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Mobile Health Clinics: Improving Access to Care for the Underserved

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Population Health Advisor

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Introduction and Purpose

This brief provides best practice models for employing a mobile clinic to improve access to care for vulnerable populations, including detail on:

- National mobile health clinic trends
- Profiles of successful mobile health clinics with an emphasis on operational considerations such as staffing and funding
- Action steps for developing a program

Background: Defining the Mobile Clinic Market

Systemic Barriers Restrict Access to Care for Already-Vulnerable Populations

Lack of Consistent Care Drives High-Cost Emergency Department Visits and Hospitalizations

Most Frequently Cited Barriers to Health Care Utilization

Distrust of the Health Care System

53%

Low-income Americans who agreed that U.S. doctors cannot be trusted

Lack of Transportation

25%

Low income patients who have missed or rescheduled appointments due to lack of transportation

High Cost of Care

20%

Uninsured patients who went without needed care due to cost; 8% for publically insured patients

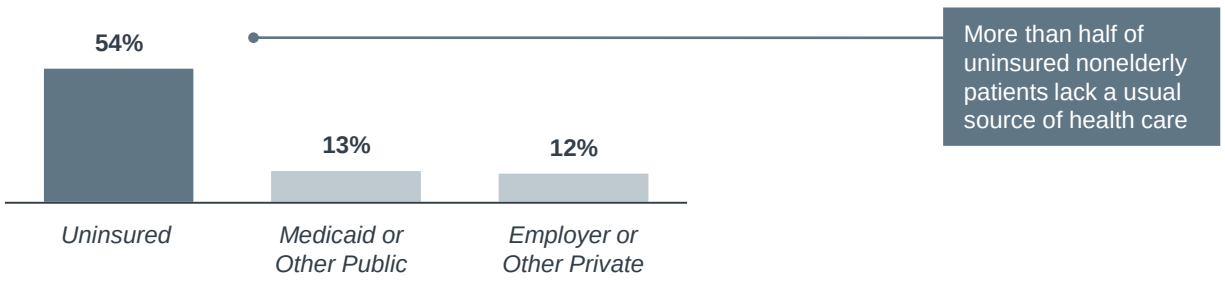
Lack of Insurance Coverage

11%

Nonelderly uninsured rate

Nonelderly Patients Without Usual Source of Health Care by Insurance Type

Kaiser Family Foundation
2015



Other Common Barriers:

Individual

- Race, ethnicity
- Gender, sexual orientation
- Age
- Socioeconomic status
- Legal status
- Employment status

Interpersonal

- Linguistic and cultural barriers
- Personal safety
- Psychological barriers
- Intimidation by health care settings
- Anonymity concerns

Systemic

- Location, hours of operation
- Health care provider shortages
- Food insecurity
- Literacy, education
- Housing quality

Source: Blendon R, et al., "Public Trust in Physicians– U.S. Medicine in International Perspective," New England Journal of Medicine, 371, (2014): 1570-1572; Cronk I, "The Transportation Barrier," The Atlantic, https://www.theatlantic.com/health/archive/2015/08/the-transportation-barrier/399728/; "Key Facts about the Uninsured Population," The Henry J. Kaiser Family Foundation, http://kff.org/uninsured/fact-sheet/key-facts-about-the-uninsured-population/#endnote_link_198942-19; Hill C, et al., "A Literature Review of the Scope & Impact of Mobile Health Clinics 2016," Mobile Health Map, http://www.mobilehealthmap.org/sites/default/files/uploads/A%20Literature%20Review%20of%20the%20Scope%20and%20Impact%20of%20Mobile%20Health%20Clinics%202016.pdf; Population Health Advisor research and analysis.

Mobile Health Clinics Costly but Effective Method for Reaching the Underserved

Most Common Offerings Include Preventive Screenings, Primary Care, and Dental Services

Purpose of Mobile Health Clinics

To provide accessible health care services for vulnerable populations by reducing traditional barriers to access (e.g., transportation, time constraints, distrust of health care system)

National Trends Identified by Harvard's Mobile Health Map

Services: preventive screenings, primary care, and dental services are most common; others include disease management, behavioral health care, prenatal care

Target populations: primarily the uninsured and publically insured, as well as children under 18; of patients currently served by mobile clinics, 60% are uninsured, 31% are publically insured, and 9% are privately insured; 42% are under age 18

Locations: both rural and urban communities with 39% serving cities, 14% serving rural areas, and 47% serving both

2,000 Mobile health clinics in the U.S.

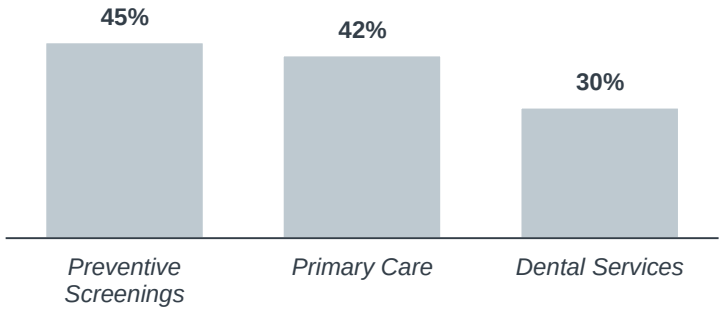
$429K Average operational cost of a mobile program per year

6.5M Estimated mobile health clinic visits annually

$12 Average return for every dollar invested in mobile health

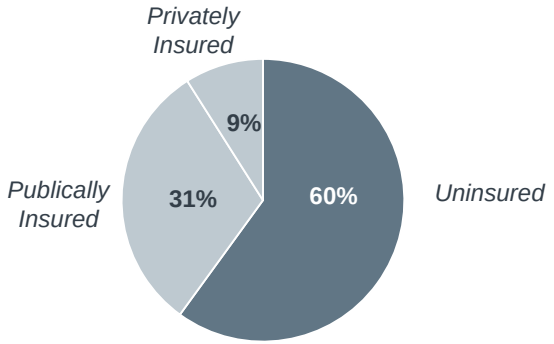
Most Common Services Offered by Mobile Health Clinics

Survey by Harvard Medical School's Mobile Health Map



Mobile Health Clinic Patients' Insurance Coverage

Survey by Harvard Medical School's Mobile Health Map



Source: "Impact Report" Mobile Health Map, http://www.mobilehealthmap.org/impact-report; Hill C, et al., "A Literature Review of the Scope & Impact of Mobile Health Clinics 2016," Mobile Health Map, http://www.mobilehealthmap.org/sites/default/files/uploads/A%20Literature%20Review%20of%20the%20Scope%20and%20Impact%20of%20Mobile%20Health%20Clinics%202016.pdf; Population Health Advisor research and analysis.

Analyze Non-Clinical, Clinical, Utilization Trends to Inform Mobile Intervention

Supplement Data Analytics with Community Input to Fulfill Demonstrated Need in Market

Trends Suggesting Opportunity for Mobile Health Clinic Intervention:

Non-Clinical Signals

- ❑ Presence of logistical barriers to health care (e.g., transportation access, insurance)
- ❑ Shortage of dental, behavioral health, specialty, or primary care providers in community
- ❑ Patients disconnected from health care system (e.g., lack of primary care visits)
- ❑ Distrust between population and providers
- ❑ Community resource utilization (e.g., housing services, SNAP benefits)

Clinical Signals to Further Segment by Patient Populations (e.g., payer type, location, disease state)

- ❑ Repeat symptoms presented in the emergency department (e.g., asthma attacks)
- ❑ High chronic disease prevalence (e.g., diabetes, asthma)

Utilization Signals

- ❑ High hospital readmission rates
- ❑ Low outpatient visit rates
- ❑ High inpatient costs
- ❑ High emergency department utilization and costs

Sources to Determine Population Needs:

- Discussions or survey of community-based organizations, residents
- Community Health Needs Assessment
- Public transportation scheduled routes
- County-level insurance rates

- Hospital claims data
- Centers for Disease Control and Prevention data and statistics (e.g., diabetes, oral health)

- Demographic Profiler Tool
- Avoidable Emergency Department Tool

Source: Hill C, et al., "A Literature Review of the Scope & Impact of Mobile Health Clinics 2016," Mobile Health Map, http://www.mobilehealthmap.org/sites/default/files/uploads/A%20Literature%20Review%20of%20the%20Scope%20and%20Impact%20of%20Mobile%20Health%20Clinics%202016.pdf; Population Health Advisor research and analysis.

Learn from Your Peers: Innovative Mobile Health Clinic Models

Profiled Organizations' Mobile Clinic Strategies Rooted in Population Needs

Goal	Profiled Organization	Target Population	Service Offerings	Staffing Model
Increase Trust	Harvard Medical School's The Family Van	Uninsured or underinsured patients in the Greater Boston area	Preventive screenings, health education, referrals to social services and community health centers	Health educator, dietician, HIV tester and counselor, assistant director, 2-3 volunteers, rotating collaborators from community-based organizations
	Holtz Children's Hospital's Pediatric Mobile Clinic	Uninsured children in Miami, Florida, up to 21 years of age, many of whom are immigrants with legal needs	Clinical care (e.g., physicals, immunizations, screenings, chronic illness management, behavioral health support, urgent care), legal aid and social services	5 clinical staff (part-time pediatrician, psychologist, NPs, MAs), social worker, 5 administrative staff, volunteer law students
	Circle Health Services' Syringe Exchange Program	Intravenous drugs users in Cleveland, Ohio, who are at risk for contracting or spreading HIV and Hepatitis C	One-for-one syringe exchange, rapid HIV and Hepatitis C screenings, flu vaccinations, health education, provision of free harm reduction kits	2 outreach workers, 2 volunteers per trip, 1 part-time RN
Remove Logistical Barriers	Parkland Hospital's HOMES Program	Homeless adults and youth in Dallas County, Texas	Medical, dental, and behavioral health care; pharmaceutical assistance	RN, driver, physician or advanced practice provider (e.g., MD, PA, NP)
Fill Service Gap	Mobile Care Chicago	Children in Chicago, Illinois, without access to asthma specialty care	Medical and preventive care, education, support	2 NPs, 2 MAs, clinic technician; additional support from CHWs who help identify patients and conduct home visits
	The Health Wagon	Uninsured or underinsured rural population in Southwestern Virginia	Primary, preventive, dental, behavioral health, telehealth, and specialty care; pharmaceutical assistance and aid	Nurse-led clinical team (DNP, RNs, LPNs, NP), volunteer specialists from state academic institutions

Source: Population Health Advisor interviews and analysis.

Successful Programs Start with a Clear, Population-Specific Vision

Identify Structural Barriers that Contribute to Health Disparities

Three Common Goals to Guide Service Deployment

	Increase Patient Trust	**Remove Logistical Barriers to Care**	**Fill Service Gap in Community**
Identify Purpose	 Serve as a comfortable entry point to the health system for patients who may be disengaged or distrustful of the health care system	 Bring care to consumers where they are to reduce burden of logistical barriers (e.g., work hours, lack of transportation)	 Target highly prevalent conditions or service lines for which there is insufficient access
Track Metrics that Assess Progress	• Identification of undiagnosed chronic conditions • Number of referrals to primary care or specialty care services • Patients' sense of community and social connectedness	• Frequency of service interaction (e.g., number of visits) • New clients served • No-show appointments as a percentage of total scheduled appointments or sessions	• Emergency department utilization and hospitalization for target condition • Frequency of acute episodes • Average time to receive referral to specialist

Source: Population Health Advisor interviews and analysis.

Van Serves as Critical Community Access Point to Full Continuum of Care

Focus on Prevention Preserves Role of Existing Provider Organizations in Offering Primary, Specialty Care

The Family Van Functions as "Knowledgeable Neighbor" to Connect Patients to High-Priority Services

The Family Van

- Focus: entry point to engage vulnerable populations
- Services: preventive screenings (e.g., blood pressure, blood glucose), education, referrals to CHCs and social services (e.g., food pantries, legal services) to address patients' highest needs
- Staff: health educator, registered dietician, HIV tester and counselor, assistant director, 2-3 volunteers, rotating collaborators (e.g., breastfeeding educator)
- Patient engagement: serve as "knowledgeable neighbor"
  - Staff speak languages common in community and are trained in cultural sensitivity
  - Patients prioritize what they'd like support with
  - Community input determines service offerings

Community Health Centers

- Provide traditional primary care services
- Often refer patients back to The Family Van for ongoing education and care between visits

Community-Based Organizations

- Address non-clinical and specialty needs identified by The Family Van
- Help patients overcome barriers (e.g., food insecurity, housing and employment needs)

$21 Saved for every dollar invested in The Family Van

25% Patients referred to follow-up health or social services in FY2015

12% Patients who learned they had a previously undiagnosed illness (e.g., diabetes, glaucoma)

Harvard Medical School's The Family Van

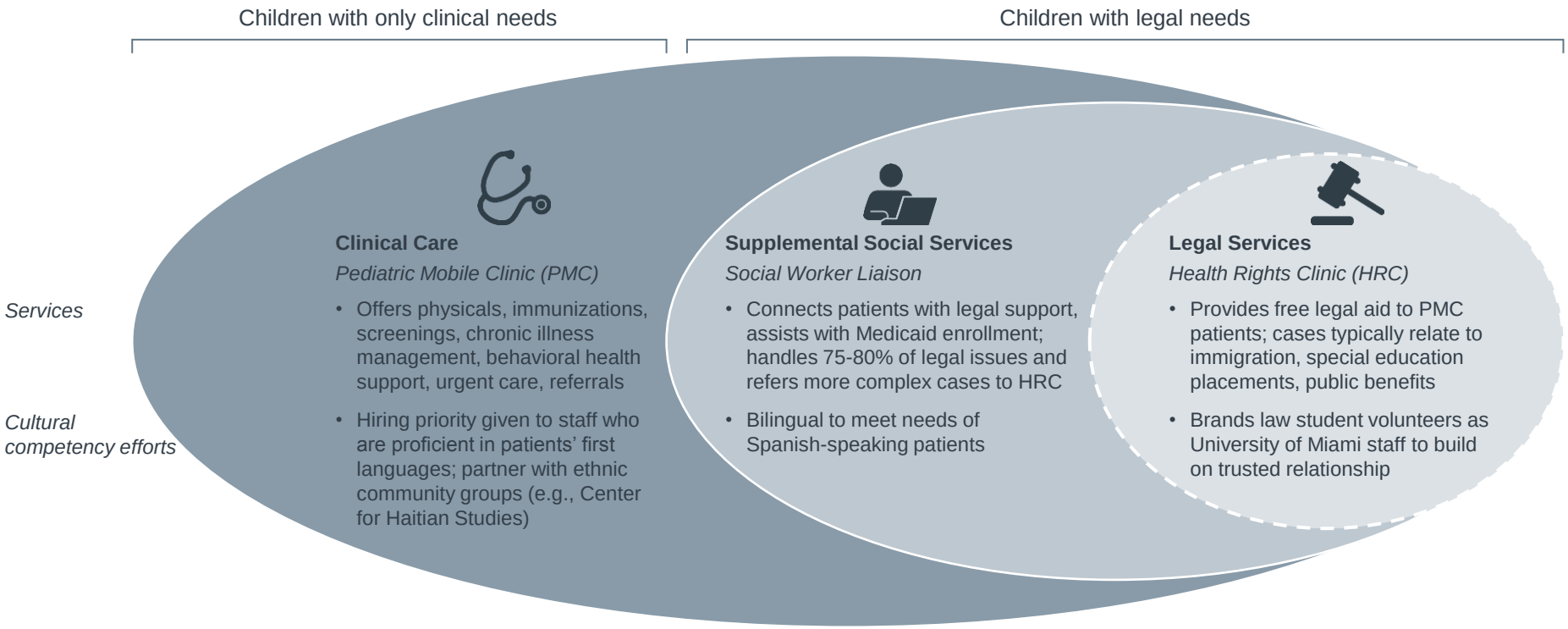
- Mobile clinic run by Harvard Medical School that travels to vulnerable neighborhoods in Boston, MA
- Services include preventive screenings, health education, and referrals to social services. The program has also developed deep, reciprocal relationships with local CHCs and community-based organizations who provide other clinical, non-clinical services
- To overcome distrust of health care system, leverage reputation as "knowledgeable neighbor" to engage community members, ensure that services provided are those identified as being highest need by patients themselves, and rely on rotating collaborators from partner organizations address specific needs of community (e.g., STD education and breastfeeding instruction)
- Approximately one-third of patients visit the mobile clinic two or more times in a year and one-third were referred by family or a friend

Source: Population Health Advisor interviews and analysis.

Partnership Pairs Clinical and Legal Support for Children and Families

Cultural Competency Efforts Integrated into Staffing, Marketing, and Service Delivery to Build Trust

Social Worker Serves as Liaison Connecting Patients to Legal Support



Case in Brief: Holtz Children's Hospital's Pediatric Mobile Clinic

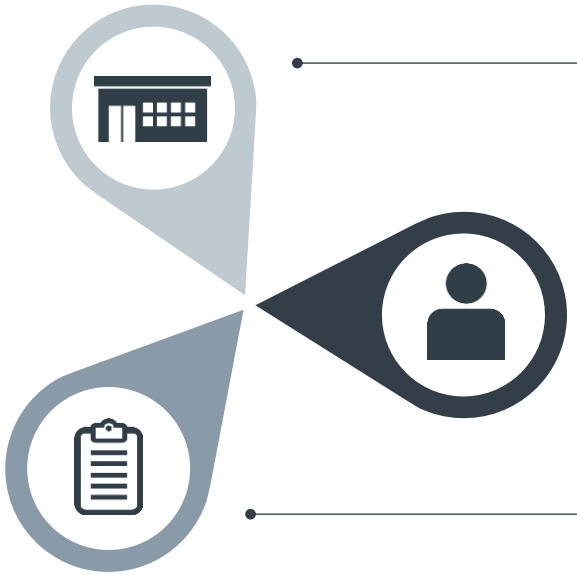
- 126-bed children's hospital located at the University of Miami/Jackson Memorial Medical Center in Miami, Florida; part of Jackson Health System
- Mobile clinic provides clinical care, preventive services, and social support to uninsured children up to 21 years of age; serves large immigrant population
- Developed partnership with the University of Miami School of Law's Health Rights Clinic to pair free medical care with pro-bono legal services that target issues related to immigration, public benefits, and special education placements
- Staff refer at-risk patients to social worker liaison, who triages cases to the HRC; 75-80% of cases can be handled by social worker without HRC
- Serve approximately 2,400 patients annually through more than 600 behavioral health encounters, 1,000 social services, and 3,000 immunizations

Source: Population Health Advisor interviews and analysis.

Syringe Exchange Program Offers Harm Reduction Services

Privacy of Utmost Concern to Stigmatized Population

Three Ways Circle Health Fosters a Culture of Safety and Trust



Convenient Locations

- Parking sites to selected to preserve privacy while remaining convenient
- Multiple care sites available to let clients visit where they feel most comfortable

Relatable Staff

- Staffed by two non-clinical outreach workers; former addicts themselves
- Outreach workers trusted by clients to recommend screening services (e.g., HIV and Hepatitis C rapid tests) and recovery programs
- 11-18 years of experience serving on the van

Emphasis on Privacy

- Clients provided with anonymous identification codes to track services provided, frequency of usage, distance travelled
- Code language for syringe and testing services in stationary clinic to protect client privacy

Case in Brief: Circle Health Services' Syringe Exchange Program

- Federally Qualified Health Center in Cleveland, Ohio providing medical, dental, behavioral, and HIV services
- Established mobile and stationary one-for-one Syringe Exchange Program in 1995 to combat the growing HIV and opioid epidemics; services are free to Syringe Exchange clients and include rapid HIV and Hepatitis C screenings, flu vaccinations, health education, and provision of free harm reduction kits
- Coordinate with community stakeholders (e.g., judges, policymakers, law enforcement) and medical partners (e.g., detox and treatment centers, hospitals) to connect clients to the full continuum of care
- Exchanged 495,000 needles with 4,000 clients in 2016, marking a 38% increase in needles exchanged and a 25% increase in clients served from 2015. Clients are less likely to have Hepatitis C or HIV than other users; most clients are screened, but have not tested positive for HIV in over two years

Source: Population Health Advisor interviews and analysis.

Clinic Brings Care to Community Organizations Serving Homeless Population

Program Primarily Focuses on Eliminating Transit Barriers that Impede Access to Care, Medications

HOMES[1] Program Addresses Needs of Homeless Population During and After Visit

Clinical Care
Mobile clinic staff provide acute and chronic disease care, education, check-ups, immunizations, mental health counseling, and dental care for children and adults

Psychosocial Services
Supplemental services vary by site and population need (e.g., staff health educator, interpreter, psychologist when visit domestic violence shelter)

Medication Access
Pharmacy supplies 35 medications for patients free of charge to enable patients to start regimen immediately

Referrals to Other Programs
Staff connect patients to other programs (e.g., specialty clinics, housing support)

Specialty, Emergent Care
22-person shuttle loops around central business district to Parkland main campus for additional care (e.g., x-rays, ED care, Class A pharmacy)

Case in Brief: Parkland Health & Hospital System's HOMES Program

- 862-bed safety-net and teaching hospital system, including 20 community-based clinics and 12 school-based clinics in Dallas County, Texas
- Established mobile HOMES program to increase access to medical, dental, and behavioral health care for homeless children and adults
- Five medical and one dental mobile clinic visit 31 different community partners to serve existing concentrations of individuals with unstable housing (e.g., shelters, homeless agencies, transitional housing, permanent supportive housing); partners are chosen based on logistical factors (e.g., presence of a climate controlled waiting area for patients, minimum number of patients)
- Nurse, physician or advanced practice provider, and driver deliver immediate care supplemented by an on-site Class D pharmacy; additionally, a 22-person shuttle transports homeless patients to Parkland's main campus for specialty, emergent care, and prescriptions
- In 2015, the HOMES program served 9,377 patients, 78% of whom were uninsured, with an annual budget of $5 million

1) Homeless Outreach Medical Services.

Source: Population Health Advisor interviews and analysis.

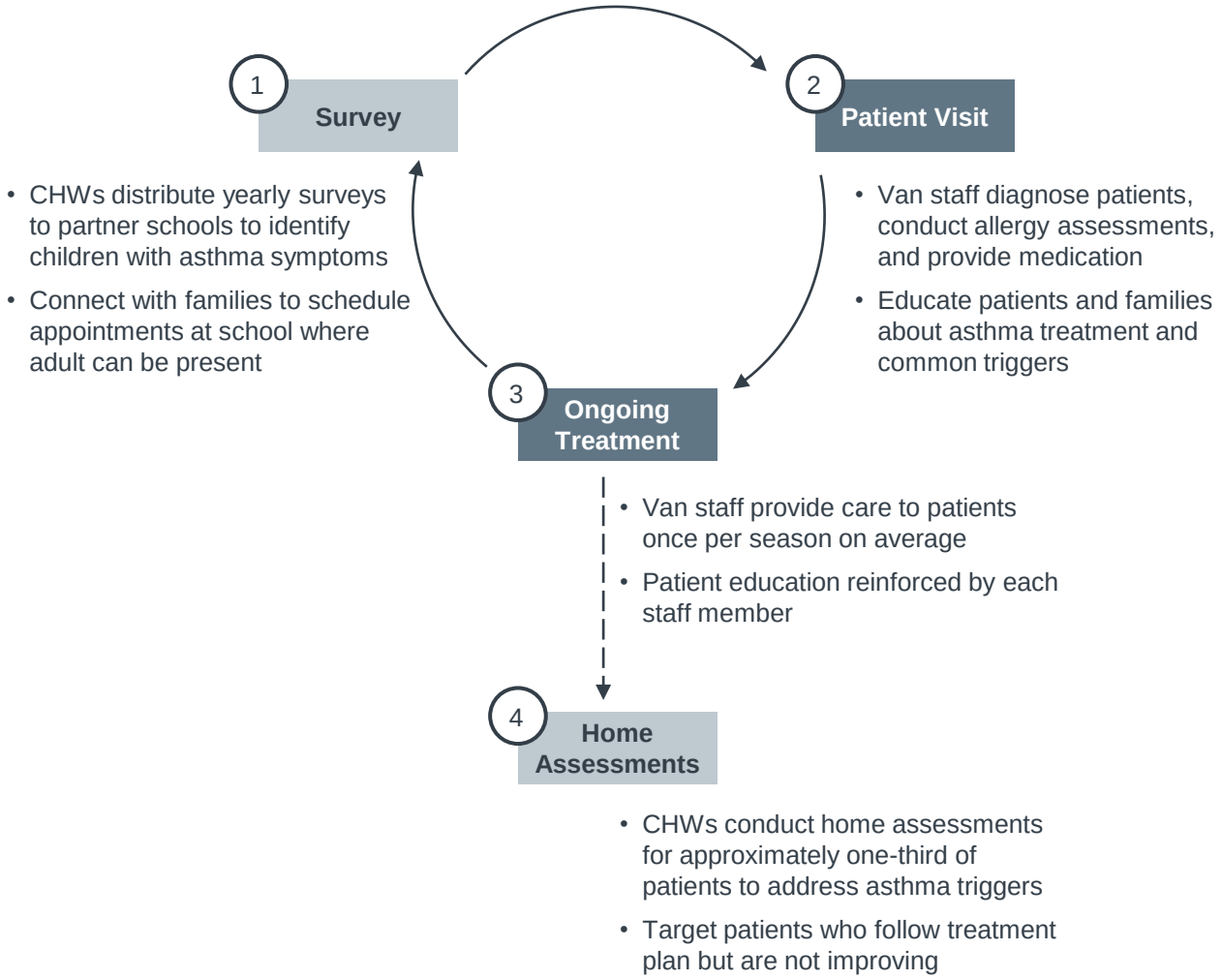
Limited Asthma Specialist Access Necessitates Need for Mobile Intervention

CHWs Oversee Relationships with Partner Schools and Patient Families, Offer Home Assessments

Mobile Care Chicago

- Non-profit organization in Chicago, IL
- In response to the high volume of asthma-related ED visits and deaths in Chicago, offer free medical and preventive care, education, and support to low-income children in partnership with local schools
- Community Health Workers (CHWs) distribute surveys to identify patients with asthma symptoms and conduct home visits when necessary
- Van staff (two Nurse Practitioners, two Medical Assistants, one Clinic Technician) travel to 47 partner schools approximately once per month to conduct allergy assessments and provide education and ongoing treatment
- The percentage of children who had to visit the hospital or ED for asthma symptoms dropped from 36% to 3% within one year of treatment, which saved the local health care system an estimated $6.7 million

Interdisciplinary Team Offers Ongoing Specialty Asthma Care



Source: "Exemplary Programs Making Services Easier to Use," National Center for Ease of Use of Community-Based Services, http://www.communitybasedservices.org/sites/communitybasedservices.org/files/files/Mobile%20C_A_R_E_%20Foundation.pdf; Population Health Advisor interviews and analysis.

Mobile Clinic is Sole Source of Care for Working Poor in Rural Appalachia

Clinic Provides Medical Home for Patients, Giving Access to Care They'd Otherwise Go Without

Three Ways Health Wagon Maximizes Available Resources

Utilizing Pharmacy Connection Program

- 98% of patients are uninsured
- Pharmacy Connection program provides patients with free or reduced-cost medication by cross-searching a database of Patient Assistance Programs

$1.2 M

Pharmacy assistance provided in 2013

Supplementing Nurse-Led Program with Volunteers

- Clinical care provided exclusively by nursing team (e.g., DNP, RNs, LPNs, NP)
- Services supplemented by specialists and residents recruited from state academic institutions, student volunteers

$1 M

Health care provided in 2013

Collecting Fee from Patients Who Can Afford to Pay

- General funding comes from philanthropic support, state funding, grants/foundation support, and drug companies
- Patients asked to pay optional $10 administrative fee, contributing to a sense of ownership over their care

$25K

Approximate annual amount raised through fee

Case in Brief: The Health Wagon

- Non-profit organization providing health care to medically underserved in rural Southwest Virginia
- Created in 1980 to bring primary, preventive, dental, behavioral health, telehealth, and specialty care to individuals and families without insurance; the program now operates one mobile clinic and two stationary sites
- In addition to routine services, also provide coordinated outreach to region through "health expeditions" where individuals can receive free eye, dental, and medical care in a culturally sensitive environment
- Staffed by nurse-led clinical team, outreach coordinator, director of operations, administrative assistant, director of development, data systems coordinator, receptionist; specialty care and telehealth capabilities supplemented by volunteer clinicians from state academic institutions
- Provided $1 million of health care and $1.2 million of pharmaceutical assistance to 11,000 patients in 2013, 98% of whom are uninsured

Source: Population Health Advisor interviews and analysis.

Action Plan: Developing a Mobile Clinic Program

Action Steps for Developing Your Own Mobile Clinic Program

Action Step	How To	Additional Insights
Determine goal or business case	❑ Review data and engage community to identify primary population needs, access barriers ❑ Zero in on specific goal and target population (e.g., improve access for uninsured, reduce costs for insured high-utilizers, overcome transportation barriers for a specific zip code) ❑ Determine whether problem could be solved via traditional means and whether other mobile clinics operate in service area ❑ Decide how mobile clinic services would fit into overall care continuum for target population (e.g., exclusive care provider, temporary entry point, provider of a subset of services)	– Common sources for identifying needs include: community health needs assessments, community group meetings and focus groups, academic studies, physician feedback, community-based organizations – Mobile health clinics are resource intensive and should be limited to addressing issues for which there is no other feasible solution – Decision regarding how to position mobile clinic in broader continuum of care dictates both partnership needs and process for calculating ROI
Identify partners and funding sources	❑ Secure hospital commitment; engage partners aligned with objective, familiar with target population ❑ Identify funding sources; set expectations for start-up and maintenance costs ❑ Establish clear ownership of operational details (e.g., hiring, outreach, service provision, vehicle maintenance, coordinating with community leads) as well as standards for referral and communication protocols (e.g., warm handoffs)	– Partners may vary widely depending on program goal and what supplemental resources are needed (e.g., funding, staffing, parking site); common partners include community-based organizations, shelters, community health centers – Costs estimated at approximately $300k to start, $450k annually to operate – Existing programs primarily funded through philanthropy but also state and federal programs, independent companies, and private insurance providers – Programs funded by grants tend to focus on garnering support from one or two larger donors supplemented by variety of smaller donations – Long term savings can offset initial investment (e.g., ED utilization reduction, average $12 return on investment)
Hire and train staff	❑ Identify minimum number and type of core van staff; supplement with additional volunteers or rotating providers (e.g., medical students, community members, community organization staff) ❑ Ensure staff can speak the most common languages spoken in target community and reflect diversity of patients ❑ Offer training in cultural competency and consider cross-training staff to be able to deliver all services offered	– Community input can inform what types of part-time collaborators or referral pathways may be needed in certain neighborhoods (e.g., STD education) – Consider cross-training van driver to be able to provide additional support services (e.g., patient registration in EHR) – Be aware of cultural norms, expectations, fears among target population (e.g., distrust of lawyers or medial providers, privacy concerns or fear among drug users or immigrants) and modify interaction accordingly (e.g., dress in polo shirts instead of lab coats, use branding of a known, trusted entity)
Manage logistics	❑ Determine which locations to visit and where to park the vehicle ❑ Decide how frequently to visit each location (e.g., once per month or week) and where to post schedule	– Consistency of schedule, hours of operation, and location is critical – Consider local weather, safety, privacy when determining partner site requirements (e.g., climate-controlled waiting areas, away from busy roads) – Most do no formal advertising; clients acquired through word of mouth
Evaluate impact	❑ Track measures that reflect: cost and cost savings, health disparities and community health, indicators of process quality ❑ Gather qualitative feedback from population served	– Sample metrics might include: improved clinical outcomes by disease state, change in prevalence of unmanaged conditions, newly diagnosed cases, patients with usual source of care, satisfaction with care, cultural competency, and patient-provider relationship

Source: "Impact Report" Mobile Health Map, http://www.mobilehealthmap.org/impact-report; Population Health Advisor interviews and analysis.

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