 170-179.

Major findings: A study from Sweden. Views of health-care personnel fell into four categories: the importance of patient-centered video consultation, the importance of evaluating costs and resources, aversion to new technology and the possibility of bugs or

issues, and the possibilities of new technology in future health care. Could also be useful for locating other articles about video conferencing (lots of citations in the introduction).

Johansson, Annette, Inger Lindberg, and Siv Soderberg. **"Views of Residents of Rural Areas on Accessibility to Specialist Care Through Video Conference."** *Technology & Health Care* 22, no. 1 (2014): 147-155.

Major findings: A study from Sweden from the same researchers as the previous study. Views of residents fell into three main categories: the importance of saving time, environmental damage, and cost; security of information must be coupled with increased availability of specialist care; and responses depended on an individual's specific health-care needs. Article not available without a subscription.

Dew, Angela, Kim Bulkeley, Craig Veitch, Anita Bundy, Gisselle Gallego, Michelle Lincoln, Jennie Brentnall, and Scott Griffiths. **"Addressing the Barriers to Accessing Therapy Services in Rural and Remote Areas."** *Disability & Rehabilitation* 35, no. 18 (2013): 1564-1570.

Major findings: A study from New South Wales, Australia. 'Therapy' includes speech-, physio-, and occupational therapy. Rural residents travelled long distances or experienced long wait times to get therapy and had limited access to therapy past early childhood. The problems are compounded by the difficulty of recruiting and retaining therapists to work in rural areas. Possible solutions include community-based rehabilitation (a person-centered and place-centered approach) to reduce travel times and wait times. Article not available without a subscription.

Cowling, Thomas, Elizabeth Cecil, Michael Soljak, John Tayu Lee, Christopher Millett, Azeem Majeed, Robert Wachter, Matthew Harris. **"Access to Primary Care and Visits to Emergency Departments in England: A Cross-Sectional, Population-Based Study."** *PLOS ONE* 8, no. 6 (2013): 1-6.

Major findings: A study from England. More timely access to primary care resulted in fewer visits to the emergency department.

Yitayal, Mezgebu, Yemane Berhane, Alemayehu Worku, and Yigzaw Kebede. **"Health Extension Program Factors, Frequency of Household Visits, and Being Model Households Improved Utilization of Basic Health Services in Ethiopia."** *BMC Health Services Research* 14, no. 1 (2014): 1-17.

Major findings: Ethiopia has implemented a nationwide primary health program (the Health Extension Program) at the grass roots level since 2003. The aim of the program is to increase public access to basic health services, mainly by producing model households. These are households which attend at least 75% of the training given by health extension workers and implement at least 75% of the Health Extension Program packages. Mothers who had frequent household visits by health extension workers were more likely to visit the health posts than mothers who did not get frequent visits. Mothers from model households (3 years after graduation) were more likely to visit health post compared to mothers from non-model households. Mothers from higher income families were more likely to visit health posts compared to mothers from lower income families. Visiting non-model households at home increased the likelihood of those residents visiting a health post.

McMorrow, Stacey and Stephen Zuckerman. **"Expanding Federal Funding to Community Health Centers Slows Decline in Access for Low-Income Adults."** *Health Services Research* 49, no. 3 (2014): 992-1010.

Major findings: Funding from the Health Center Growth Initiative improved health care access for low-income people. Low-income adults in markets with larger funding increases

were more likely to have an office visit and to have a general doctor visit. These results were stronger for uninsured and publicly insured adults.

O'Brien, Donna, Arnold Kaluzny, and Cecil Sheps. **"The Role of a Public-Private Partnership: Translating Science to Improve Cancer Care in the Community."** *Journal of Healthcare Management* 59, no. 1 (2014): 17-29.

Major findings: Public-private partnerships offer an alternative to independent, private-practice physicians for cancer care.

Tracy, Roger, Inwoo Nam, and Thomas Gruca. **"The Influence of Visiting Consultant Clinics on Measures of Access to Cancer Care: Evidence from the State of Iowa."** *Health Services Research* 48, no. 5 (2013): 1719-1729.

Major findings: Visiting consultant clinics supplement primary practice locations to improve access to cancer care in rural Iowa.

Westfield Noble Hospital

<http://www.noblehospital.org/services/patient-transportation-service.html>

North Carolina

<http://www.morrishospital.org/services/patient-transportation/>

Pittsburgh

<http://www.stclair.org/18/about>

Better access through virtual visits: Nov 2013

<http://www.innovations.ahrq.gov/issue.aspx?id=166>

Sarasota Hospital web page of alternative transportation services

<http://www.smh.com/p.aspx?p=380>

Full Transcript of Comments from the Public Survey

- 1 No public transportation options for Leverett.
- 2 I wish it was easier to call and get help for people like me with disabilities.
- 3 Need public accessible transportation that does not require advance booking.
- 4 To order a PVTa w/c van, one can no longer order a van pick up day with more than 5 day notice. One used to be able to make a reservation weeks in advance which was helpful for routine office visits p.t. One needs to get pick up time so early in day and dropped at MD's office so far ahead of time, It takes all day for a one hour pt/ot appt.
- 5 Not enough transportation at present. Have had to change appts to get a ride.
- 6 don't have a computer
- 7 Sometimes a car is ok although I am ready to use a walker for assistance--don't know if it fits in my car. I live alone and have no help.
- 8 I've been left in cold and heat with Medicare/MassHealth transportation (or for long periods
- 9 It is hard to get transportation arranged and taxis are way too expensive.
- 10 Getting around is very difficult and I'm not sure anything would help.
- 11 It's challenging to work around my kids' work schedules for transportation.
- 12 Worthington Health Center is very convenient for her once her cataract surgery is completed.
- 13 Very much a problem in the past. not so much now with HCA help.
- 14 Having to call Fitchburg to make arrangements in Hampshire County. Would love an adapted vehicle to give more independence.
- 15 Home Care used to have more accessible transportation, but now bus company is only option and it's not wheelchair accessible.
- 16 She can only use PVTa but gets medical care in Greenfield area. Since she is not Medicaid eligible, she can't use FCTA and she feels it should be available to all.
- 17 Isolation for the elderly, particularly in hilltowns is deadly. Can't even get to church.
- 18 buses more often
- 19 many people need more
- 20 I know if I didn't have a car would be near impossible to make my children's appointments.
- 21 I wish there were more public transportation available to people without a car because taking a bus makes it hard for people to go grocery shopping.
- 22 I believe it would be helpful to have more pick up services for disabled folks.
- 23 good idea
- 24 I have used MassHealth rides and they can be unreliable or hard to get in place.
- 25 Well, basically, we need better health providers that can take Medicare and MassHealth. It is the cost of maintaining and fueling the car. Not enough funds for adequate gasoline.
- 26 We don't have transportation in south Hadley, mass.
- 27 On call nurses for children for small problems so ER visits are not as necessary.
- 28 could use van rides
- 29 more transportation, afternoon hours
- 30 Once last year on a Sunday night when everyone was on vacation in the 3rd week of August they discharged me and told me that I had to find my way home to N'ton from Baystate Hospital. It cost \$57.00 by taxi. Luckily I had \$100 in bank. But then the taxi co. quit saying it was too expensive. It's very difficult to go to Spfld. My PCP did give me rides by taxi for a while.

- 31 Lower taxi and bus fares
- 32 How is individualized transportation that this survey implies funded? Note: some medical appointments are in Hampden County (30-40% depending on need).
- 33 more bus routes
- 34 Seria bueno que tuwies transportacion
- 35 I think that it should be made more available. And more family friendly.
- 36 no problem at the present
- 37 I DONT HAVE CAR AND HAVE TO RELY ON PEOPLE IT WOULD BE GOOD IF HAVE MORE TRANSPORTATION TO CLINICS HOSPITAL AND DOCTOR
- 38 Smaller scale and personalized system, than 45 minute waiting time or \$7.50 for taxi.
- 39 Very in adequate in rural areas
- 40 Having a medical condition that prevents me from using public transportation (being on O2 etc) can be so difficult. I depend on the Northampton Senior Center Medical transportation program to get to my medical appointments. With diminished funding Senior Centers have difficulty providing low cost transportation services and PVTa cant seem to get me to appointments before my portable O2 is diminished.
- 41 Evening and weekend van transportation for elders who are not disabled is needed.
- 42 No
- 43 At the present time I am able to drive, so I have no transportation problems.
- 44 I believe the system of or lack of public transportation in the hilltowns specifically is deplorable. It affects every aspect of people's lives. Keeping them from not just medical needs but all aspects of life changing & life giving opportunities. I'm also concerned that unless this survey is made available in a wide range of sites it will not reflect the needs of the population without computer access. Pat Keith, Cummington
- 45 Many of my clients at Highland Valley elder services need a steady hand to get on or off a van or out of a vehicle and most drivers will not provide this. It is also very time consuming to use PVTa vans as they often have to pick people up long before an appt. and do not pick them up until long after appt. is completed which can be very draining for elders. Not every community has Senior companion volunteers and often these are older folks themselves who have time to help with rides, but cannot take anyone in w/c's which are too heavy for them to put in their own cars.
- 46 Berkshire County Red Cross has volunteer drivers that go to Bay State and even Boston hospitals. Why not connect with Red Cross in Hampshire Co?
- 47 For the Hilltowns, in which there is no public transportation, transportation is a huge barrier to care.
- 48 Transportation is lacking for clients returning home from the hospital for elders with no family members or other support systems.
- 49 doctors always run late which makes asking/getting rides difficult and annoys me and my ride to wait and wait and wait
- 50 I'm fortunate that I have private transportation.
- 51 Not enough convenient public transportation
- 52 There is a significant need for transportation services for people who have physical limitations and financial limitations for services.