

SIM All-Stakeholder Meeting

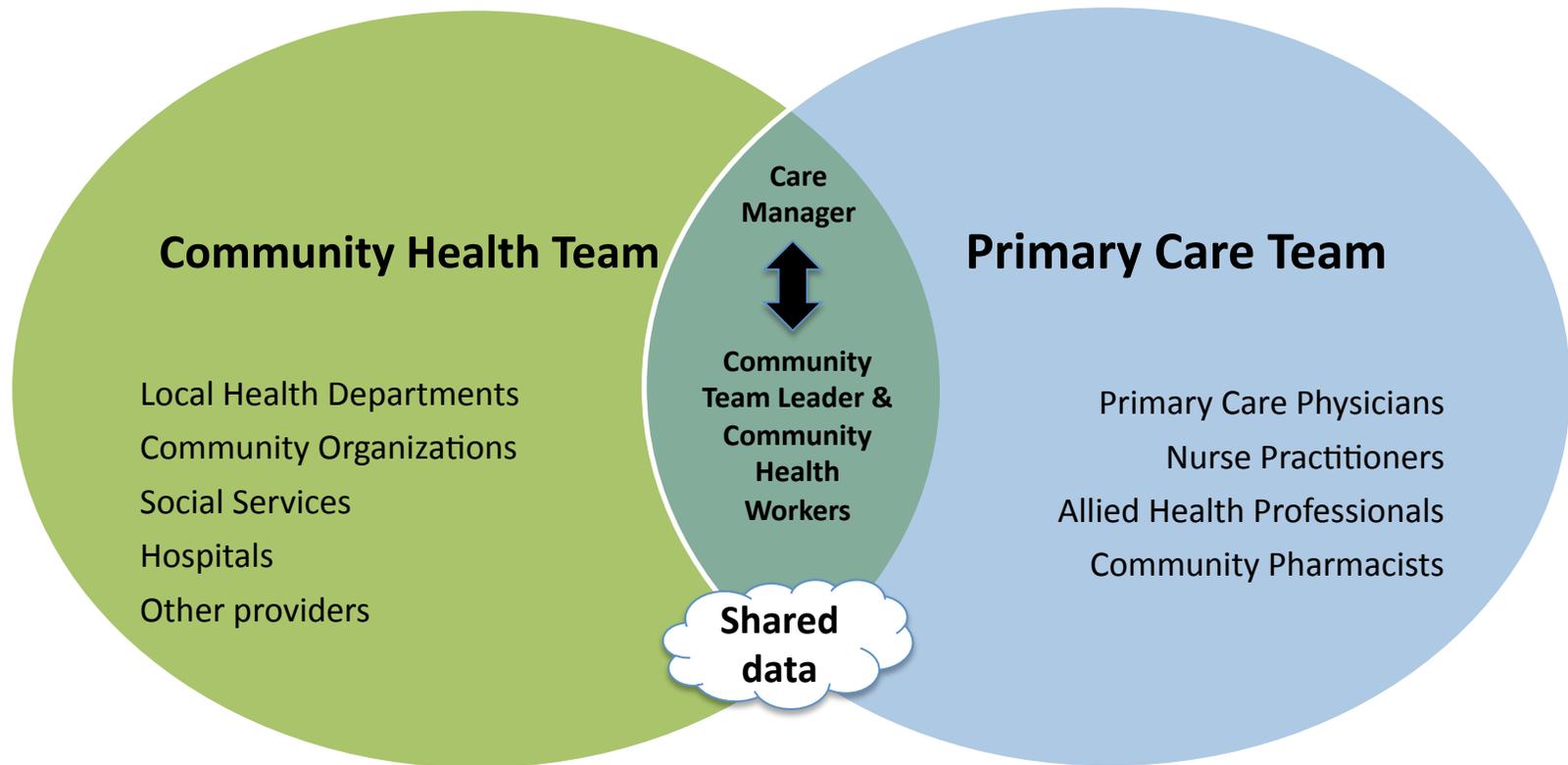
September 10, 2013

9:00AM to 5:00PM

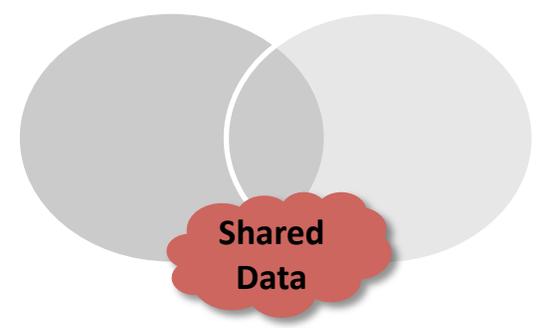
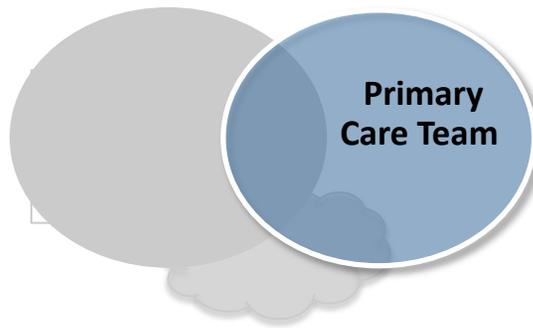
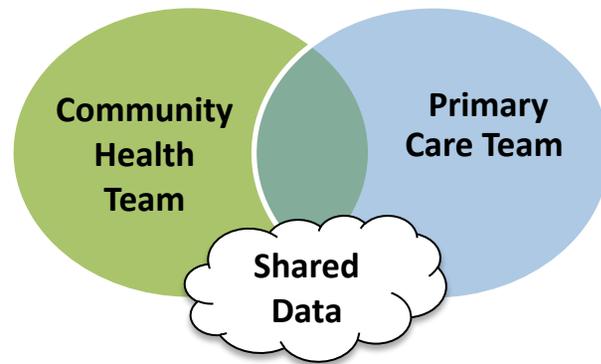
Housekeeping

- Meeting will be recorded
- Please use microphones to ask questions
- Let us know your name and affiliation
- Comments and questions only from the designated stakeholders
- Feedback will also be accepted via email to: marylandSIM@gmail.com
- Lunch

Community-Integrated Medical Home



Navigating the Intervention



Symbol Guide



Patient & Family



School Nurse



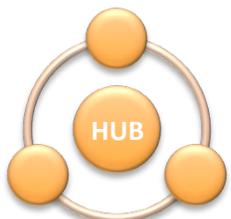
CRISP – Maryland’s
Statewide Health
Information Exchange



Local Health Improvement
Coalition (LHIC)



Primary Care Provider (PCP)



Community Health Hub



Laboratory



Health Plans



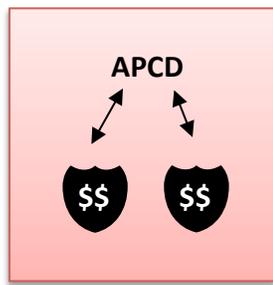
Specialist



Community Health Team
(CHT) Member



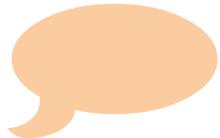
Pharmacy



All-Payer Claims Database
(APCD)



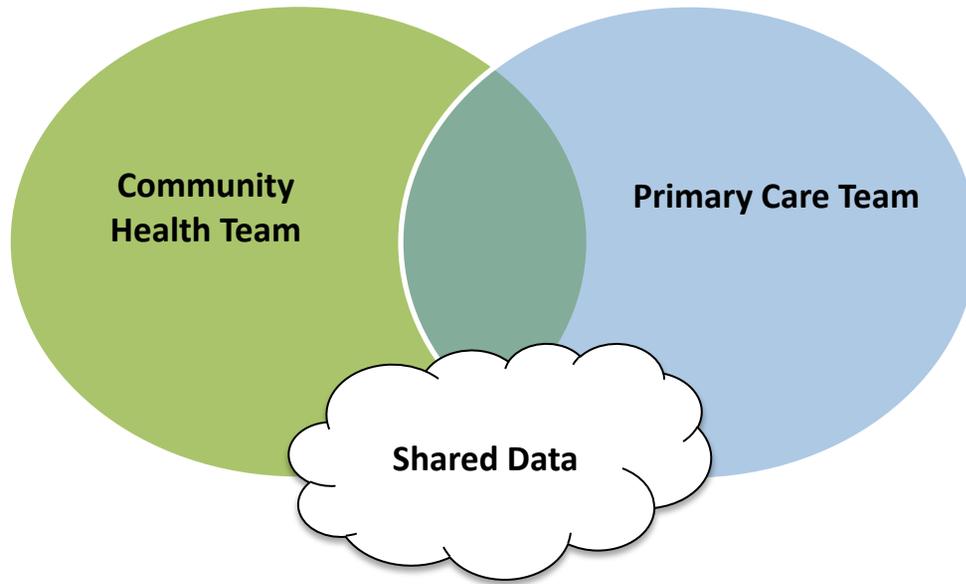
Hospital



Stakeholder Feedback



Public Utility



Recap

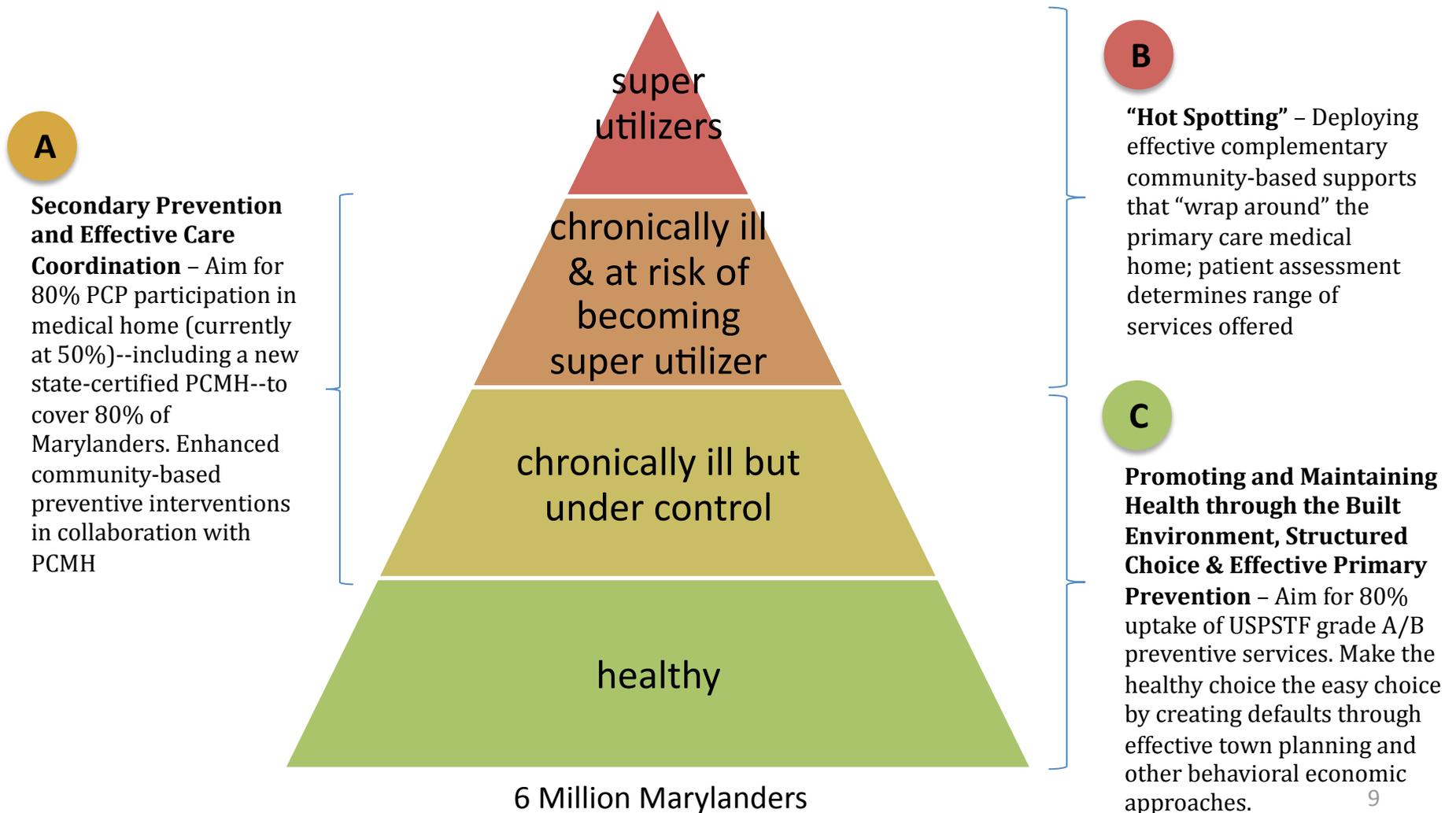
State Innovation Models (SIM) Grant Solicitation

- Released by Center for Medicare & Medicaid Innovation (CMMI) at CMS
- Purpose: Develop, implement, and test new health care payment and service delivery models at the state-level
- Maryland received “Model Design” award
 - \$2.37 million
 - Planning grant to develop “Community-Integrated Medical Home”
 - Opportunity to apply for “Model Testing” award for up to \$60 million to fund implementation over a 4 year period.

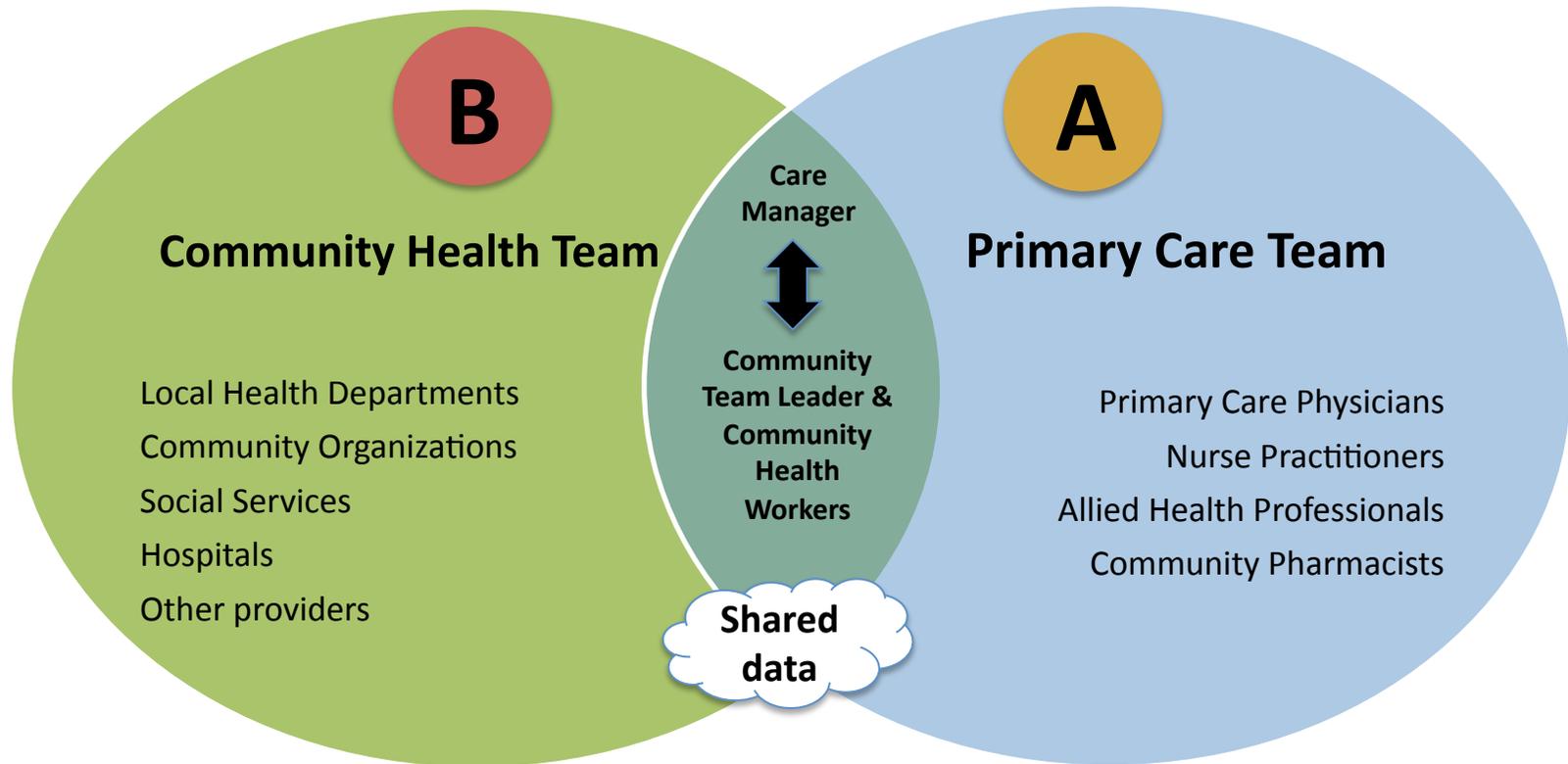
SIM Planning Process

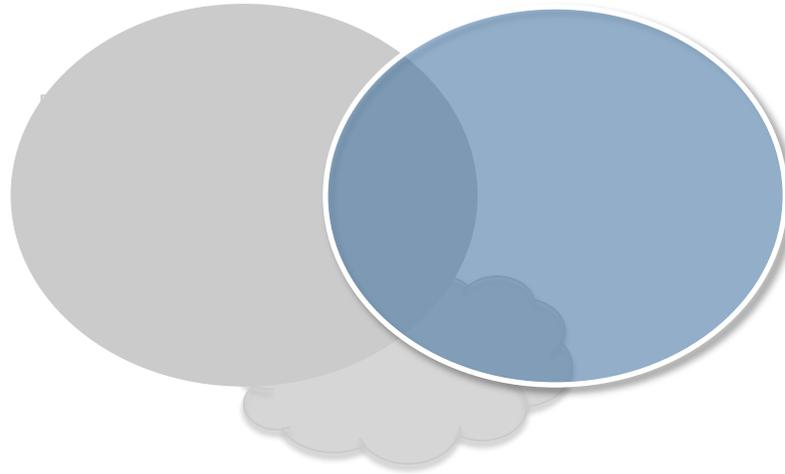
- Two parallel stakeholder engagement processes
 - 1) Payers and Providers
 - 2) Local Health Improvement Coalitions
- All-stakeholder summit to review recommendations from both processes and make final recommendations
- Health Quality Partners will manage planning process and provide content expertise
- Additional funding to Maryland Health Care Commission to expand All-Payer Claims Database and to CRISP to develop hot-spotting data tools

Population Health Improvement at All Levels of Health Need

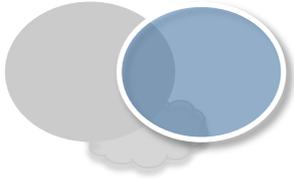


Community-Integrated Medical Home

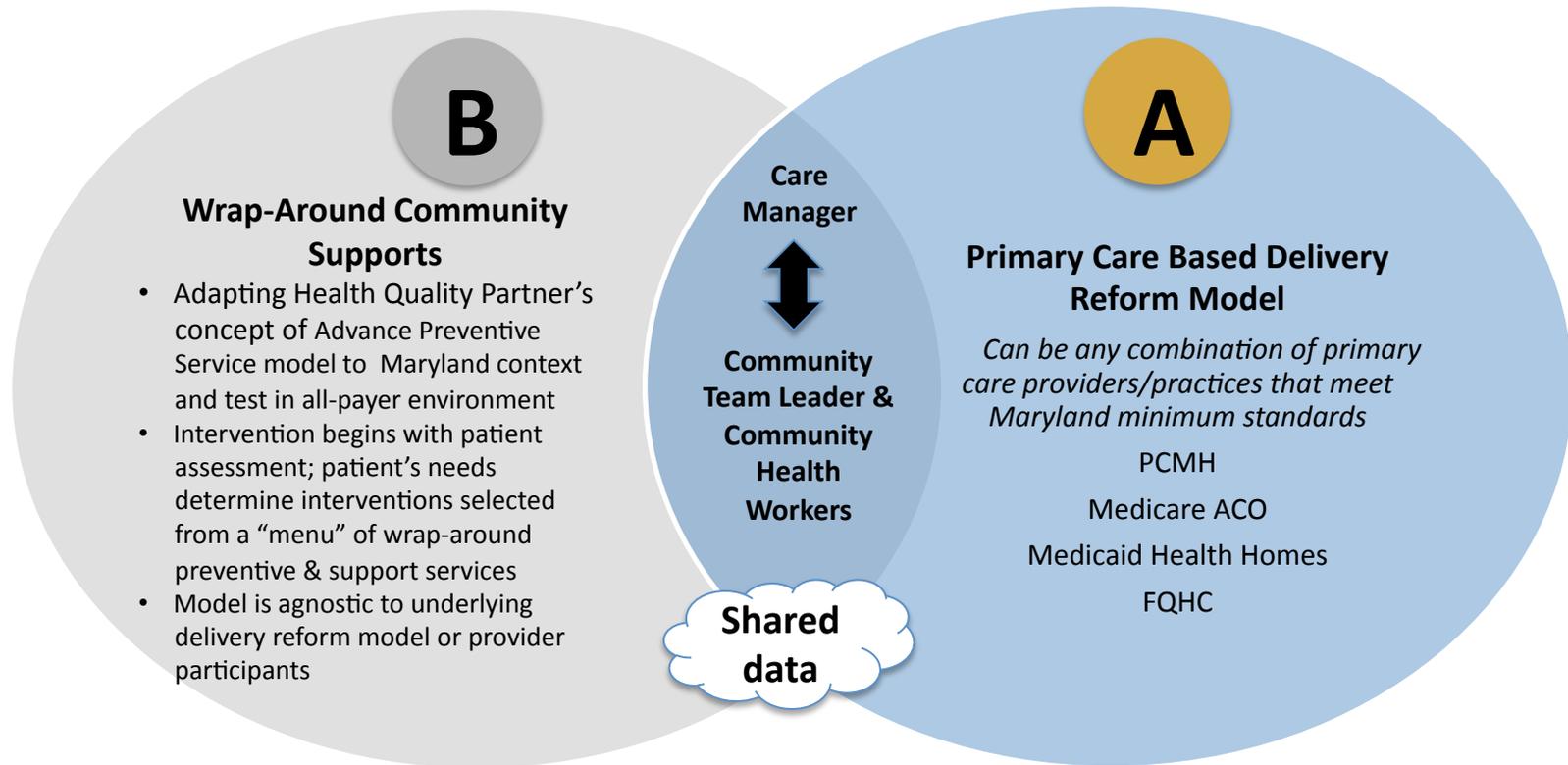




The Clinical Intervention

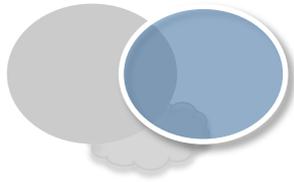


Community-Integrated Medical Home Model



Benefits of agnostic/community model include:

- Model does not rely on PCMH practice transformation, for which ROI is unclear and can take 2-3 years
- Reduced demand on practice by high need patients
- Potential for greater payer/provider buy-in: does not "interfere" with existing models; lots of upside, little downside



80% PCP & All-Payer Participation in PCMH

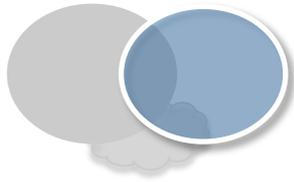
Flexibility

- Multiple Entry Points/Inclusion Criteria with minimum shared standards
- State-Certified PCMHs
- Carrier-specific PCMHs
- Multi-Payer PCMHs
- Medicare ACOs
- FQHCs
- Medicaid Health Homes
- Provider Contracting & Payment
 - Payment methodology, amount, and frequency
 - Bonus amounts
- Patient Attribution Methodology (rests with payer on the basis of claims)
- Care manager: office- and/or community-based



Standardized/Centralized

- Performance reporting and bonuses
 - CIMH Core Measures Set
 - Provider performance reports based on entire patient panel
 - PCP receipt of bonus based on performance across practices within an LHIC
- Minimum standards for payers (including State Health Plan), to include:
 - PCPs can participate in multiple PCMH programs
 - Patient attribution results shared with public utility
 - Data sharing for care coordination and reporting
 - Integrated evaluation of all PCMH models to learn from variation
- Minimum standards for participating practices, to include:
 - Enhanced access to care and care continuity
 - Data sharing for care coordination and reporting
 - Collaboration with community-health professionals
 - Metrics: core set consistently defined
 - Integrated evaluation of all PCMH models to learn from variation
- Roles and responsibilities of care manager and community health professionals



Reporting Requirements: CIMH Core Measure Set

- Minimum measure set upon which CIMH performance (and performance bonuses) are based
- Criteria for Selection
 - Widely used in multiple national and statewide programs to reduce administrative burden and facilitate state-federal alignment
 - Medicare ACO
 - Meaningful Use
 - Million Hearts
 - CHIPRA
 - Health Choice
 - HEDIS/UDS
 - Maryland PCMH initiatives
 - Endorsed by national consensus organization (e.g. NCQA, NQF)
 - Linked to evidence tying metrics to improvements in health outcomes and lower cost, particularly for those conditions that carry highest mortality and morbidity in Maryland



CIMH Core Measure Set: Adults

Type	NQF	Measure Description	Data Source
utilization	52	Use of Imaging for Low Back Pain	APCD
	AHRQ	Preventable Hospitalizations – AHRQ PQI Composite Measure	CRISP
screening & prevention	421*	Body Mass Index (BMI) Screening and Follow-Up*	EMR/Hub
	41*	Influenza Immunization	APCD + Rx
	43*	Pneumococcal Vaccination for Patients 65 Years and Older	APCD + Rx
	31	Breast Cancer Screening	APCD
	34*	Colorectal Cancer Screening	APCD
	28*	Tobacco Use Assessment & Tobacco Cessation Intervention*	EMR/Hub
cardiovascular conditions	66*	Coronary Artery Disease Composite: ACE Inhibitor or ARB Therapy - Diabetes or LVSD	APCD + Rx
	67*	Coronary Artery Disease: Oral Antiplatelet Therapy Prescribed for Patients with CAD	APCD + Rx
	74*	Coronary Artery Disease Composite: Lipid Control	CRISP/EMR/Hub
	70*	Coronary Artery Disease : Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction	APCD + Rx
	83*	Heart Failure: Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction	APCD + Rx
ischemic vascular disease	68*	Ischemic Vascular Disease: Use of Aspirin or Another Antithrombotic	APCD + Rx
	75*	Ischemic Vascular Disease: Complete Lipid Panel and LDL Control	CRISP/EMR/Hub
diabetes	55*	Diabetes: Eye Exam	APCD
	56*	Diabetes: Foot Exam	APCD
	61*	Diabetes: Blood Pressure Management*	EMR/Hub
	64*	Diabetes: LDL Management	CRISP/EMR/Hub
	59*	Diabetes: HbA1c Control	CRISP/EMR/Hub
hypertension	18*	Hypertension: Controlling High Blood Pressure*	EMR/Hub
asthma	47*	Use of Appropriate Medications for People with Asthma	APCD + Rx
mental health and substance abuse	105*	Antidepressant Medication Management	APCD + Rx
	418*	Screening for Clinical Depression and Follow-Up Plan	APCD
	4	Initiation and engagement of alcohol and other drug dependence treatment	APCD + Rx

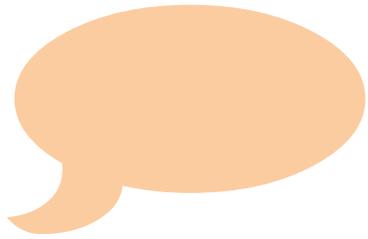
* HHS preferred measures



CIMH Core Measure Set: Children

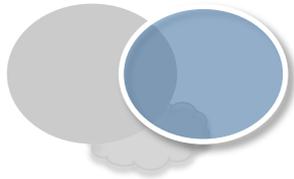
Type	NQF	Measure Description	Data Source
Utilization	69	Appropriate Treatment of Children with Upper Respiratory Infection	APCD
	AHRQ	Preventable Hospitalizations: AHRQ PDI	CRISP
	2	Appropriate Testing for Children with Pharyngitis	APCD
prevention and screening	24*	Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents	EMR/Hub
	38*	Childhood Immunization Status	APCD
	1392*	6+ Well Child Visits, 0-15 months	APCD
	28*	Preventive Care & Screening: Tobacco Use Assessment	EMR/Hub
	28*	Preventive Care & Screening: Tobacco Cessation Intervention	EMR/Hub
asthma	1	Asthma Assessment	APCD
	47*	Use of Appropriate Medications for People with Asthma	APCD + Rx
mental health	108	ADHD: Follow-up Care for Children Prescribed ADHD Medication	APCD + Rx

* HHS preferred measures



Feedback: Metrics

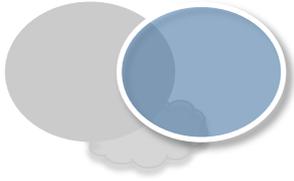
- Quality metrics should be consistent
- Metrics should be easy to report and not rely on EMR
- Add avoidable ER use
- The importance of community-based metrics (the metrics proposed so far have been clinically-focused)
- Performance of the entire population and not just those enrolled in a participating PCMH



Reporting Requirements: Performance Reports and Bonuses

- Performance reports will be provided by the Public Utility to participating PCMHs at the practice and individual physician levels on a quarterly basis

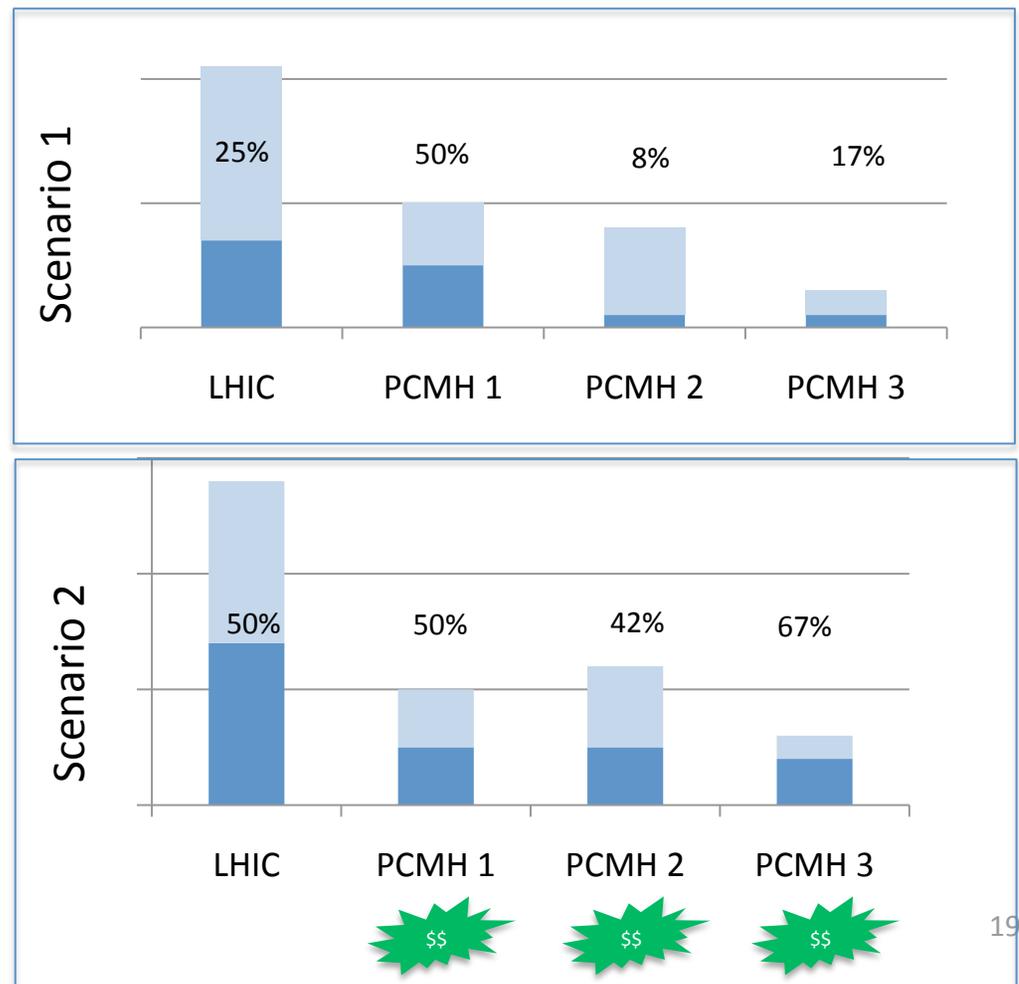
NQF #18 Blood Pressure Control	denominator	numerator		
	HTN patients	BP <140/90		
	40	20	50%	Practice/ PCMH 50%
	40	30	75%	
	60	20	33%	
	140	70		

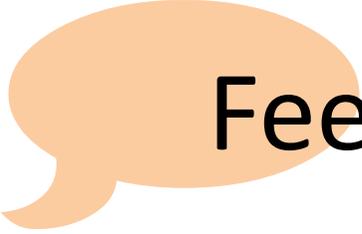


Reporting Requirements: Performance Reports and Bonuses

- Practices will be eligible for annual performance bonuses based on some blend of practice-level performance and their collective performance at the LHIC level over time, to support community-wide health improvement and to improve sample sizes
- Practices will be assigned to an LHIC based on zip code
- Bonus amounts will be set by the payer and can be provided upfront with the possibility of take-back for unsatisfactory performance

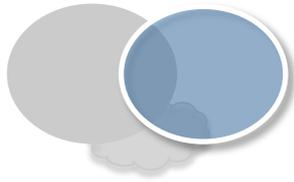
Example: target = >50% of hypertensives in LHIC have BP <140/90





Feedback: Defining Population

- How to adjudicate differences between geographic definitions of “population” and definitions of “population” based on patient attribution methods



Minimum Standards for Payers

- PCPs can participate in multiple PCMH programs
- Patient attribution *results* shared with public utility so that all patients can be accounted for; however, patient attribution *methodology* need not be shared
- Data sharing for care coordination and reporting (e.g. provision of claims to all-payer claims database)
- Participation in integrated evaluation of all PCMH models to learn from variation



Feedback: Patient Attribution

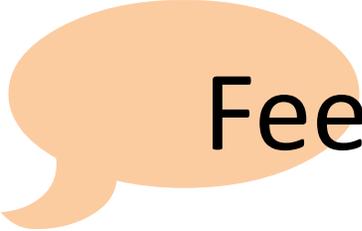
- Methodology must be transparent
- Establish systems to adjudicate attribution lists, quality metrics and medical costs



Minimum Standards for Practices

Dimension	Maryland minimum standards for primary care practices to be a participating provider in a CIMH
Enhance access and continuity	<ul style="list-style-type: none"> • Accept Medicaid and Medicare enrollees • Focus is on team-based care with trained staff
Plan and manage care, including tracking and coordinating care	<ul style="list-style-type: none"> • Collection and sharing of data for population management • Active engagement in formulating and executing patient care plan • Active engagement in tracking and coordinating tests, referrals, and care at other facilities • Active engagement in managing care transitions • Collaborate with CIMH Community Team Leader, CHWs, and LHIC
Provide self-care support and community resources	<ul style="list-style-type: none"> • Participate in CIMH • Assist in providing or arranging for mental health/substance abuse treatment • Assist in counseling patients on healthy behaviors • Assist in identifying candidates for wrap-around service • Collaborate with CIMH Community Team Leader, CHWs, and LHIC
Measure and improve performance for entire patient population	<ul style="list-style-type: none"> • Participate in CIMH • Use performance data (e.g. CRISP ENS/ERS) to monitor utilization and performance and continuously improve • Agree to use of common performance metrics • Participation in integrated evaluation

** Most PCMH recognition programs (NCQA, AAHC, URAC, TransformMED) meet or exceed the Maryland state standard. CIMH-specific standards are identified in boldface*

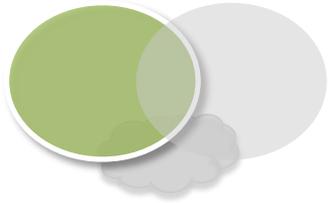


Feedback: PCMH Standards

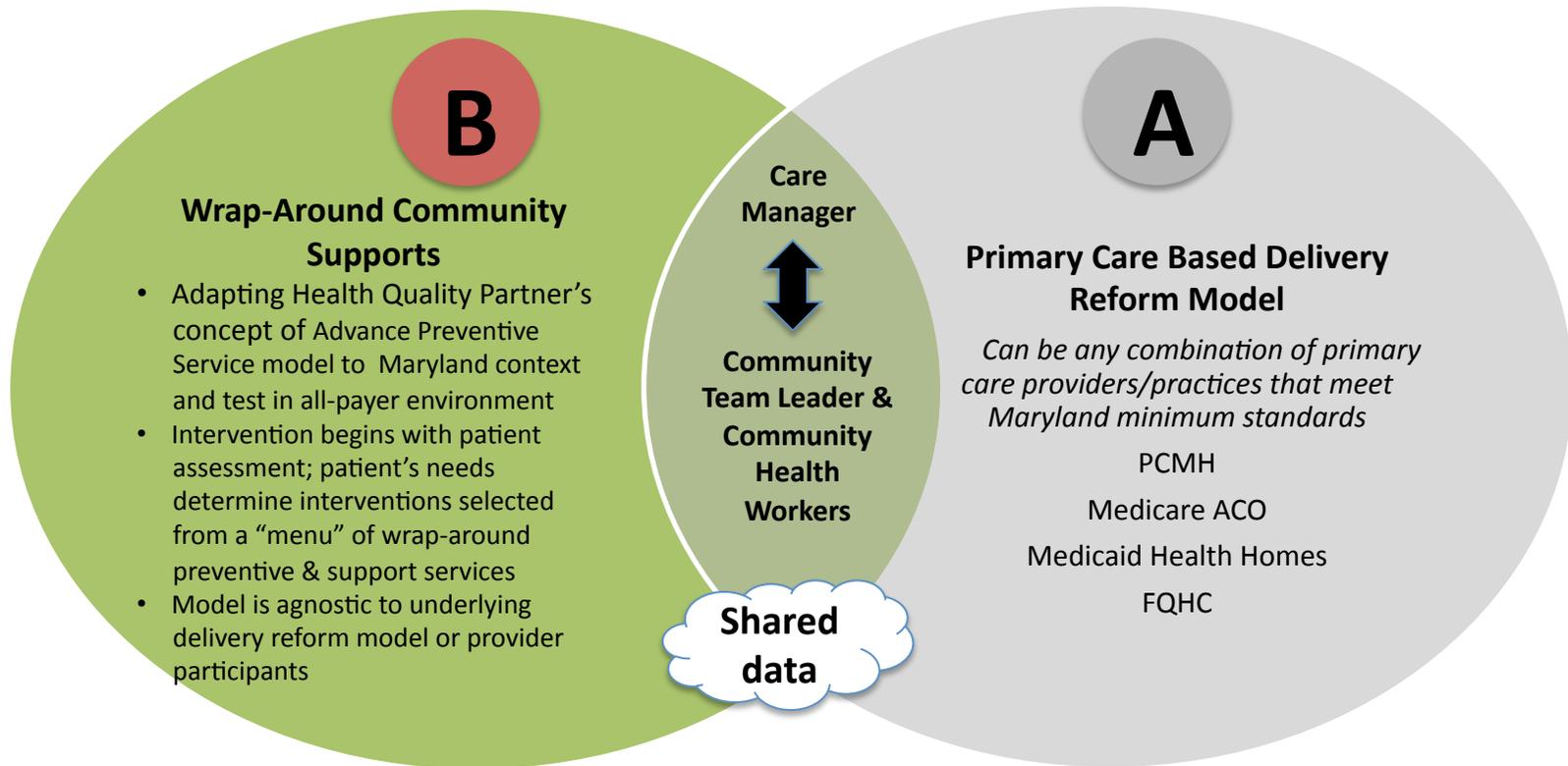
- Is the state adopting the Carefirst standards?
- What will happen to the practices participating in the multipayer PCMH program?



The Community Intervention

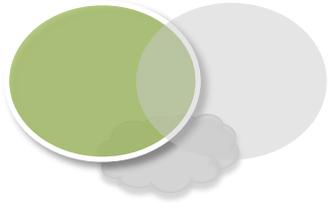


Community-Based & Clinically-Integrated Hot Spotting Model



Benefits of agnostic/community model include:

- Model does not rely on PCMH practice transformation, for which ROI is unclear and can take 2-3 years
- Reduced demand on practice by high need patients
- Potential for greater payer/provider buy-in: does not "interfere" with existing models; lots of upside, little downside



Adapting HQP's Advance Preventive Service Model to Maryland Context

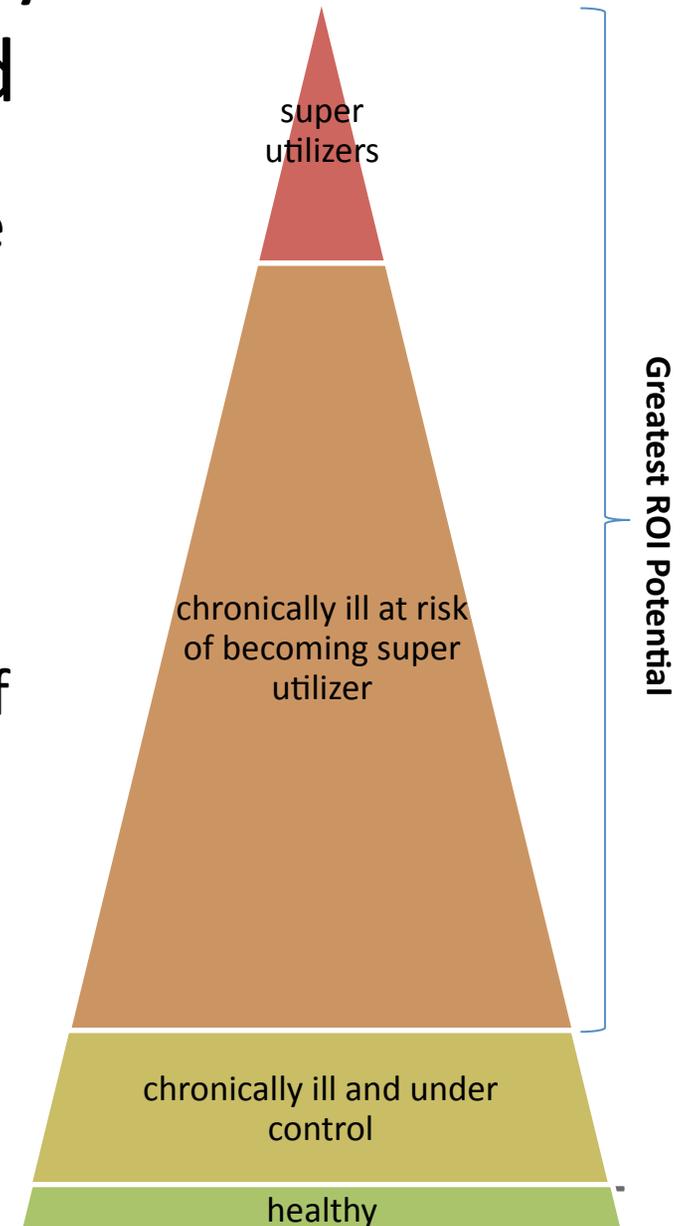
- Review of the HQP APS Model
 - Population Served
 - Care team composition
 - Outcomes
- Considerations for designing community intervention models for Maryland
- Scaling and adapting the model in Maryland
- Estimates of magnitude

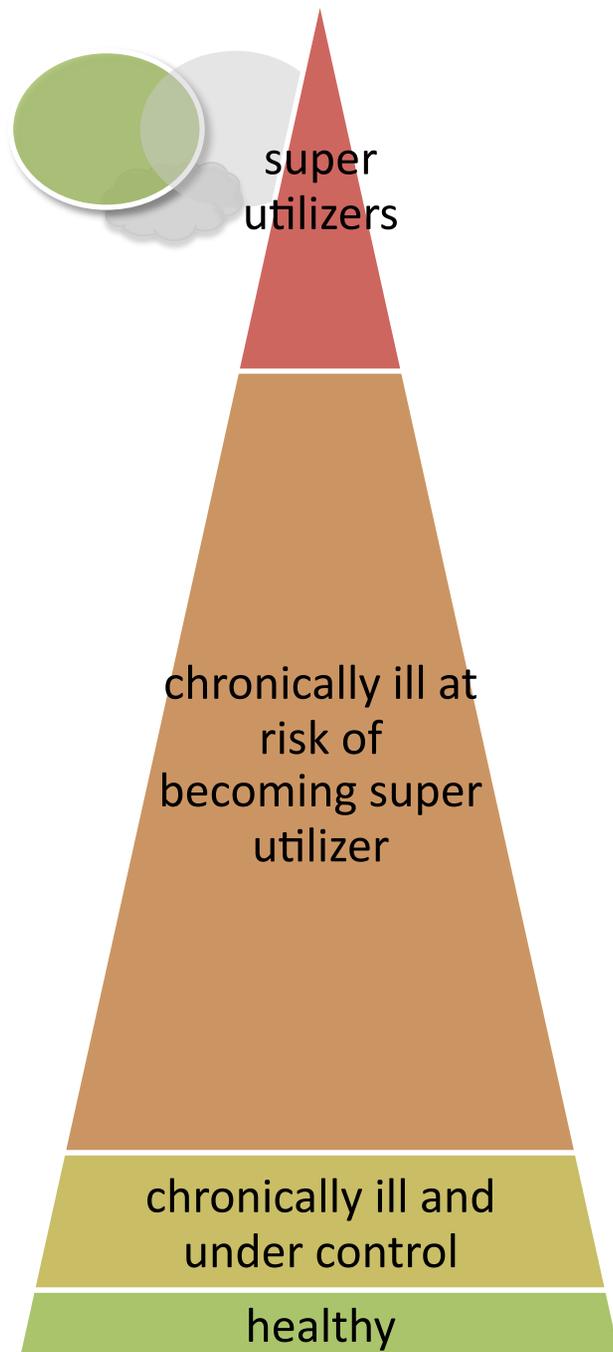


Designing Community Intervention Models for Maryland

- Best ROI opportunities appears to be among
 - “super-utilizers”
 - chronically ill at higher-risk
- Assess, understand, and care for the whole person, addressing all types of risk to health
 - Customize intervention plan based on assessment and participant needs, preferences, and values
 - Mindset is longitudinal not episodic

} overlap





Estimates of Magnitude and Reach: HQP's APS Model Applied to Maryland	
Pop. Descr.	>= 65 yrs with HF, CHD, DIAB and/or COPD and 1+ hosp. adm. in prior yr.
Pop. Size	Est. 15-20% of Medicare population <ul style="list-style-type: none"> • counts for LHICs TBD; • State ≈ 129,000 ^[1]
Intervention	HQP Advanced Preventive Service – <i>table of interventions</i>
Care team composition and reach	nurse care manager (1 to 75 persons)
Intervention Cost	Est. \$150 – \$220 PPPM
Total \$ Savings	\$1,320 - \$3,960 PPPY x number of participants enrolled = annual savings
ROI	Est. 50-150%

Potential Variations to Fit Maryland Context

Variation #1: Younger ages, additional target conditions, risk factors, utilization thresholds, or exclusion criteria

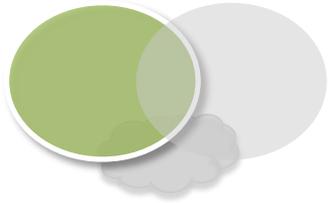
Variation #2: Interventions appropriate to population

Variation #3: Care team composition

- appropriate to intervention
- top-of-license workforce

Variations will affect intervention cost, reach, total savings, and ROI

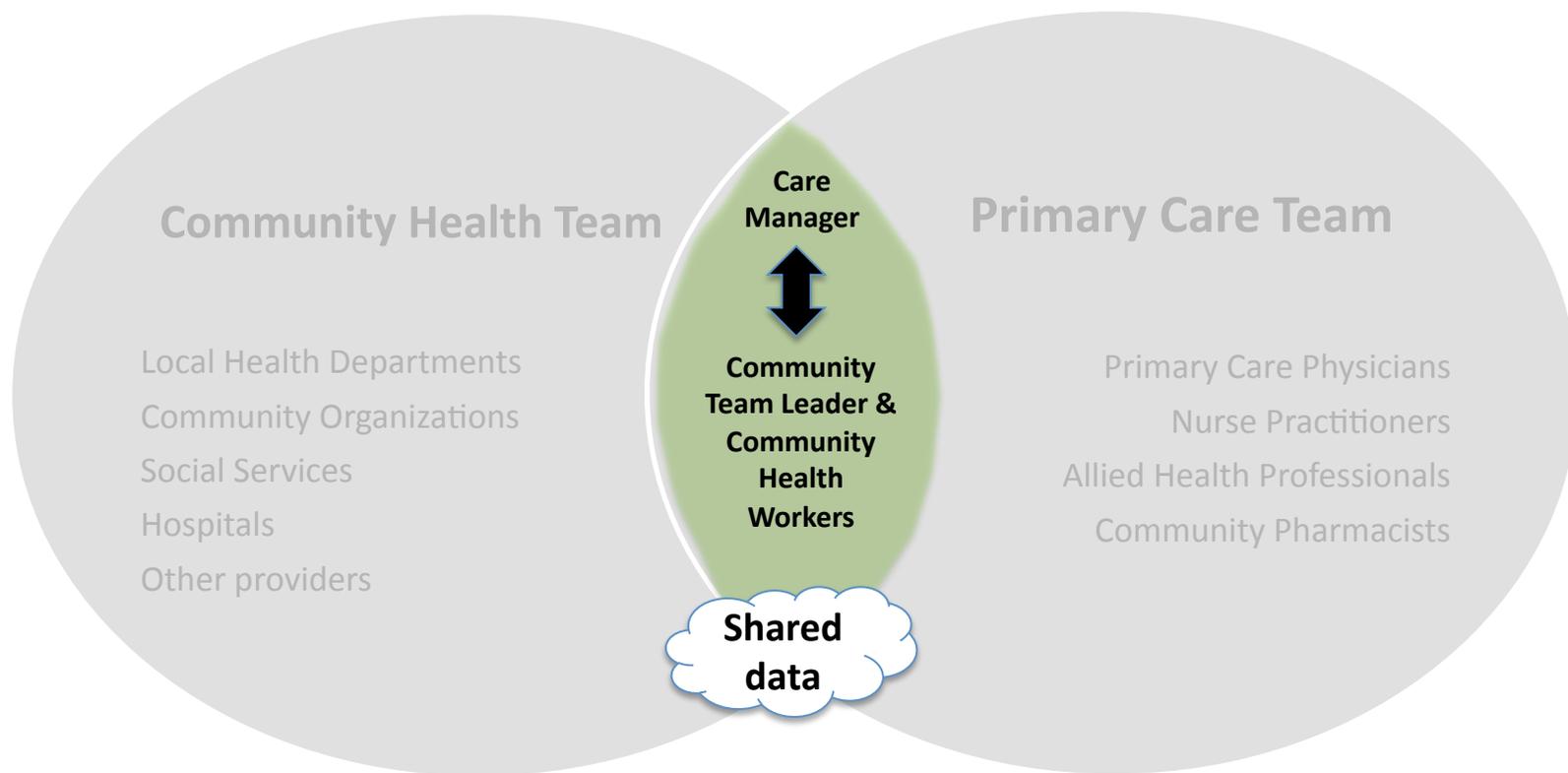
[1] Expecting to enroll about 1 in 4 (25%) of target pop. ≈ 32,250



Defining Community-Based Interventions: Next Steps

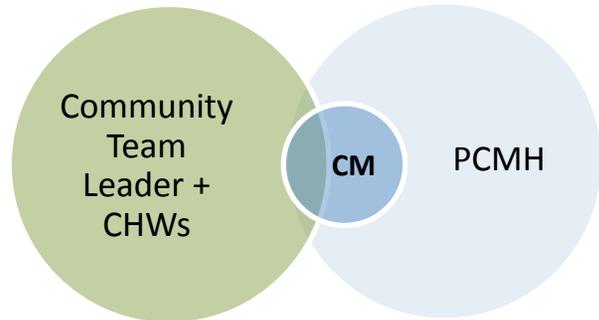
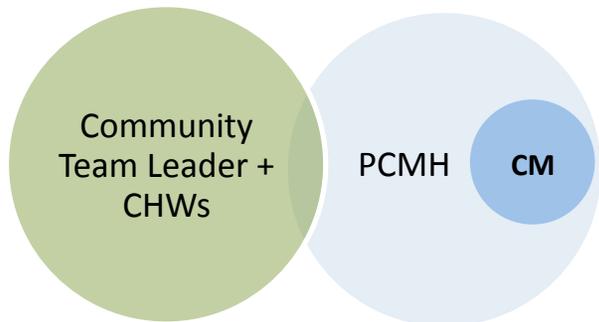
- Analysis of HSCRC data to identify the super-utilizers and determine age, geography, payer mix, and diagnostic profiles
- Determine target populations based on opportunities for health improvement and cost reduction
- Develop list of evidence-based interventions appropriate to target populations based on selection criteria
- Determine appropriate care team composition for the intervention
- Determine ROI based on cost savings relative to cost of interventions and estimate magnitude of population health improvement

Workforce

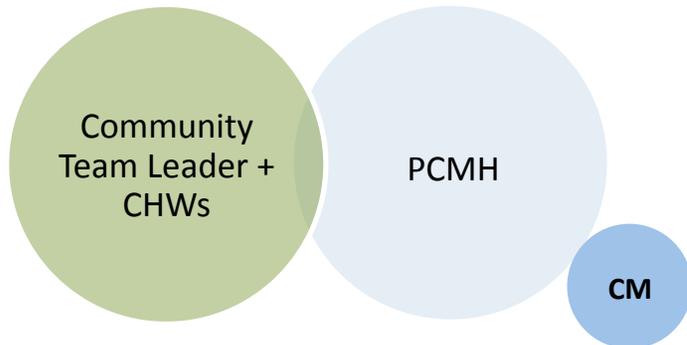


Roles/Responsibilities for Care Managers & Community Health Professionals

PCMH **with** office-based care manager(s)



PCMH **without** office-based care manager(s)



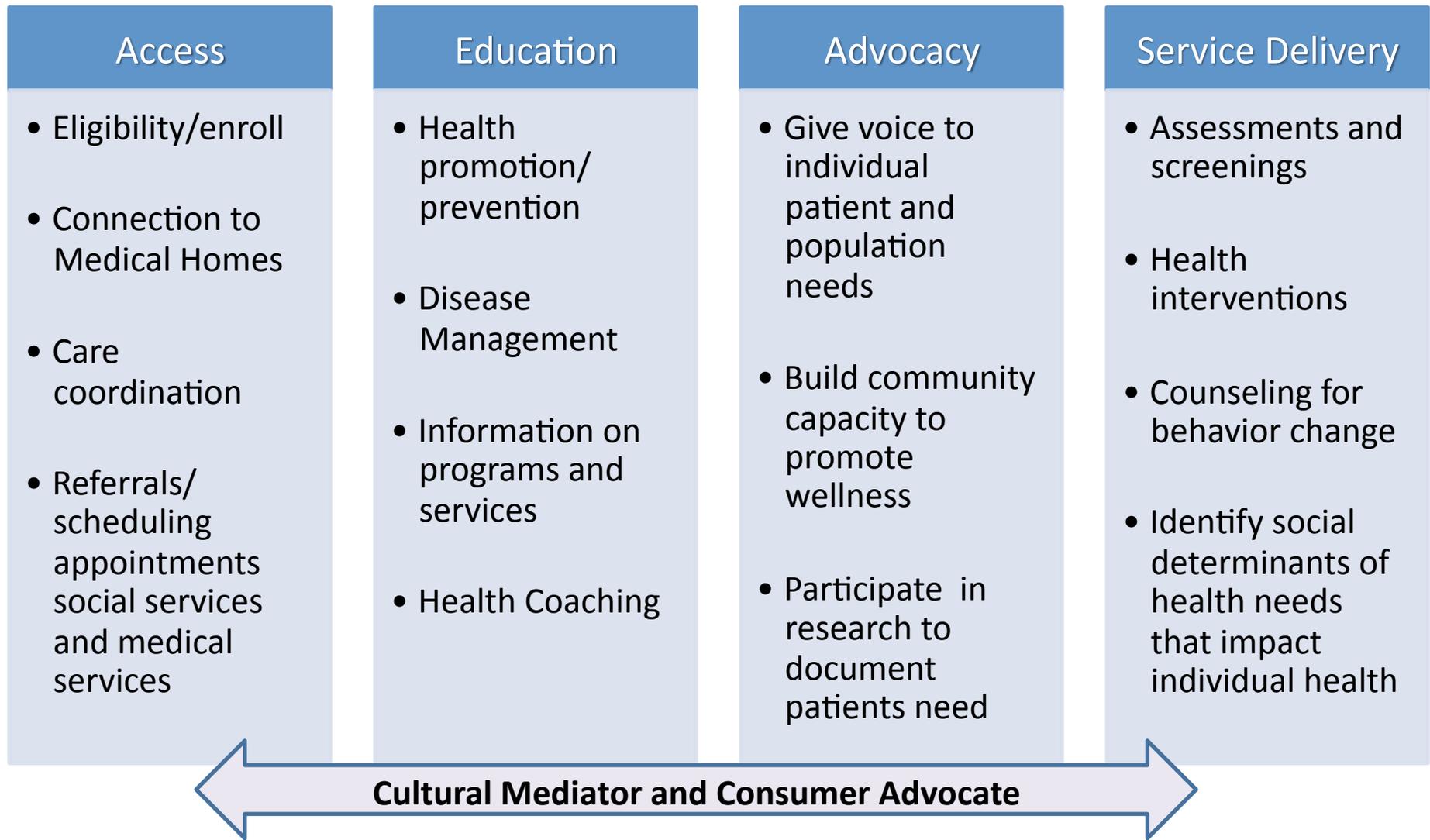
Community Health Team: Composition & Training

- Community Team Leader will be centrally trained/hired by DHMH and lead a team of CHWs
- Training and protocols will be developed for team members through SIM planning grant with ongoing role-specific monitoring to ensure fidelity to the protocols and provide quality assurance

Community-Clinical Integration

- Community Team Leader will interface with CMs whether they are office-based or virtual, or directly with the PCP where there is no CM
- Little overlap between Community Team Leader and existing CMs is expected and will be easily identified by practices/plans because duties of Community Team Leader will be specified in detail.
- Where there is overlap in responsibilities, roles and responsibilities can be negotiated to ensure one master plan tailored to the needs of each patient while minimizing duplication of effort.

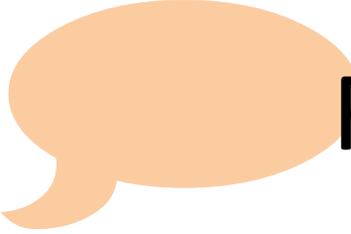
CHW Roles and Responsibilities



CHW Role in CIMH

Adapting or Building on Successful Models - HQP

Examples of HQP Interventions Conducted by Community Based Nurse	Possible CHW Activity
Intake Assessment	
Individualized Plan	
Action Plans	
Ongoing Assessments and Screenings	X
Care Transitions	
Education and Self-Management Training	X
Assessment and counseling for behavior change	X
Stress Management Education and Counseling	X

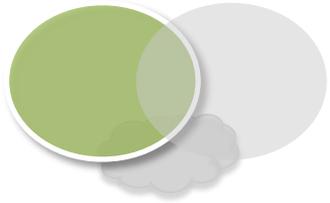


Feedback: CHW & CM

- CHWs should be considered for all dimensions of the HQP model
- Practices will benefit financially from the services of a well-trained and monitored team of CHWs deployed geographically
 - not have to recruit, hire, train and monitor
- How will their role overlap with CM and how to ensure no duplication of services
- Increased amount of unreimbursed work



Local Health Improvement Coalitions



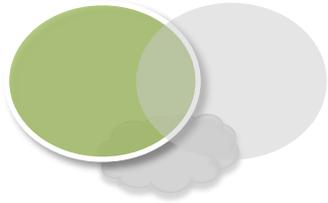
Expanding Local Health Improvement Coalitions (LHICs) Role

LHIC role as the population health integrator will include core functions:

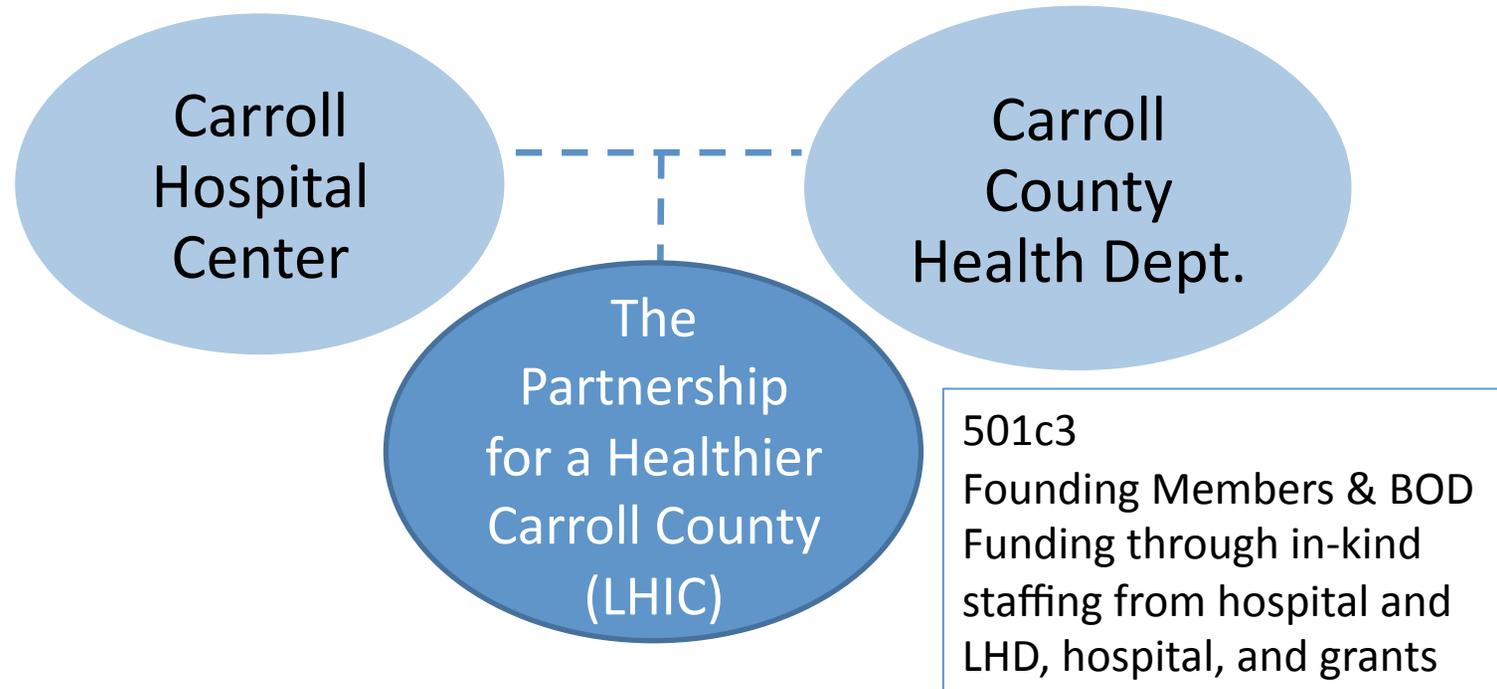
- ✓ *Prioritization of population health needs (SHIP measures)*
- ✓ *Convening/facilitating partnerships to address population priorities*
- ✓ *Performance monitoring*
- Continuous quality improvement to hit cost and quality targets
- Data analytics and aggregation
- Hiring and deploying CIMH workforce

Certification: Public Utility will certify participating primary care practices as well as LHICs based on an established criteria.

Structure: LHICs structure may vary based on context, geography, population, existing community collaboration and resources. However, criteria for certification will be standardized.



Emerging Maryland Examples: Carroll County



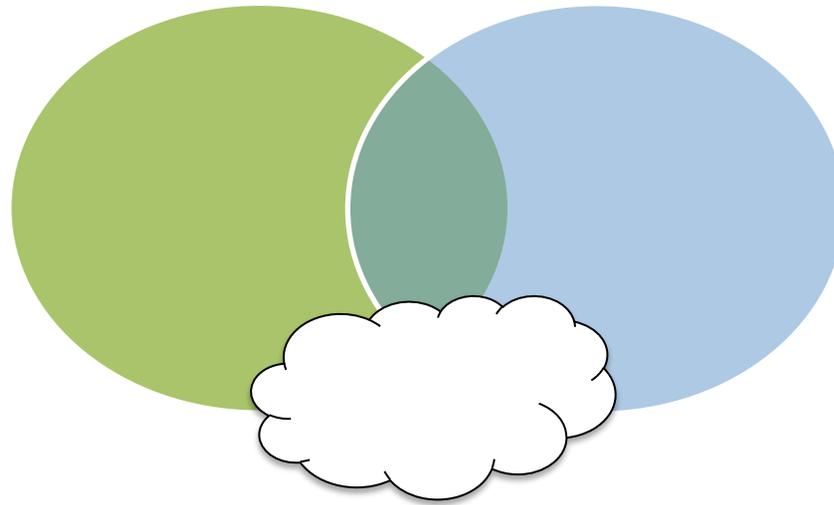
Roles/Functions of the Partnership:

- Conduct Community Needs Assessment – to address unmet need
- Prioritize & identify target populations
- Allocate grant resources to direct service organizations
- Serve as a collaborative vehicle for interaction with the community
- Expand capacity health and quality of life improvement
- Monitoring health status of the community

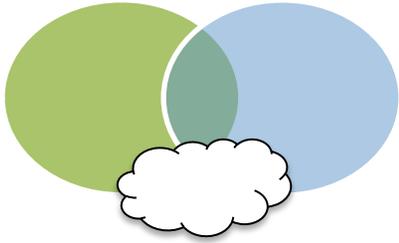


Feedback: Expanded LHIC Role

- Majority of LHICs are not currently ready to assume an expanded role as proposed by DHMH for CIMH model
- Concern that DHMH's envisioned role for the LHIC is already a role that the LHD can and should be able to effectively implement given adequate funding
- Benefit to allowing the LHIC structure (501(c)(3) or part of an existing entity) to be determined locally due to variation across the state

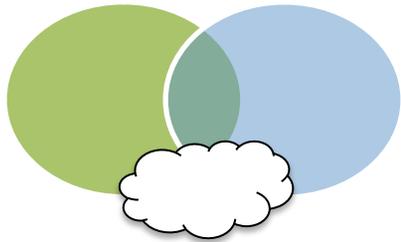


Public Utility



Public Utility Core Functions

- Certification of practices
- Performance measurement & feedback at the *practice-level*
- Oversight & monitoring
 - patient attribution: a virtual common roster
 - Validation of payer or practice-generated aggregate data



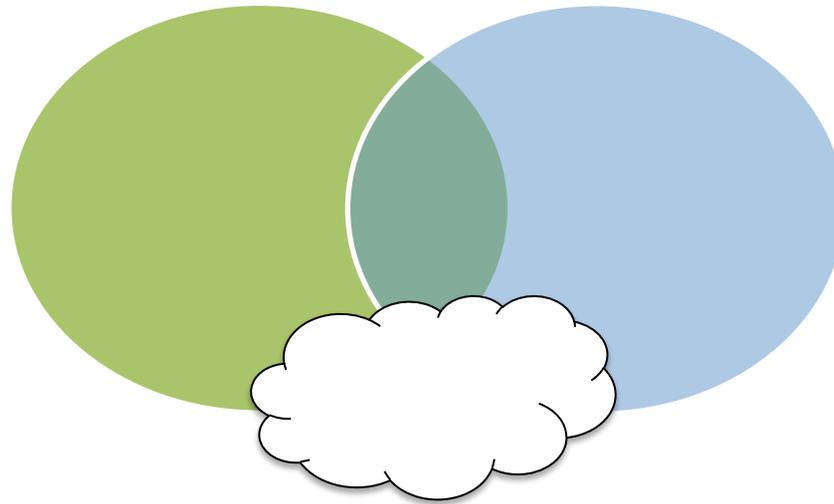
Public Utility Core Functions

Community-Based

- Certification of Local Health Improvement Coalitions
- Performance measurement & feedback at the *population-level*
- Oversight of community-based services
 - Quality assurance metrics
 - Standards and training for community health workers

Practice-Based

- Certification of practices
- Performance measurement & feedback at the *practice-level*
- Oversight & monitoring
 - patient attribution: a virtual common roster
 - Validation of payer or practice-generated aggregate data



Governance & Staffing



Building on Existing Capacity

DHMH Secretary
Deputy Secretary for Public Health



Health Systems and Infrastructure
Administration
Office of Population Health Improvement
Office of Workforce Development

Governor-Appointed Commissioners



Maryland Health Care Commission

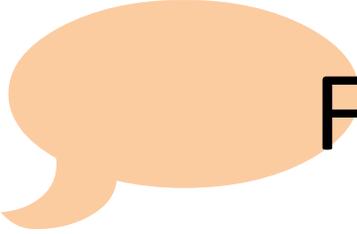
Public Utility

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Practice-Based

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 - patient attribution: a virtual common roster
 - Validation of payer or practice-generated aggregate data

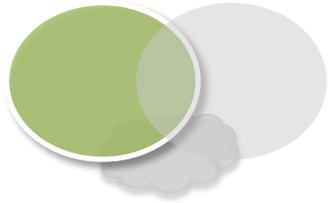


Feedback: Governance

- Build on existing infrastructure for utility rather than building a whole new entity
- Ensure integration between community-facing and clinical-facing sides of the public utility
- Need for nimbleness with regard to procurement
- Role for Maryland Community Health Resources Commission

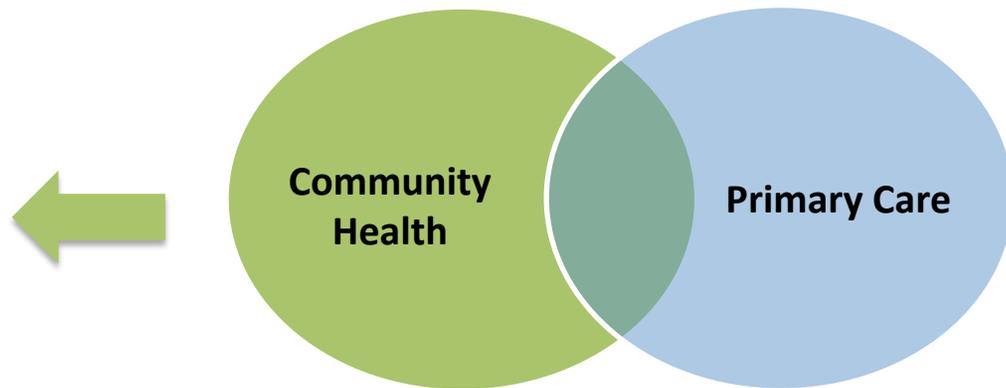


Payment Model



Payment Model for Community-Based Intervention

- Like a public utility, all those deriving benefit from the operation of the CIMH would help pay for it
- Risk-adjusted per capita surcharge levied on payers to cover cost of the intervention
- Medicare currently pays for HQP's community-based intervention using a similar approach





Medicare Payment for APS

Estimates of Magnitude and Reach: HQP's APS Model Applied to Maryland

Pop. Descr.	>= 65 yrs with HF, CHD, DIAB and/or COPD and 1+ hosp. adm. in prior yr.
Pop. Size	Est. 15-20% of Medicare population • counts for LHICs TBD; • State \approx 129,000 ^[1]
Intervention	HQP Advanced Preventive Service
Care team composition and reach	nurse care manager (1 to 75 persons)
Intervention Cost	Est. \$150 – \$220 PPPM
Total \$ Savings	\$1,320 - \$3,960 PPPY x number of participants enrolled = annual savings
ROI	Est. 50-150%



Medicare currently pays for the APS community-based intervention using a per person per month fee

Maryland SIM

Search Questions, Posts, Series & People

Stakeholder Collaboration Wiki

Keep those ideas and suggestions coming! Along with the continued professionalism, mutual respect, and decorum that has been the hallmark of our in-person stakeholder meetings. Remember that your fellow stakeholders, Maryland Department of Health staff, and members of the HQP team, and other consultants can see the comments you

CONTRIBUTED BY
Ken Coburn



Hi-Five

Follow Post



A page posting that defines a topic will look something like this prototype:

In the spirit of ongoing collaborative design, HQP seeks to foster continued stakeholder input - in this online, wiki-like community. Log in whenever it's convenient, try a few of the option settings to be notified of changes, and enjoy! We greatly appreciate and look forward to your continued contribution to designing a better health system for Maryland. I also value your suggestions for making this stakeholder design process more meaningful and effective.

Thanks,
Ken

SIM Summit Overview

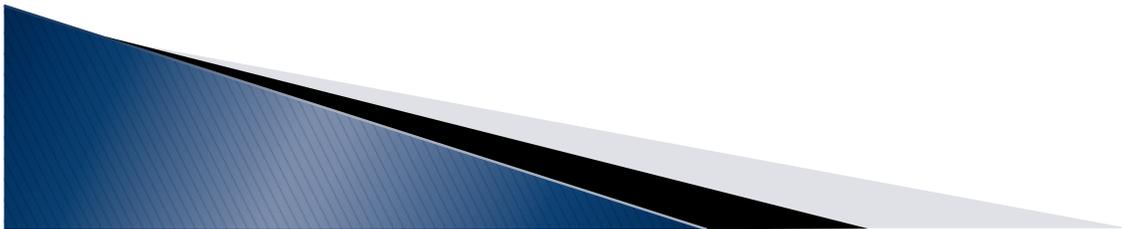
- Where are our hot spots?
- CRISP data tools to support hot-spotting
- Community Health Hubs and the role of Local Health Improvement Coalitions
- Putting it all together: a Community-Integrated Approach to Childhood Asthma
- How will be pay for it?

An Analysis of Hospital Encounter Data



Goals of High Utilizer Analysis

- ▶ Identify geographic “hotspots” and most prevalent conditions among high utilizers
- ▶ Among most prevalent conditions, identify those that are most appropriate for CIMH intervention
- ▶ Assess differences in hotspots and most prevalent conditions across payers and demographic groups

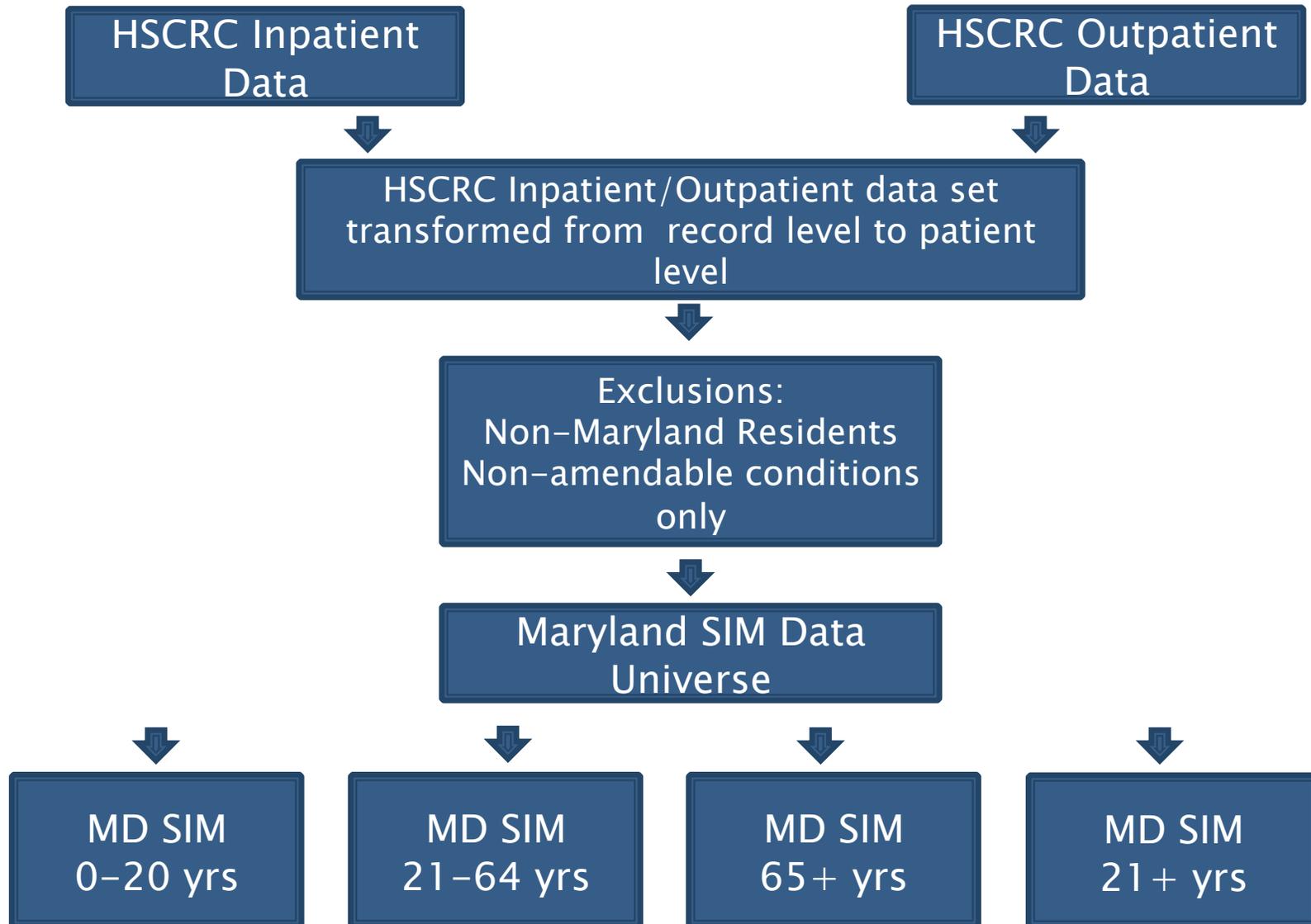


Analytic Approach

- Definition of high utilizer: Top 10 percent in total hospital charges (inpatient, ED, and hospital-based outpatient) in HSCRC dataset
- Transformed encounter-based HSCRC dataset with 6.2M observations into a person-level dataset with 3M observations
- Exclusions made:
 - Non-Maryland residents were excluded
 - Patients with non-amenable conditions only were dropped from dataset



Data Analysis Plan



Statewide Findings: Payer Type

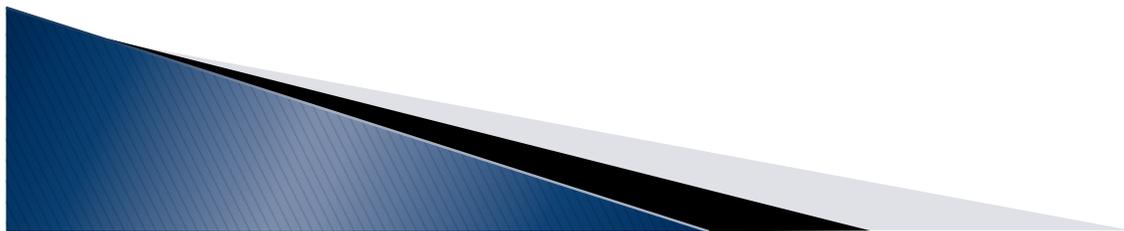
Payer	N	Sum	Sum %
Private	137,668	\$1,255,834,292	44.5%
Medicare	93,051	\$998,669,740	35.4%
Medicaid	50,726	\$398,365,698	14.1%
Self Pay	11,017	\$74,908,241	2.7%
Other Group	5,577	\$46,927,949	1.7%
Other Private	3,113	\$25,691,848	0.9%
Workmans	2,922	\$21,993,696	0.8%
Unspecified	323	\$2,594,269	0.1%

Statewide Findings: Age Group

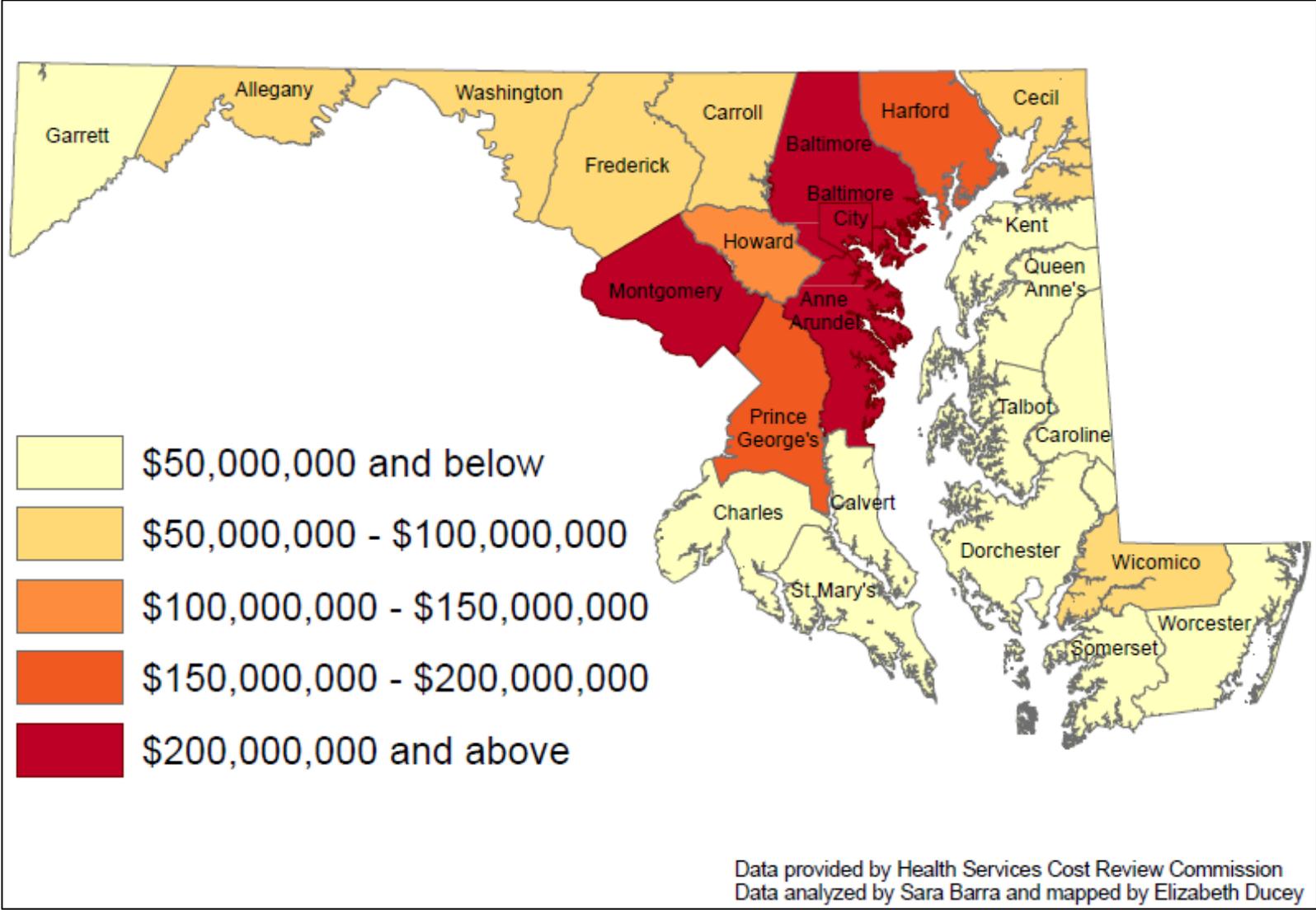
Age Group	N	Sum	Sum %
0-5	7,796	\$ 44,469,995	1.57%
6-11	4,887	\$ 34,735,303	1.23%
12-17	7,395	\$ 54,868,549	1.94%
18-24	16,829	\$ 119,493,729	4.23%
25-34	30,273	\$ 226,133,092	8.00%
35-44	38,885	\$ 312,168,584	11.05%
45-54	57,629	\$ 526,181,372	18.63%
55-64	55,887	\$ 592,341,994	20.97%
65-74	44,394	\$ 501,411,855	17.75%
75-84	29,478	\$ 313,731,714	11.11%
85+	10,944	\$ 99,449,548	3.52%

Statewide Findings: Race/Ethn

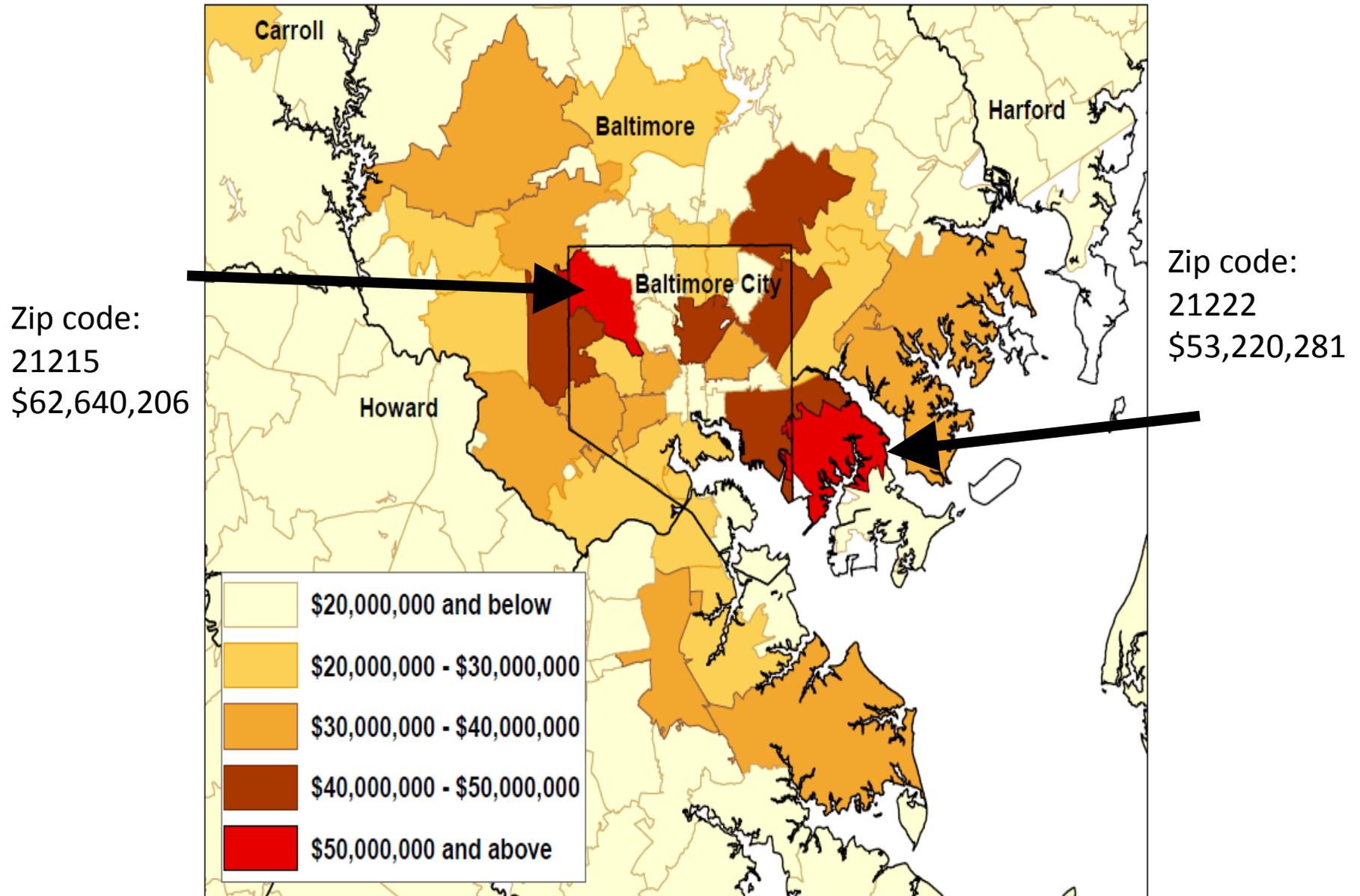
Race/Eth	N	Sum	Sum %
WHITE	18,3427	\$1,786,137,788	63.2%
BLACK	98,717	\$865,911,592	30.7%
OTHER	6,872	\$56,292,694	2.0%
SPANISH/HISPANIC	6,946	\$46,633,709	1.7%
ASIAN	4,922	\$41,384,627	1.5%
AM INDN/ESK/ALEUT	652	\$5,611,610	0.2%
UNKNOWN	2,861	\$23,013,716	0.8%



Maryland Super Utilizers by County: Total Charges of Top 10%

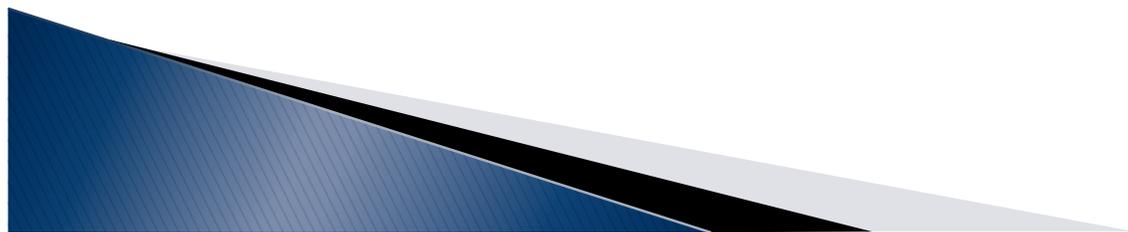


Total Charges of Top 10%: Baltimore Area



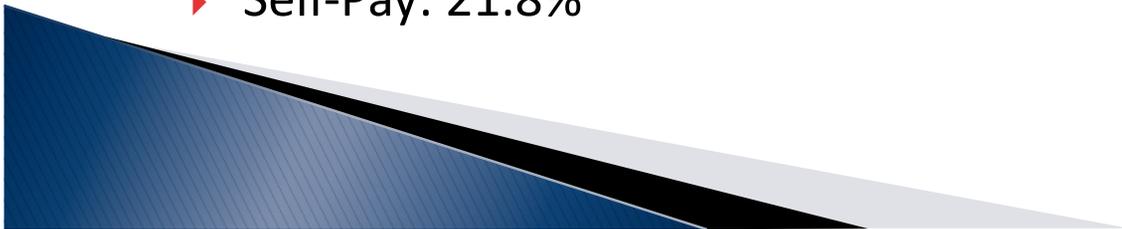
Comorbid Condition Analyses

- ▶ In depth analyses were performed for the following groups, based on coded co-morbidities:
 - For adults 21-64 years of age, the prevalence of any of the following conditions: Diabetes, Hypertension, COPD, Coronary Artery Disease, Congestive Heart Failure
 - For adults 65 years and older, prevalence of any of the following conditions: Diabetes, Hypertension, COPD, Coronary Artery Disease, Congestive Heart Failure
 - For children 20 years and younger, prevalence of asthma
 - For adults 21 years and older, the prevalence of Behavioral Health, Substance Abuse, and both



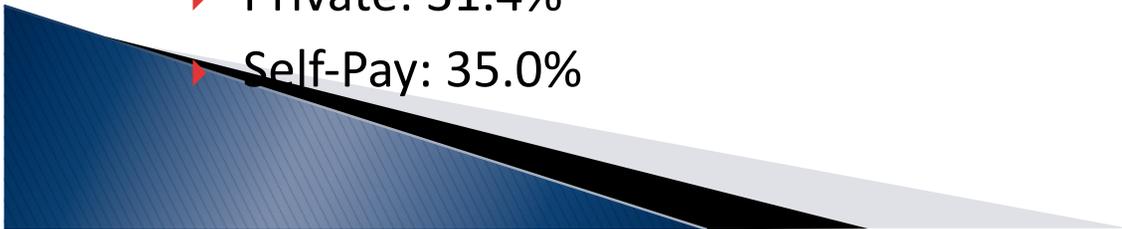
Comorbid Condition Analysis: Working age adults (21–64 years)

- ▶ Almost 40,000 people or 24.2% of the Top 10% were recorded as having one of the following conditions: Diabetes, Hypertension, COPD, Coronary Artery Disease, Congestive Heart Failure
- ▶ The total charges for this group were: \$347.4m
- ▶ When stratified by payer, here are the percent of total charges for these conditions:
 - ▶ Medicare: 30.0%
 - ▶ Medicaid: 20.5%
 - ▶ Private: 20.1%
 - ▶ Self-Pay: 21.8%



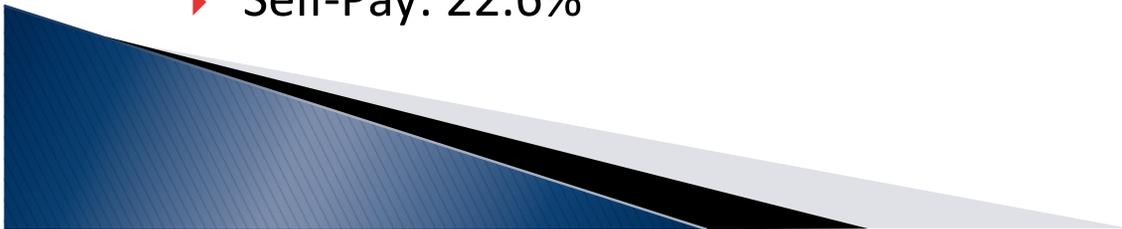
Comorbid Condition Analysis: Older adults (65 years and older)

- ▶ Just over 23,000 people or 42.4% of the Top 10% were recorded as having one of the following conditions: Diabetes, Hypertension, COPD, Coronary Artery Disease, Congestive Heart Failure
- ▶ The total charges for this group were: \$274.5m
- ▶ When stratified by payer, here are the percent of total charges for these conditions:
 - ▶ Medicare: 35.1%
 - ▶ Medicaid: 34.7%
 - ▶ Private: 31.4%
 - ▶ Self-Pay: 35.0%

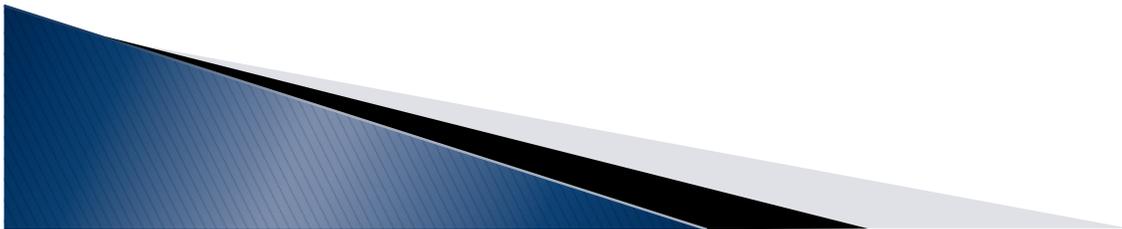
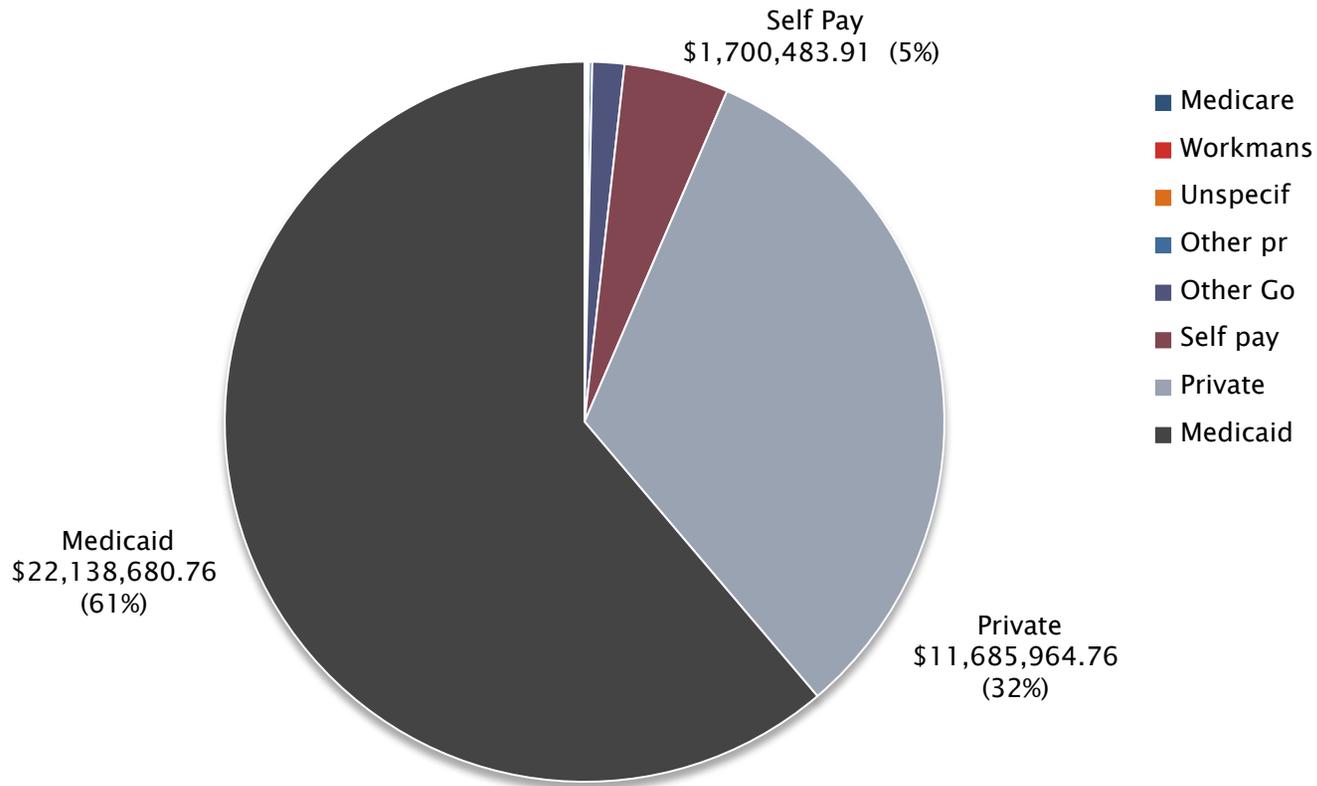


Comorbid Condition Analysis: Behavioral Health/Substance Abuse

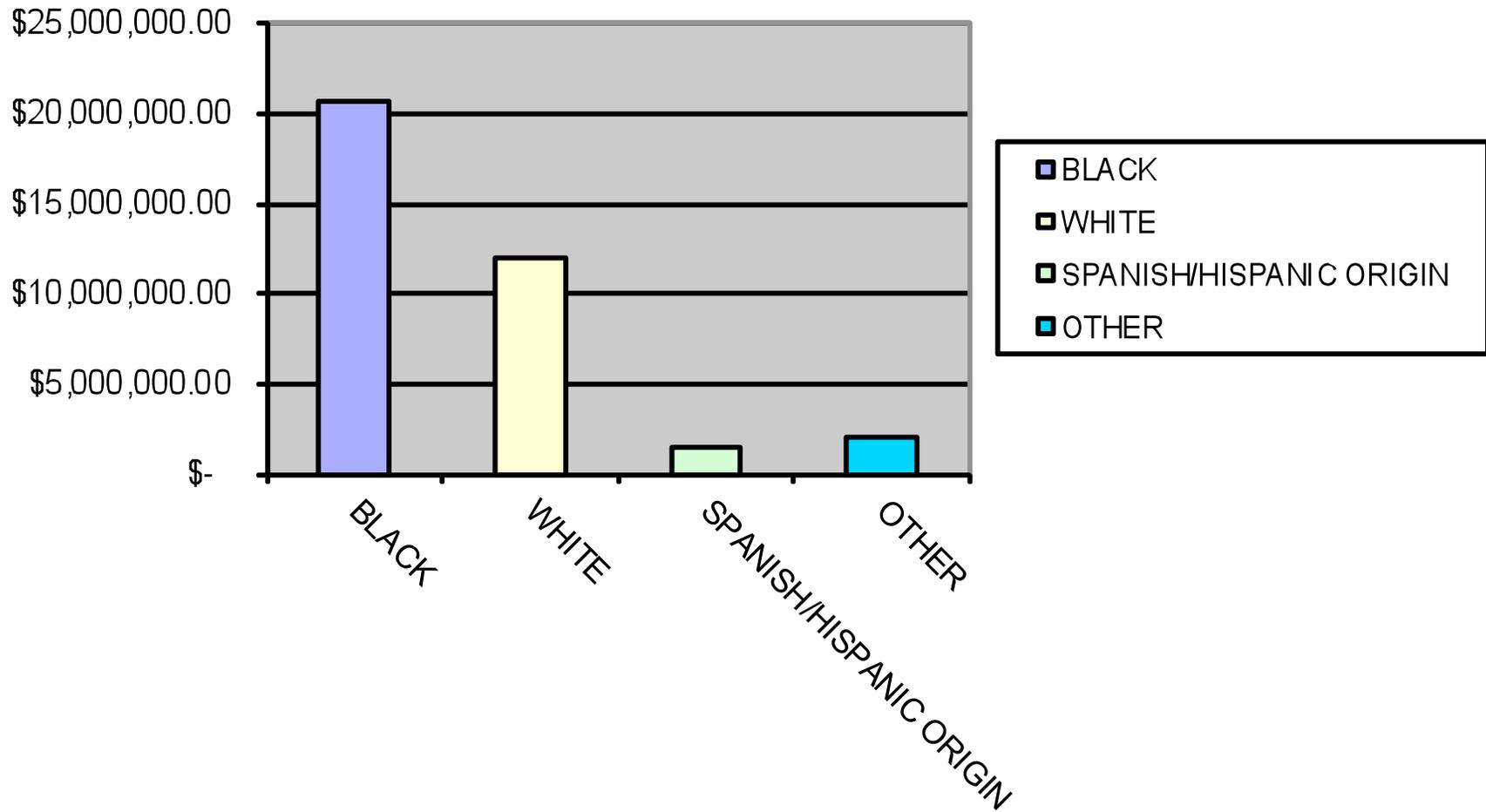
- ▶ Just over 42,000 adults 21 years and older were recorded as having one of the following conditions: Behavioral Health, Substance Abuse, or both.
- ▶ The total charges for this group were: \$366.1m
- ▶ When stratified by payer, here are the percent of total charges for these conditions:
 - ▶ Medicare: 10.0%
 - ▶ Medicaid: 26.2%
 - ▶ Private: 10.1%
 - ▶ Self-Pay: 22.6%



Total Cost for Childhood (0-20 Years of Age) Asthma by Payer = \$36,170,236.84

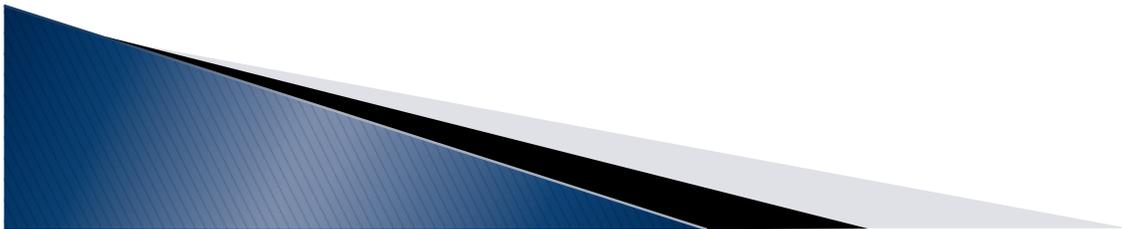


Total Charges for Childhood Asthma (0-20 Years of age) by Race/Ethnicity



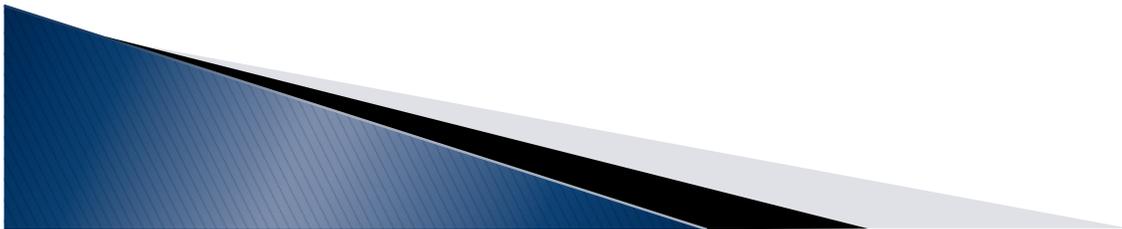
Limitations

- ▶ Analysis includes inpatient/outpatient hospital data from Maryland's 42 acute care hospitals
 - Data from other types of hospitals, including chronic hospitals are not included
- ▶ Missing encounters occurring outside Maryland
 - Disproportionally affects boundary counties
- ▶ Records are de-duplicated within hospitals, but not across hospitals
 - Patients will be counted more than once if they used more than one hospital

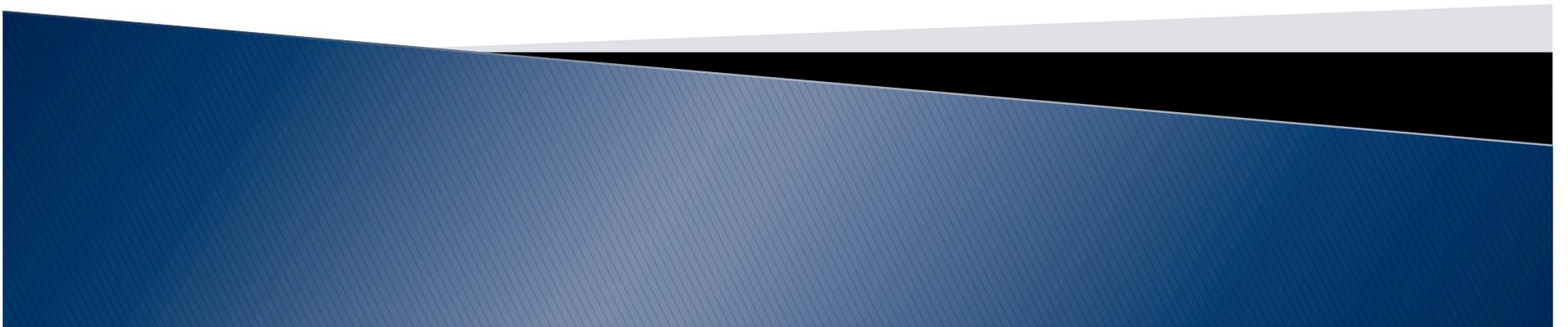


Next Steps

- ▶ CRISP: Chesapeake Information System for Our People
- ▶ Data Analysis
- ▶ Merge CRISP data with HSCRC data
- ▶ CRISP (individuals) / HSCRC (visits)
- ▶ Will be able to analyze the data at the individual level more comprehensively



Questions?





*Connecting Physicians With Technology
to Improve Patient Care in Maryland*

7160 Columbia Gateway Drive,
Suite 230
Columbia, Maryland 21046
1.877.95.CRISP (27477)
www.crisphealth.org

Chesapeake Regional Information System for Our Patients

CRISP Overview

SIM All Stakeholder Meeting

September 9th, 2013



CRISP Mission and Vision

Chesapeake Regional Information System for Our Patients

Mission

To advance the health and wellness of Marylanders by deploying health information technology solutions adopted through cooperation and collaboration.

Vision

We will enable and support the Maryland healthcare community to appropriately and securely share data in order to facilitate care, reduce costs, and improve health outcomes.



Numbers at a Glance

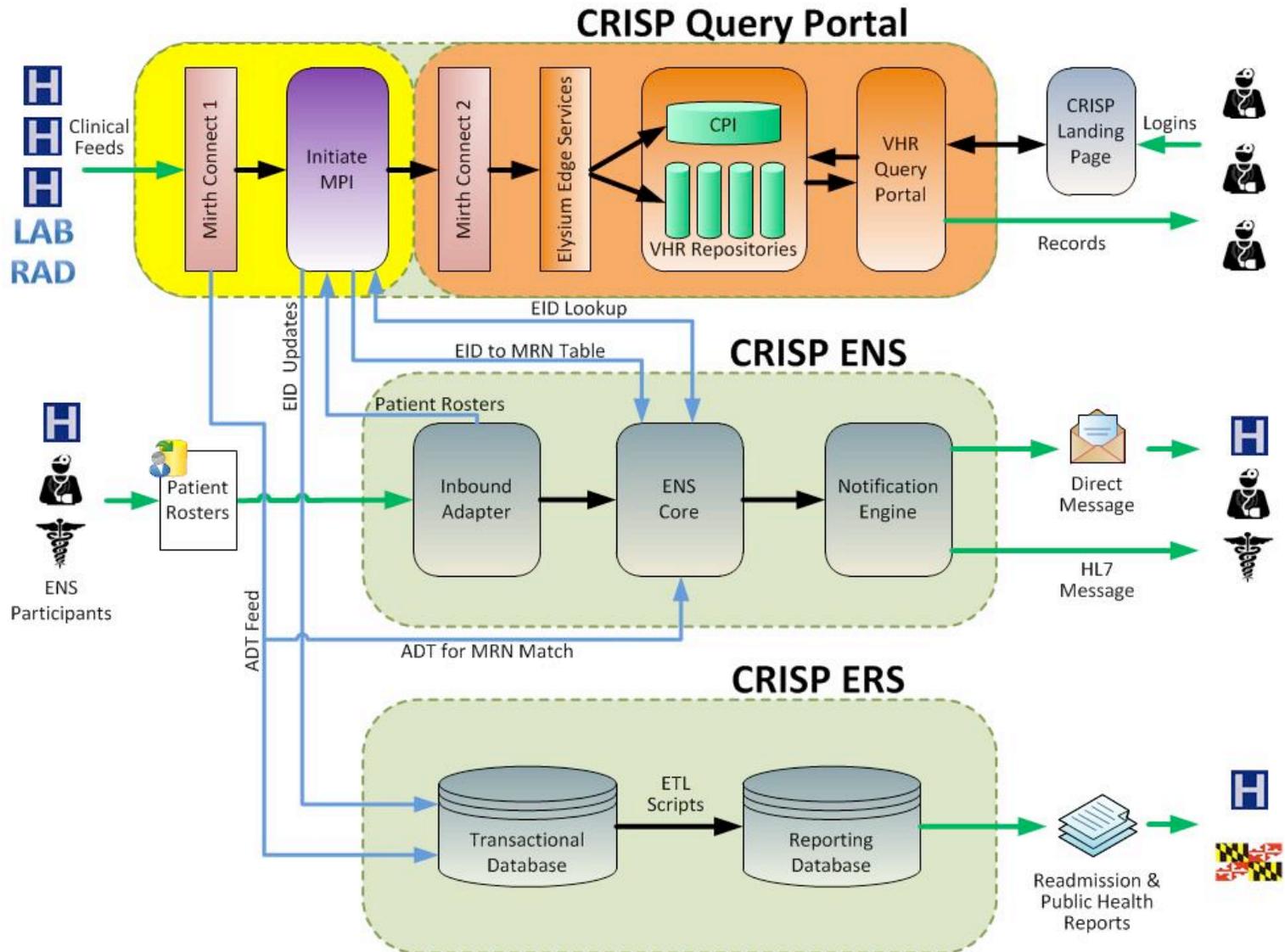
Chesapeake Regional Information System for Our Patients

Progress Metric	May '13
Live Hospitals	47
Live Labs and Rad Centers (non-hosp)	9
Live Clinical Data Feeds	98
Identities in MPI	~5.4M
Lab Results Available	~29M
Radiology Report Available	~8M
Clinical Documents Available	~4M
Opt-Outs	~2,000
Queries (past 30 days)	~14,000
Notifications (past 30 days)	~60,000
Participating physicians (query & notification)	~1,200



Technical Architecture Overview

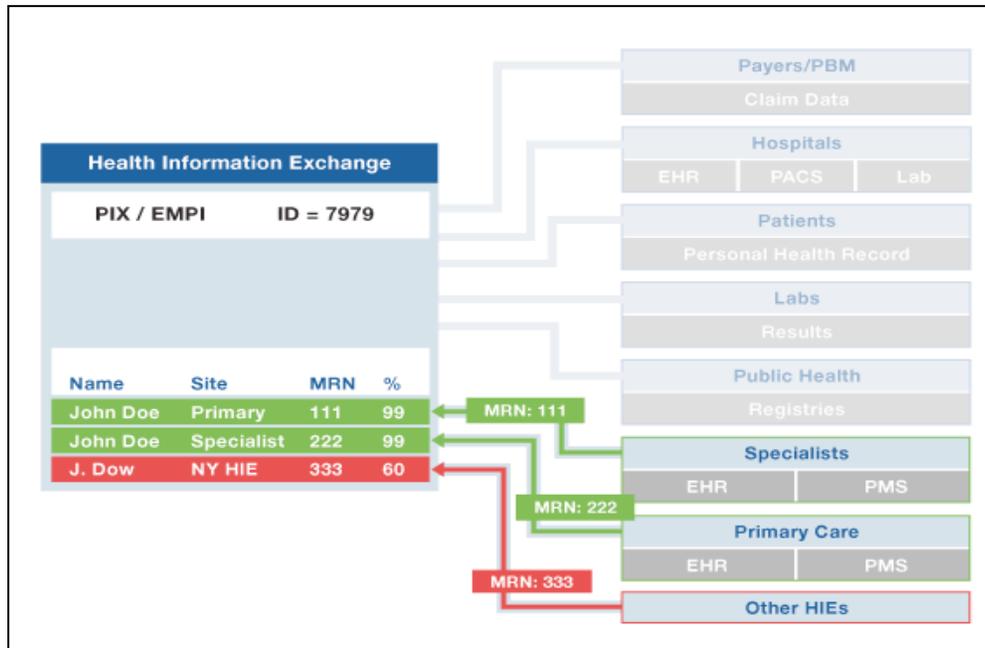
Chesapeake Regional Information System for Our Patients





Patient Identity Management

Chesapeake Regional Information System for Our Patients

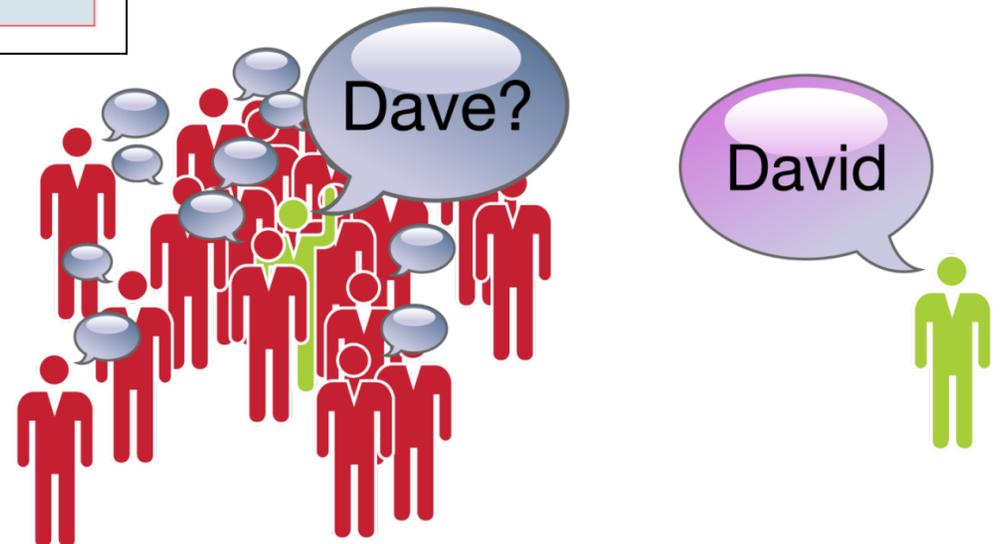


The Challenge:

Accurately and consistently linking identities across multiple facilities to create a single view of a patient.

A near-zero tolerance of a false positive match rate with a low tolerance of a false negative match rate.

Accurate cross-entity patient identity management is a fundamental requirement for population-level measurement, utilization trending, and care coordination.





Query Portal - Mirth

Chesapeake Regional Information System for Our Patients



CRISP TEST
Crisp Provider | Logout

Patients
Patient »

Patient Actions

- Back to List
- Download CCD
- Download Summary PDF
- Configure Layout

Doe, Jane Female 06/13/1943 (70 yrs) (Community ID: 212452)

Summary More Patient Information

Results (5)

Date	Name	Source
12/02/2012	XR CHEST PA/LAT 2V	FWMC
10/15/2012	TROPONIN-I	FWMC
10/15/2012	CK, BLOOD	FWMC
10/15/2012	CHEM7 + CAL, (BMP)	FWMC
10/15/2012	CBC	FWMC

Allergies (2)

Allergen	Reactions	Reported
CODEINE	HALLUCINATE	10/26/2012
PHENERGAN	HALLUCINATE	10/26/2012

Encounters (1)

Date	Type	Source	Class
12/02/2012	EMERGENCY	FWMC	E

Medications (1)

Date	Name	Source
12/02/2012	HYDROCODONE	PDMP

Procedures (0) Immunizations (0)

No Procedures to display

Problems (0)

No Problems to display

Social History (0) Attachments (0) More

No Social History to display

results



Query Portal - Mirth

Chesapeake Regional Information System for Our Patients

CRISP
Patients
Patient »

Patient Actions

- Back to List
- Download CCD
- Download Summary PDF
- Configure Layout

CRISP TEST
Crisp Provider | Logout

Results

Download Report

Order Info	Providers On Order	Source Information
Order Type: Diagnostic Imaging	Ordering Provider:	Source: Fort Washington Medical Center
Date:		Received On:
Status: Final		
Placer Order Id:		

Admission Type	Source	Class	Attending Provider	Admission Date	Discharge Date	View Details
EMERGENCY						View Encounter Details

XR CHEST PA/LAT 2V

Status	Placer Field 1	Placer Field 2	Filler Field 1	Filler Field 2	Reported Date
F	XR				

Name: Patient No:
Age: DOB: Admit Phy:
Sex: Ordering Phys:
Staytype: E/R Room: Admit date:
Trans Date: Med Rec No:

Unsigned transcriptions are preliminary reports and do not represent a Medical or Legal Document.
XR CHEST PA/LAT 2V 71020 COMPLETE:
(REASON FOR CHEST: 786.50 CHEST PAIN)

EXAMINATION: CHEST, TWO VIEWS
CLINICAL HISTORY: CHEST PAIN.
FINDINGS: The lungs are clear. The heart is normal.
IMPRESSION: Normal chest.

ELECTRONICALLY REVIEWED AND SIGNED BY:

Source Class

FWMC	E
------	---

(0)

(0) More

result

© 2012 Mirth Corporation | Mirth Results | Page Rendered: 07/09/2013 10:33:22 AM EDT

About



Encounter Notification Service

Chesapeake Regional Information System for Our Patients



- ENS enables CRISP participants to receive real-time notifications when one of their patients or members is hospitalized.
- The alerts are generated from the “ADT” messages CRISP receives from all Maryland hospitals.
- Participants can only subscribe to “active patient or members”
- If an individual has opted out of the HIE, an alert will not be triggered.
- There are currently over 1,000,000 patients subscribed to with in ENS resulting in over 2,000 notifications per day.



ENS Inbox Sample View

Chesapeake Regional Information System for Our Patients

New Message

Check Mail Mark As Read Move To Folder Delete

Reply Forward Print Save

Inbox

Sent Items

Drafts

Trash

Manage Folders

Arranged by: Date, Descending search

MARYLAND JACK DJO MRN:33 EMERGENCY DISCHARGE
CRISP Jan 07 23KB

PENNSYLVANIA DAVE DJO MRN:12 INPATIENT DISCHARGE
CRISP Jan 07 23KB

TENNESSEE WENDY DJO MRN:121 INPATIENT ADMIT
CRISP Jan 07 23KB

MARYLAND JACK DJO MRN: 33 EMERGENCY DISCHARGE
CRISP to ... (Jan 07, 03:54 PM)

 **Encounter Notifications**

JACK MARYLAND INPATIENT DISCHARGE

Patient Information:
Patient Name: JACK MARYLAND
Gender: M
DOB: 1901-01-01
Address: 8181 MAIN STREET
TOWSON, MD 21212

Home Phone: 4435551212
Work Phone:
Cell Phone:
PCP: Dr. Jones, MD

Facility Information:
Hospital Name: Suburban Hospital
Hospital MRN: 9999999
Event: Inpatient Discharge
Event Time: Jan 1 2013 11:59PM
Admit Reason: RIGHT HAND INJURY

Your Facility Site: Doctor Jones' Office
Your Facility MRN: 33

Additional Info: [VHR Portal Link](#)

You are receiving this message because you have requested Encounter Notifications from the statewide health information exchange for your patient panel. Any questions/concerns can be sent to: alert.hie@crisphealth.org

Quick Reply

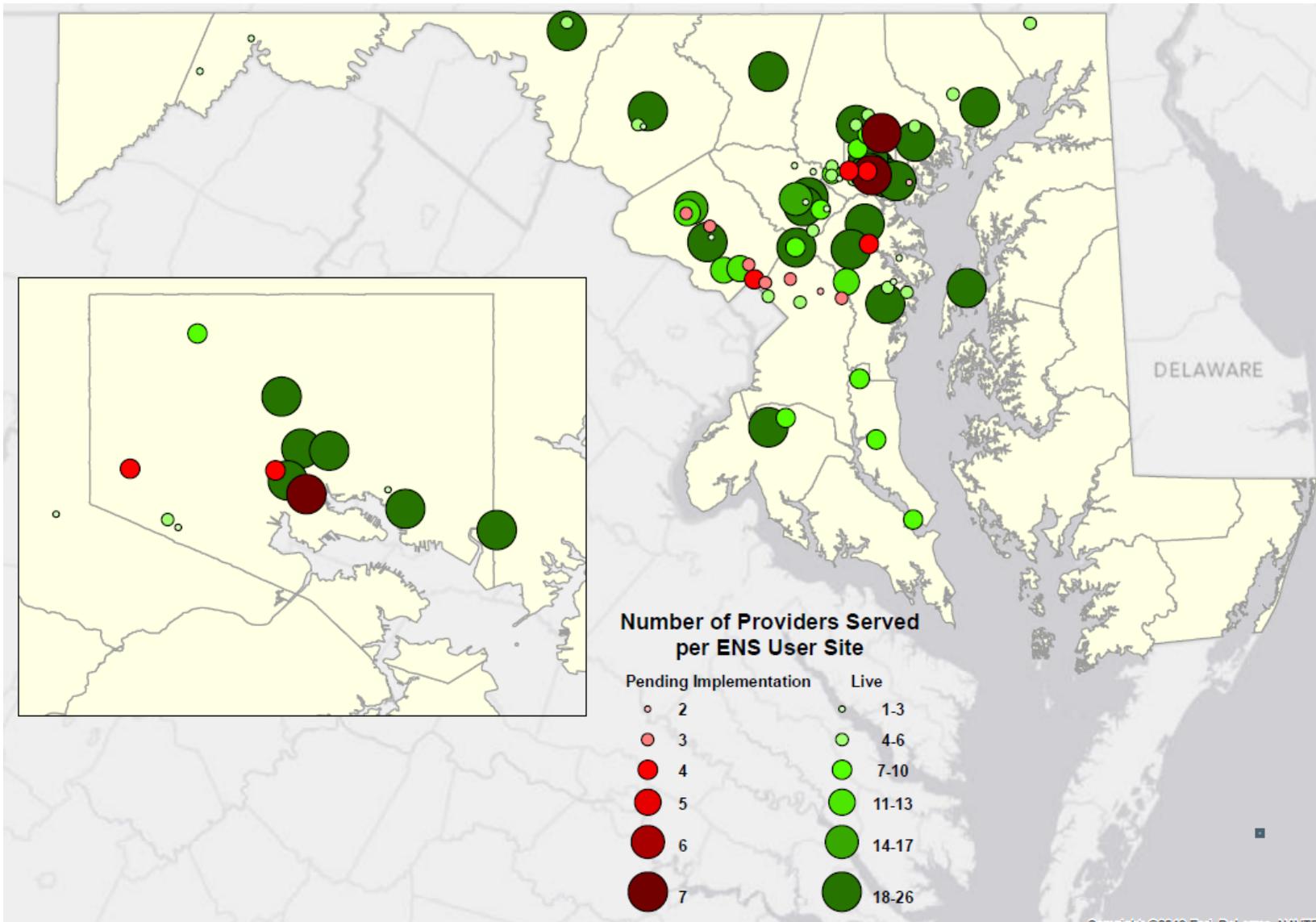
Send Save

1 2 3 4 5 >>



ENS Subscriber Sites

Chesapeake Regional Information System for Our Patients





Maryland SIM Program and CRISP's Role

Chesapeake Regional Information System for Our Patients

- DHMH and CRISP have partnered under Maryland's SIM Model Design Grant to develop a hospital service utilization reporting and mapping capability (building from the existing Encounter Reporting Service).
- Reporting and mapping capabilities will be designed to support the community integrated medical home model that is core to the Maryland approach.
- CRISP reporting and mapping capability will be enhanced to support broader "Camden Initiative-like" capabilities on a statewide scale.
- Additional data types will be incorporated into the CRISP reporting solution to enable broad understanding of population health status and trending.
- Highly granular mapping and reporting will be made possible through CRISP's address level data for encounters.



Hospital Services Utilization Reporting

Chesapeake Regional Information System for Our Patients

- As encounter messages flow into CRISP, reporting on aggregate hospital services, regional or community utilization, and trending analysis becomes possible.
- By consolidating, correlating, and reporting against real-time encounter data CRISP can produce rapid and comprehensive views of hospital data for purposes such as identifying (to the appropriate entity) “super-utilizers” in targeted geographies.



HEZ Inpatient Utilization CY2012

Chesapeake Regional Information System for Our Patients

HEZ Visits	Q1 2012	Q2 2012	Q3 2012	Q4 2012	CY 2012	2010 Census	
Annapolis	19	20	21	21	81		
Dorchester	1,327	1,272	1,287	1,219	5,105	34,990	15%
Prince George's	968	959	914	901	3,742	38,621	10%
St Mary's	762	734	764	744	3,004	30,902	10%
West Baltimore	7,955	7,729	7,586	7,309	30,579	140,761	22%
Statewide	175,143	172,188	171,442	167,072	685,845	5,773,552	12%

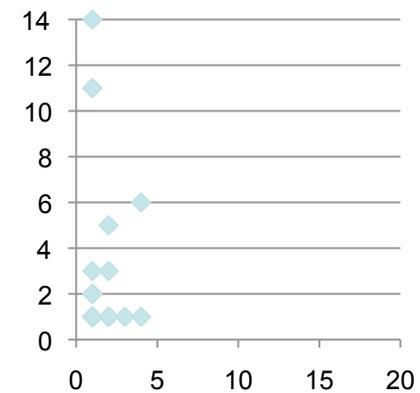
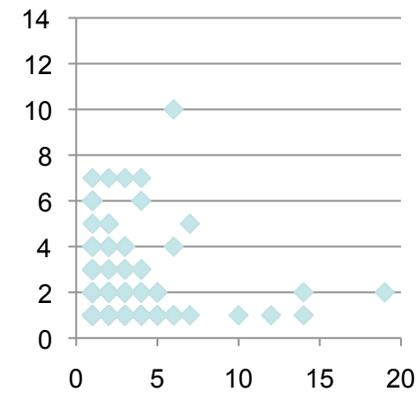
HEZ Readmits	Q1 2012	Q2 2012	Q3 2012	Q4 2012	CY 2012	2010 Census	
Annapolis	2	4	5	6	17		
Dorchester	191	167	153	153	664	34,990	2%
Prince George's	132	147	126	130	535	38,621	1%
St Mary's	76	78	78	79	311	30,902	1%
West Baltimore	1,407	1,435	1,362	1,277	5,481	140,761	4%
Statewide	23,067	23,093	22,043	21,171	89,374	5,773,552	2%



Patient Attribution

Chesapeake Regional Information System for Our Patients

ID*	Age	TOTAL	Hospital A	Hospital B	Hospital C	Hospital D	Hospital E	Hospital F
TOTAL		46,095	35,738	214	1,438	2,176	8	27
6969A51C36C	71	28	11					2
7DA6A73A315	56	28						
034705A118	66	25	8	1				
3C46482CC3	48	25	5		14	3		
4C4749358	81	25	2			5		
7625B520A	1	23	3		3	4		
53B2DD38128	1	21				6		1
91C6D8B4745	64	20	17					
C4D08CA4D68	55	20	2		2	1		
2270C9B1C9	37	20	1					1
003912A9B	74	19				7		



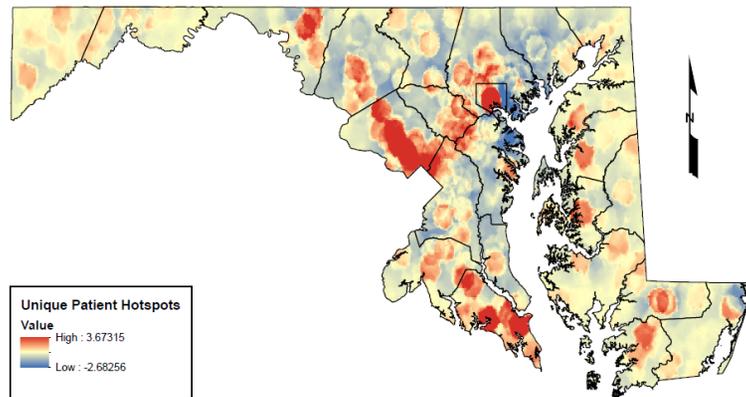


GIS Mapping Capability

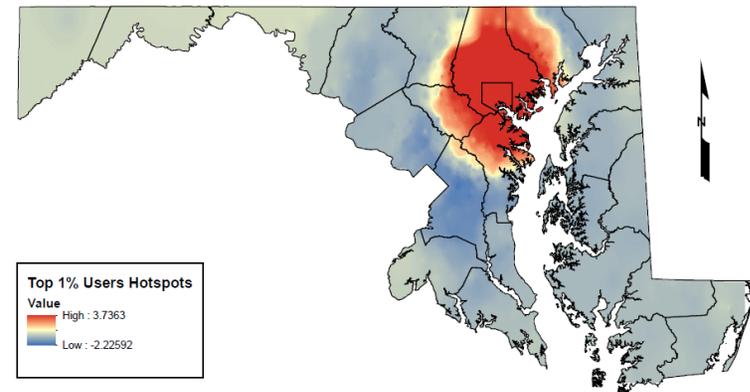
Chesapeake Regional Information System for Our Patients

- Based on the indexed utilization information CRISP can produce visualizations of hospital utilization data in near real time.
- CIMH can leverage geographic data to better understand localized use of services and opportunities for the most efficient / targeted interventions.

Unique Patients



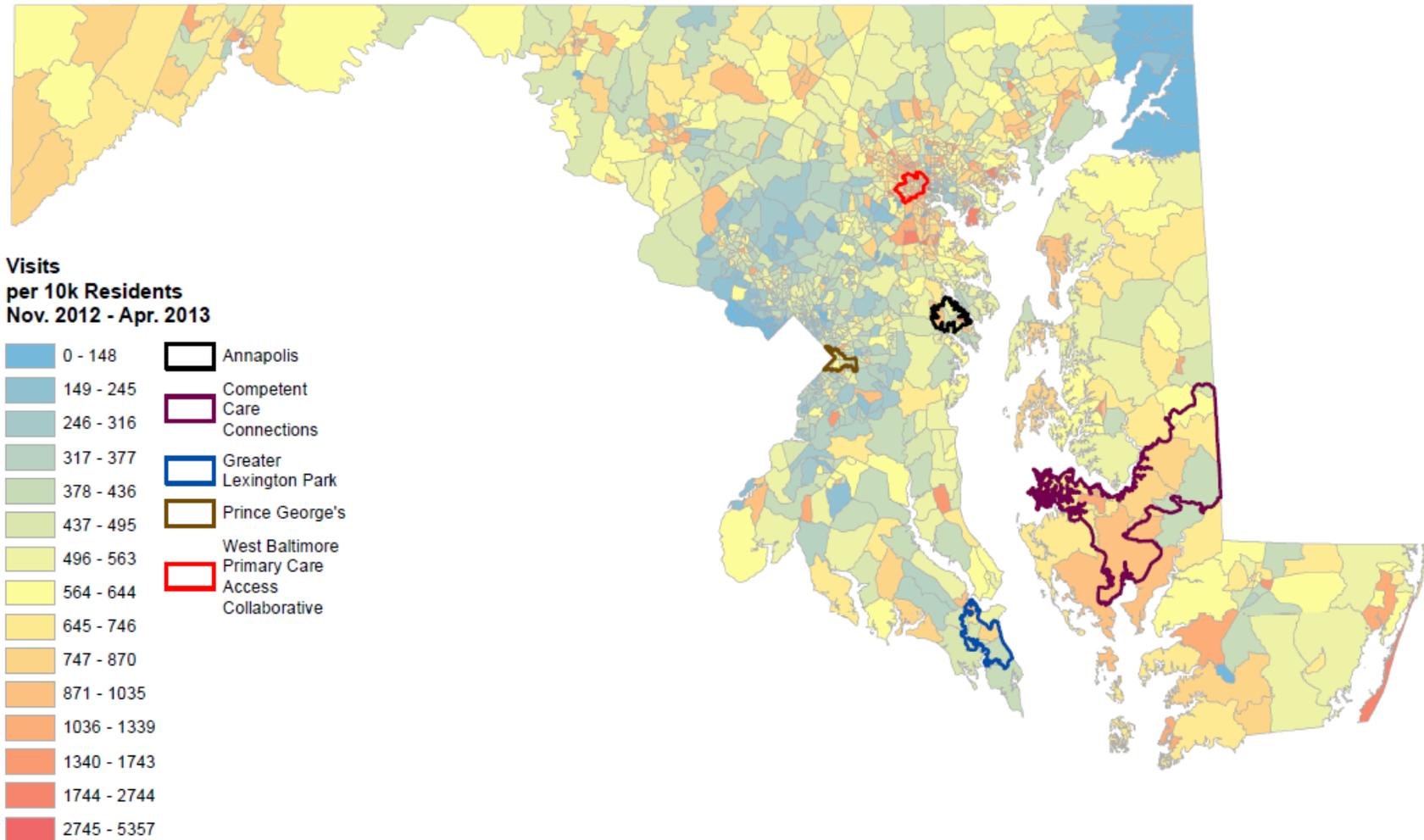
Top 1% Patients





Inpatient Utilization by Census Tract

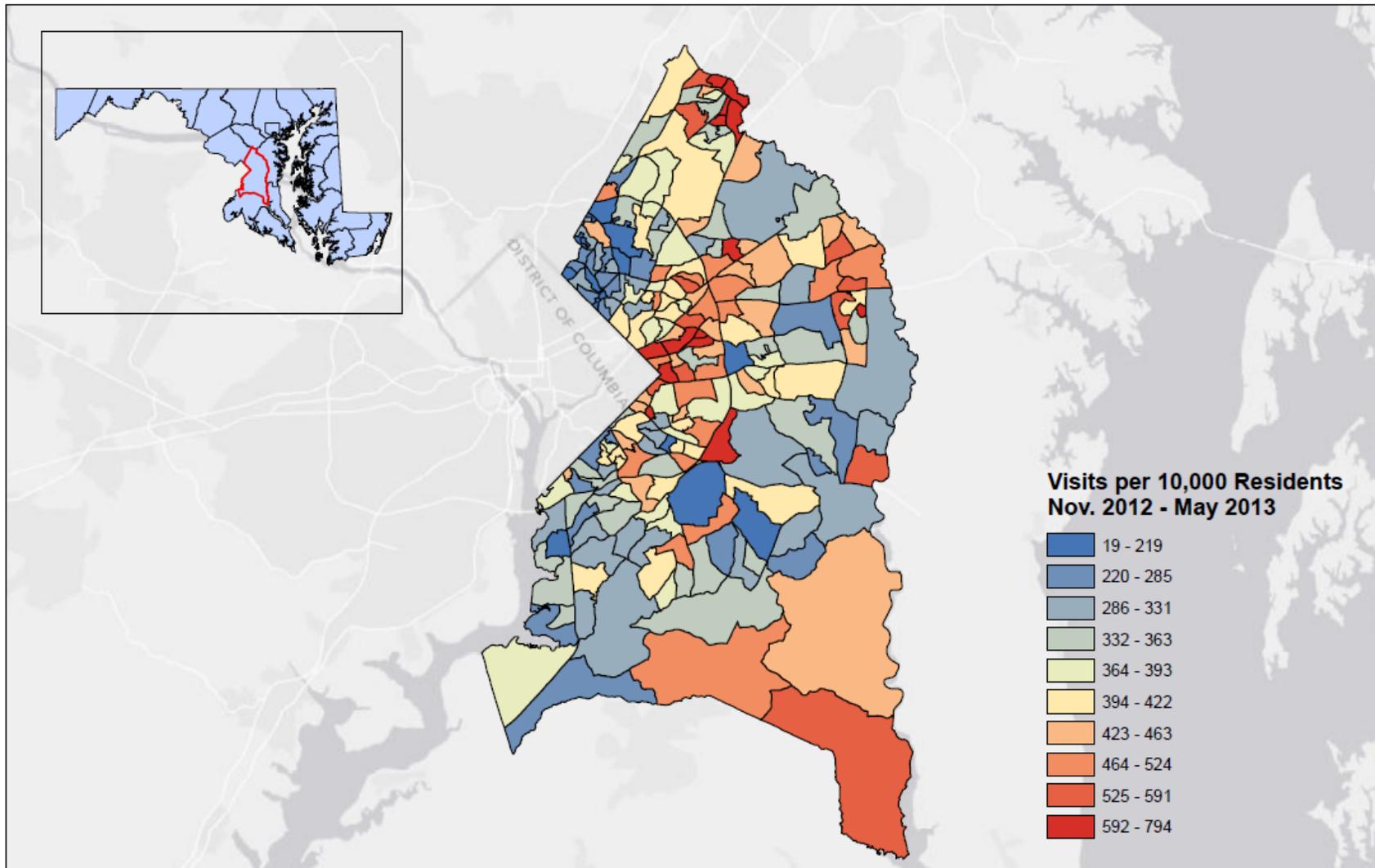
Chesapeake Regional Information System for Our Patients





Inpatient Utilization, Prince George's

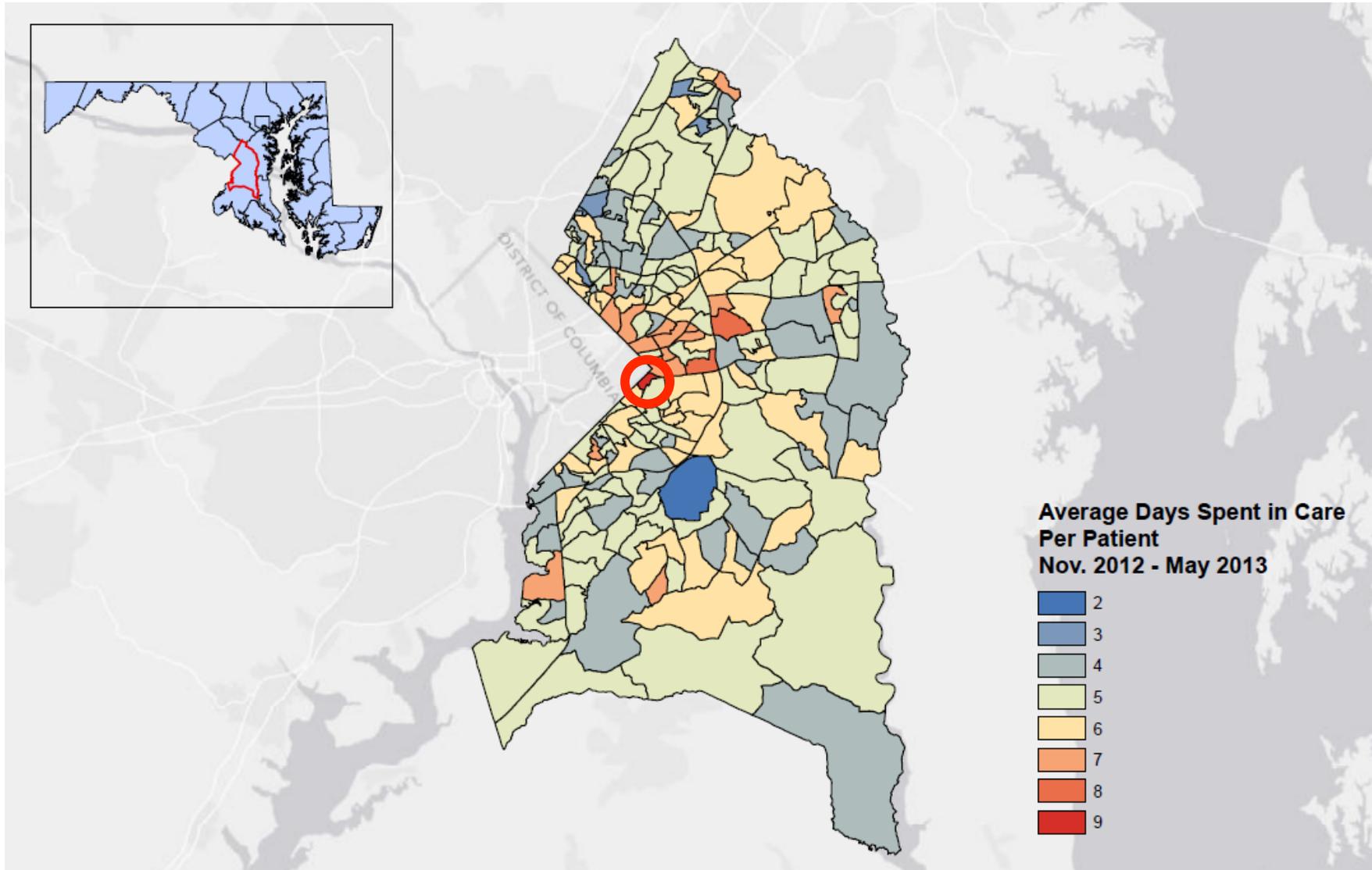
Chesapeake Regional Information System for Our Patients





Inpatient LOS, Prince George's

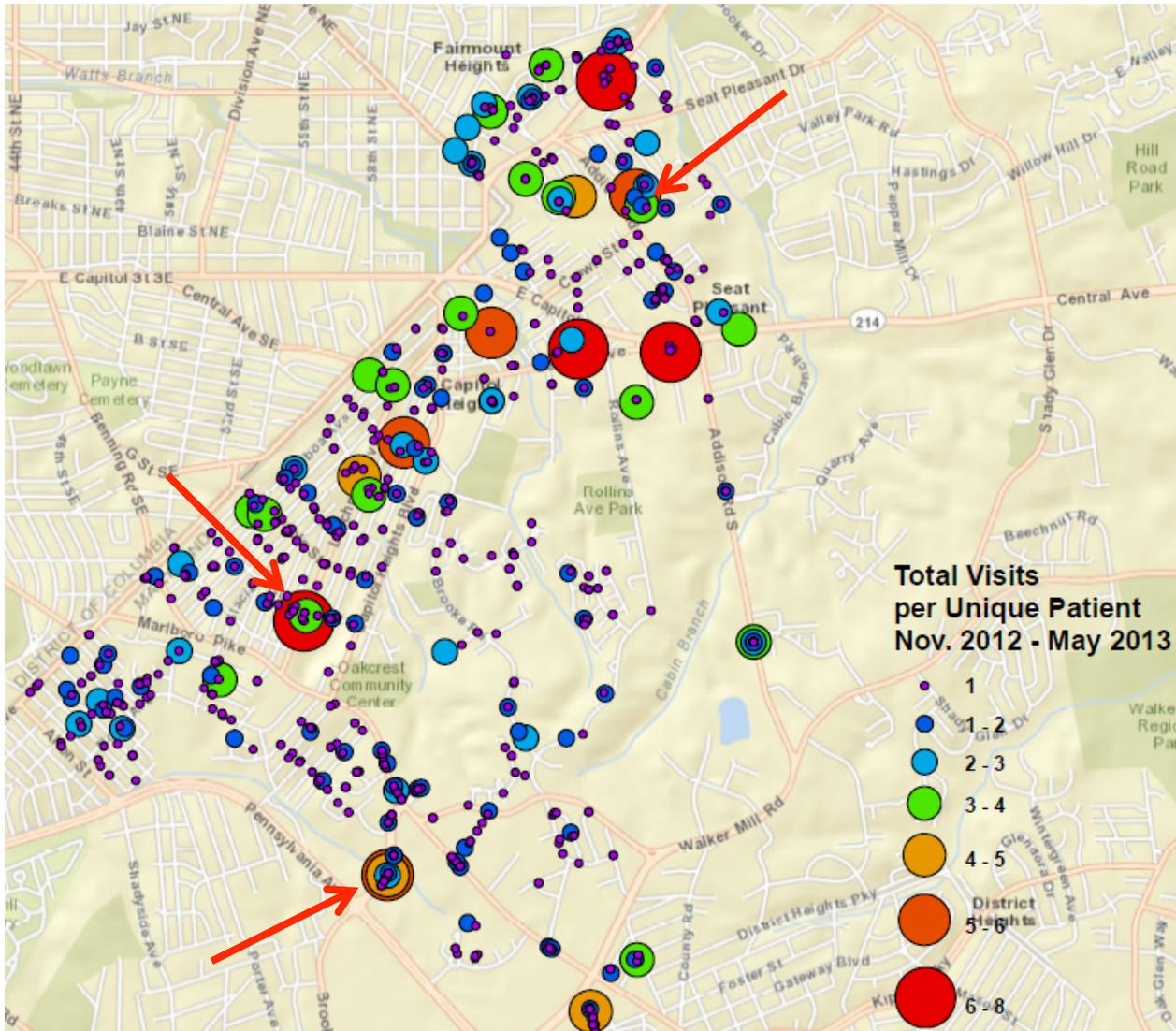
Chesapeake Regional Information System for Our Patients





Inpatient Utilization Capitol Heights Area (Obscured Data)

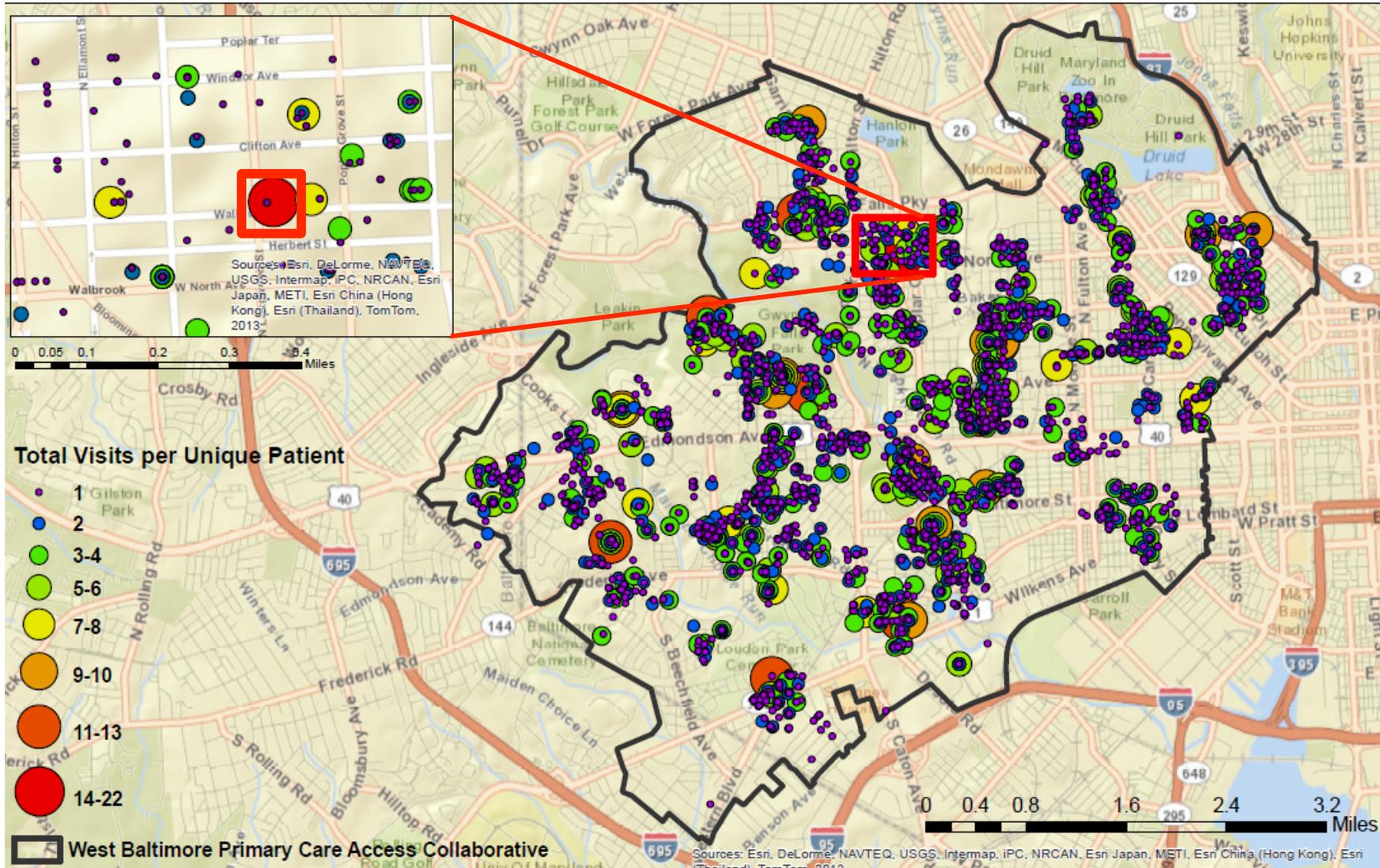
Chesapeake Regional Information System for Our Patients





Inpatient Utilization West Baltimore HEZ (Mocked Up Dots)

Chesapeake Regional Information System for Our Patients

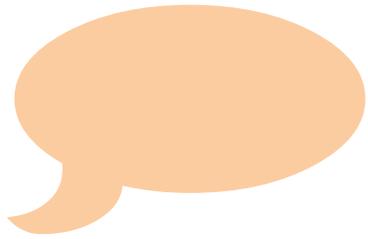




Alice Wang
Project Manager, CRISP
awang@AINQ.com
703-994-8847



Local Health Improvement Coalitions



LHIC Role in CIMH

Local Health Improvement Coalitions (LHICs) envisioned to play, in partnership with DHMH, a role in implementing the community interventions of the CIMH model.

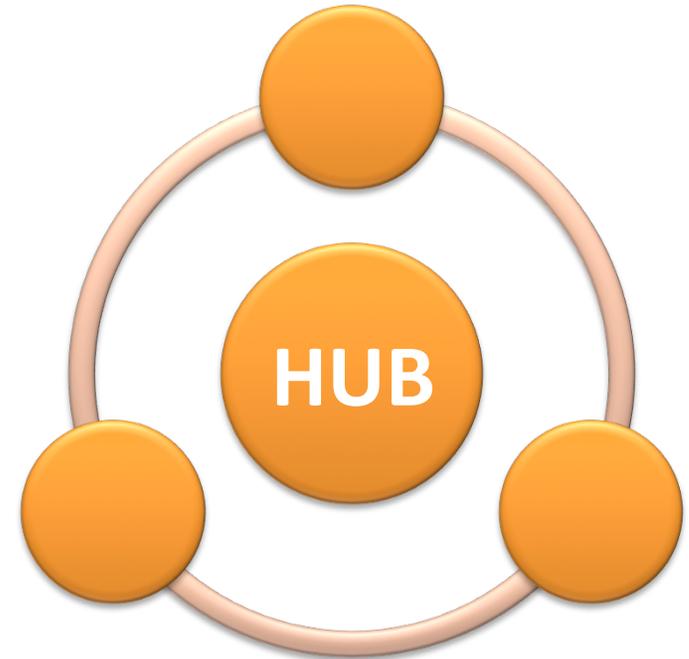
Several thoughts from stakeholders have recently emerged on this topic:

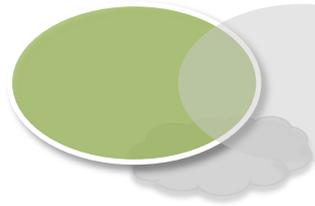
- *Majority of LHICs are not currently ready to assume an expanded role as proposed by DHMH for the CIMH model.*
- *Concern that DHMH's envisioned role for the LHIC is already a role that the LHD can and should be able to effectively implement given adequate LHD funding.*
- *Benefit to allowing the LHIC structure (501c3 or part of an existing entity) to be determined locally due to variation across the state.*



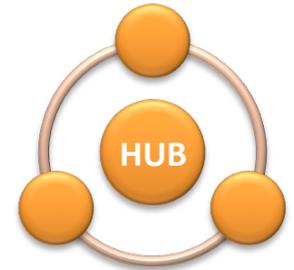
Regional Community Health Teams “HUBs”

- HUBs will be established in MD through an RFP process to deploy community wrap around interventions for defined target populations – “hot spotting”.
- HUB entities may include: Local Health Departments (LHD), Hospital, LHIC, 501c3 community based organization, or a collaborative partnership.
- HUBs will be established based on need; depending on population density HUBs will vary in size and one HUB could serve more than one jurisdiction not to exceed a geographic radius of 45 miles.
- The Community-Based Public Utility will provide oversight and technical assistance to the HUB.



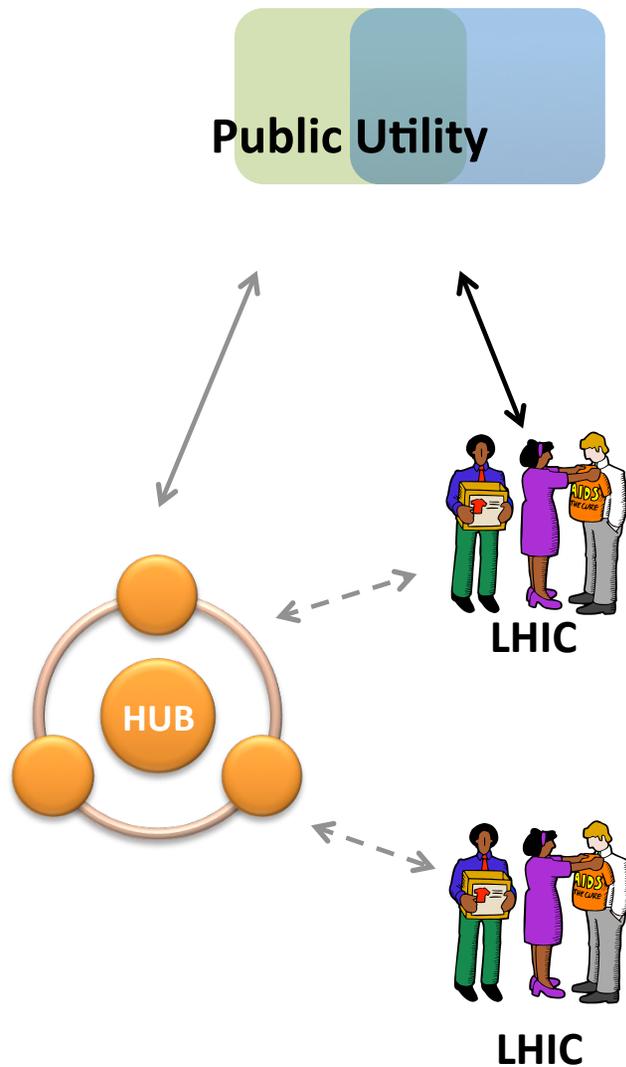


HUB Role/Responsibilities



- Deploy “Hot Spotting” Intervention
- Oversight/management staff
- Ensure Fidelity to Intervention Model
- Quality Assurance/Quality Improvement
- Data Monitoring /Tracking/Reporting
- Collaborate with Local Health Improvement Coalitions that will act in an Advisory Capacity to the HUB (advisory committee)
- Participate in HUB learning system to share data and improve processes

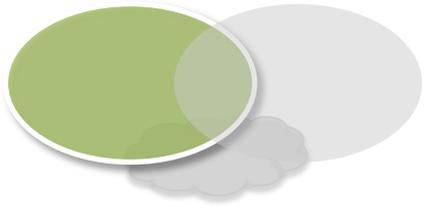
LHIC Role in CIMH



LHIC and HUB: where the LHIC is not serving as the HUB, the LHIC will act in an advisory capacity with their corresponding HUB. The LHIC will be part of the HUB advisory committee and provide direct input to the HUB. HUBs will report data quarterly to LHIC on intervention progress/outcomes and attend LHIC meetings to strengthen collaboration within the jurisdiction to support HUB interventions. Both are accountable to Community-Based Public Utility

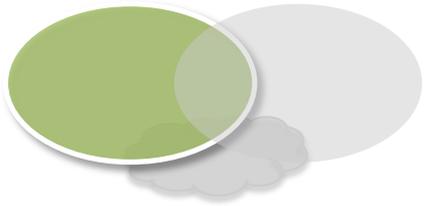
LHIC Role in CIMH:

- State Health Process Improvement Process (SHIP)/ Local Action Plan
- Oversight of population health
- Convening entity with partners



LHIC Charter

Charter Elements	Description
Mission/ Scope	<ul style="list-style-type: none"> • Oversight of Population Health • Conduct Community Needs Assessment • Prioritization of population health needs (SHIP measures) • Convening/facilitating partnerships to align strategically to address population priorities • Health and community resource inventory and connections • Monitoring health status of the community
Leadership/ Chair(s)	Health Officer/Hospital Leadership/CBO/Executive Council Member/Other
Organization Structure	Local Health Department, 501c3, Hospital Based
Coalition Members	LHD Agencies/Hospital/Primary Care/Community Based Org/Schools/Foundation/ Payers
Reporting	Outcomes based reporting to DHMH HSIA
Measures of Success	SHIP Priority Measures



HUB RFP Criteria



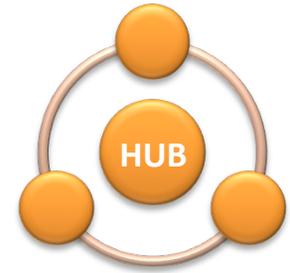
DHMH Community-Based Public Utility, in collaboration with the Maryland Community Health Resource Commission (MCHRC), will conduct an RFP process. Eligible entities include: LHD, Hospital, LHIC, 501c3 community based organization, or a collaborative partnership.

HUB Selection Minimum Criteria:

- Administrative infrastructure (HR, Finance, Procurement)
- Data Analytics/Quality Assurance/Quality Improvement
- Conduct education, outreach, care coordination/management, insurance eligibility/enrollment
- Experience working with vulnerable and hard-to-reach populations
- Experience working with primary care providers, specialists and hospitals
- Partner Local Health Departments (LHDs)/Local Health Improvement Coalitions (LHIC)/ Local Departments of Social Services (LDSSs)

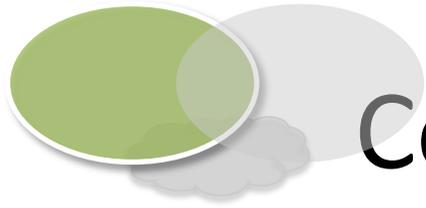


HUB Staffing

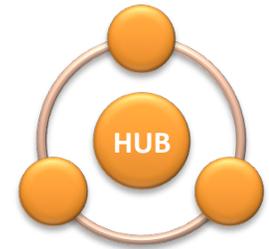


- Program Manager (1.0 FTE)
- Data Analyst/QI (0.5 FTE)
- Registered Nurses (RN) (1.0 FTE/5 CHW)
- Community Health Workers (CHW) (1.0 FTE/50-75 patients)

The ratio of RN to oversee CHW will depend on the intervention. RNs and CHW will work together in intake/assessment phase to determine the action plan and level of support required by each patient.



Cost of HUB Intervention

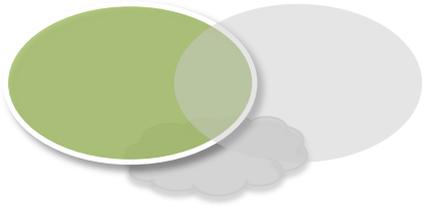


Estimated cost of intervention for 1,000 patients:

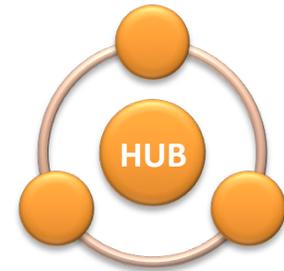
- Program Manager (1.0 FTE) = \$75,000
- Data Analyst/QI (0.5 FTE) = \$35,000
- 3 Registered Nurses (RN) (1.0 FTE/5 CHW) = \$65,000
- 15 Community Health Workers (CHW) (1.0 FTE/ 50-75 patients) = \$35,000
- Overhead/Fringe = 25%

\$1.0M Annually

1000 patients = \$85 PMPM



Illustrative Example: Prince George's County



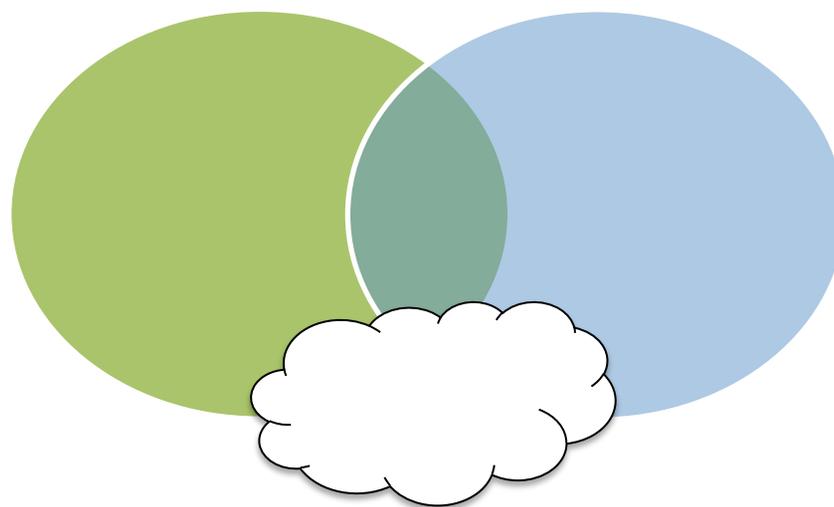
Total Pop. Prince George's County = 881,138

High Utilizers that comprise 10% of total cost = 10,661

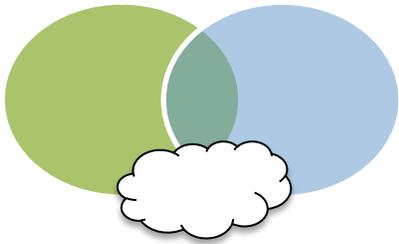
Scale up over 5 years:

- YR1 = 1,000 pts. enrolled in HUB (3 RNs; 15 CHWs)
- YR2 = 3,000 pts. enrolled in HUB (9 RNs; 45 CHWs)
- YR3 = 5,000 pts. enrolled in HUB (15 RNs; 75 CHWs)
- YR4 = 7,500 pts. enrolled in HUB (25 RNs; 125 CHWs)
- YR5 = 10,000 pts. enrolled in HUB (34 RNs; 165 CHWs)

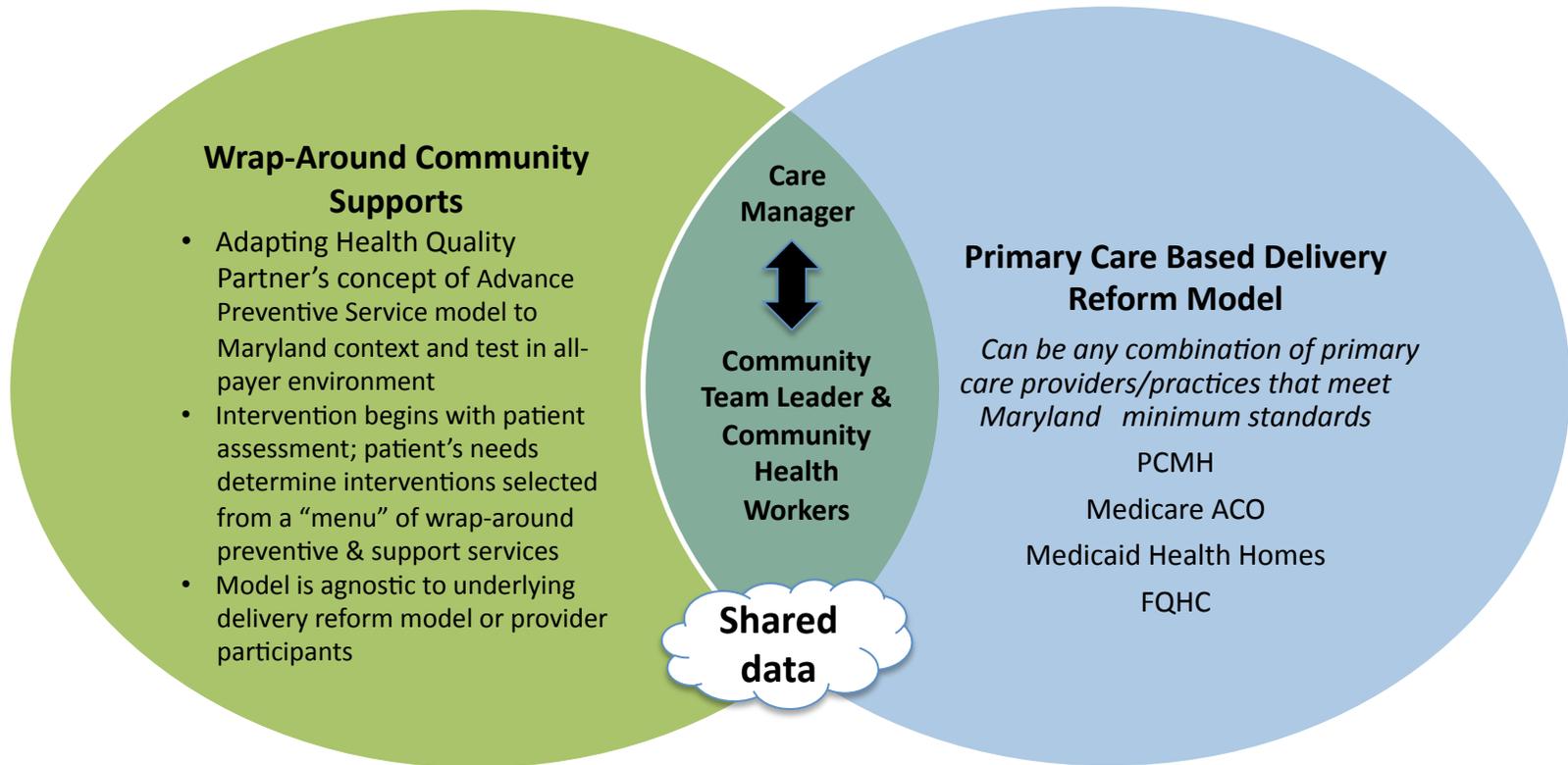
Any Questions or
Comments?



Putting It All Together: A Community-Integrated Approach to Childhood Asthma

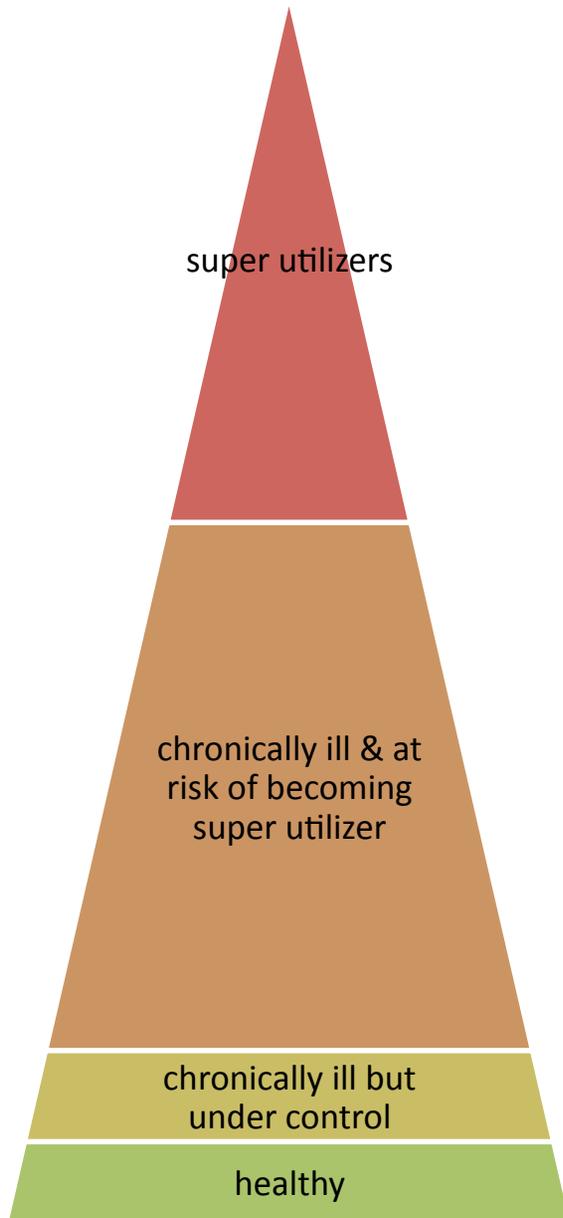


Community-Based & Clinically-Integrated Hot Spotting Model



Benefits of agnostic/community model include:

- Model does not rely on PCMH practice transformation, for which ROI is unclear and can take 2-3 years
- Reduced demand on practice by high need patients
- Potential for greater payer/provider buy-in: does not "interfere" with existing models; lots of upside, little downside



HQP's APS Model Applied to Maryland	
Pop. Descr.	>= 65 yrs with HF, CHD, DIAB and/or COPD and 1+ hosp. adm. in prior yr.
Pop. Size	Est. 15-20% of Medicare population <ul style="list-style-type: none"> • counts for LHICs TBD; • State ≈ 129,000 ^[1]
Intervention	HQP Advanced Preventive Service
Care team composition and reach	nurse care manager (1 to 75 persons)
Intervention Cost	Est. \$150 – \$220 PPPM
Total \$ Savings	\$1,320 - \$3,960 PPPY x number of participants enrolled = annual savings
ROI	Est. 50-150%

Potential Variations to Fit Maryland Context

Variation #1: Younger ages, additional target conditions, risk factors, utilization thresholds, or exclusion criteria

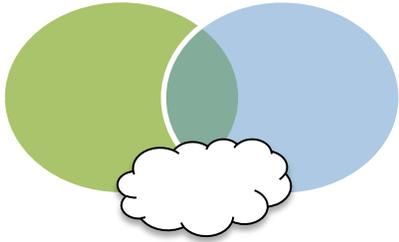
Variation #2: Interventions appropriate to population

Variation #3: Care team composition

- appropriate to intervention
- top-of-license workforce

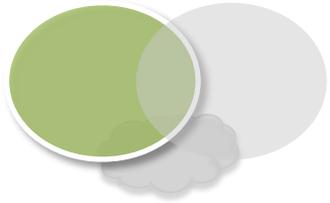
Variations will affect intervention cost, reach, total savings, and ROI

[1] Expecting to enroll about 1 in 4 (25%) of target pop. ≈ 32,250



Adapting the HQP Model for Children with Asthma

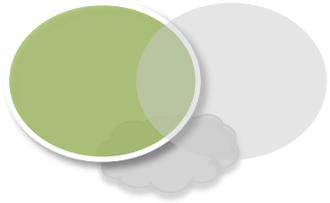
- Variations
 - Population age
 - Single disease focus
 - More services provided to all participants
 - More extensive environmental intervention
 - Community Health Team composition
 - Expected level of communication with PCP
 - Involves school health providers



Asthma Intervention Components

Comparison to HQP Model

Intervention Component	HQP	Asthma
Intake and assessments	X	X
Psycho-social assessments	X	X
Environment assessment	X	X
Environment remediation		X
Care planning	X	X
Care coordination	X	X
Education and self-management skills development	X	X
Medical management (including medication reconciliation and management)	X	X
Health Promotion (i.e. Nutrition, physical activity/exercise, weight management, tobacco cessation, stress management)	X	X
Discharge planning/care transitions	X	X
Elderly population specific activities (i.e. fall prevention, advance directives, advanced care planning)	X	



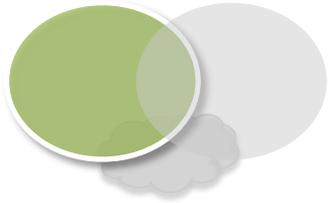
Steps in Intervention Design

1. Identify target population based on ROI opportunity
2. Review the literature to identify evidence-based interventions with demonstrated ROI
3. “Deconstruct” the interventions to its component parts
4. Identify optimally cost-effective workforce to implement the intervention component parts
5. Model intervention cost against anticipated savings to determine ROI & refine as necessary



Step #1: Why Address Childhood Asthma?

- Most common chronic disease in childhood
- Most common cause for school absence
- Significant disparities issue
- Poor outcomes are preventable
 - Quality guidelines-based medical care
 - Environmental/trigger control
 - Family support to improve
 - Self-management
 - Medication compliance
 - Environmental remediation compliance and maintenance



Step #2: The Evidence Base

- NHLBI asthma management guidelines
- Model programs
 - HQP, RAD, Seattle, Boston, Philadelphia
- Literature Review Topics
 - Hospital readmission prevention
 - Home visiting
 - Asthma environmental remediation
 - Asthma quality of life assessment
 - Behavior theory application to asthma
 - Economic analysis



Step #2: Intervention Design Process: Literature Review

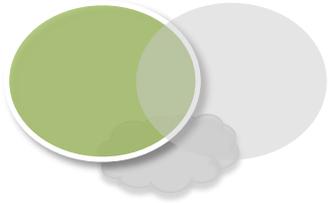
- Peer review journal articles with statistically significant results ($p < 0.05$)
- Outcomes of interest (ED; hosp; QOL; SFD; Rx)
- Diversity of target populations (Race/E; Geo)
- Details of intervention components provided
- Intervention staff (CHW;RN;AEC;RT)
- When possible, ROI or cost-benefit analysis



Step #3: Deconstructing Effective Asthma Interventions

- Components of asthma care
 - Medications
 - Inhaled Corticosteroids
 - Education for Patient Provider Partnership
 - Asthma Action Plan
 - Assessment and Monitoring
 - Severity
 - Control
 - Follow-up
 - Control of Environmental Factors

Expert Panel Report 3-Guidelines for the Diagnosis and Management of Asthma (EPR-3), National Heart, Lung, Blood Institute, 2007



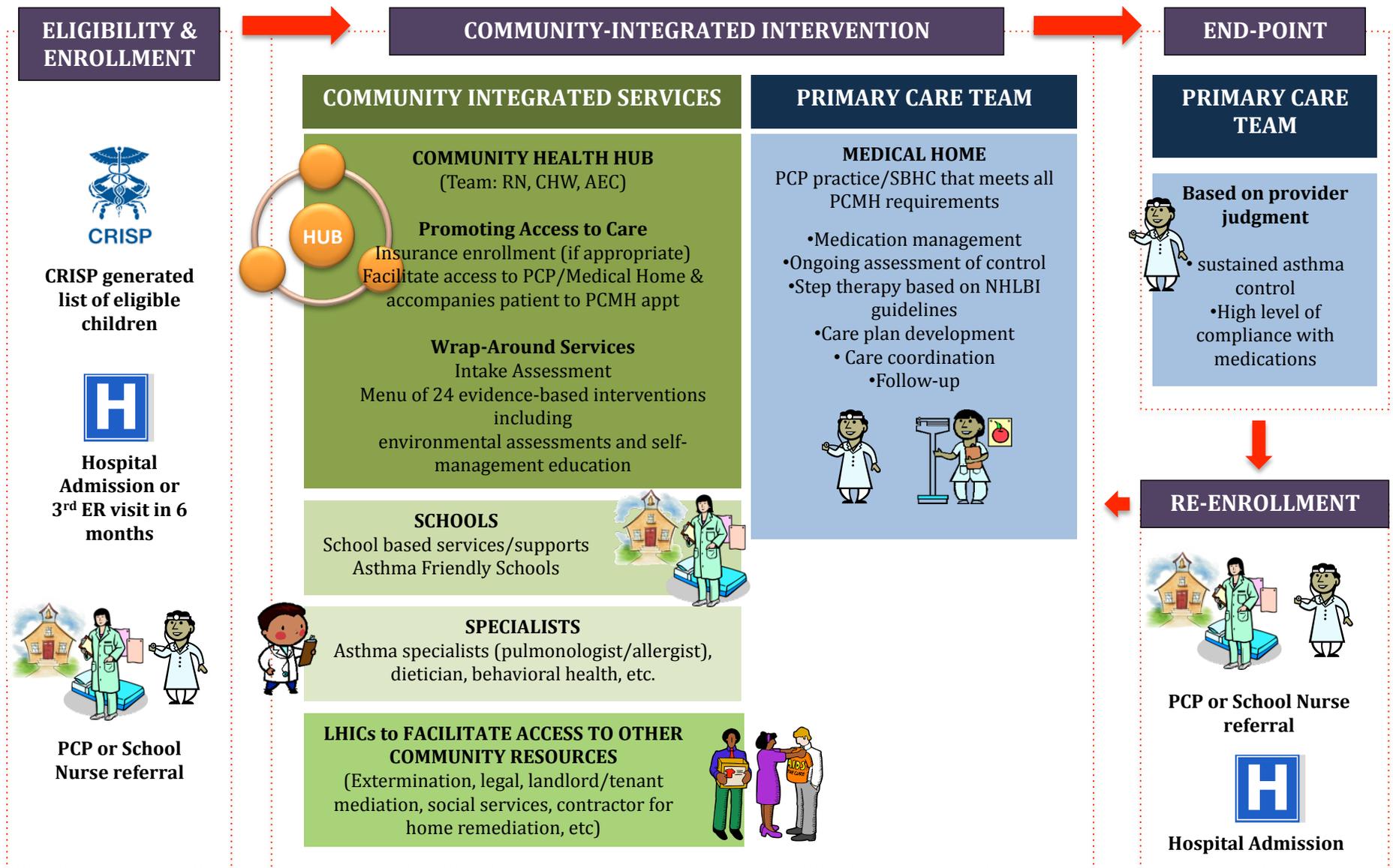
Step #4: Community Health Team for Asthma



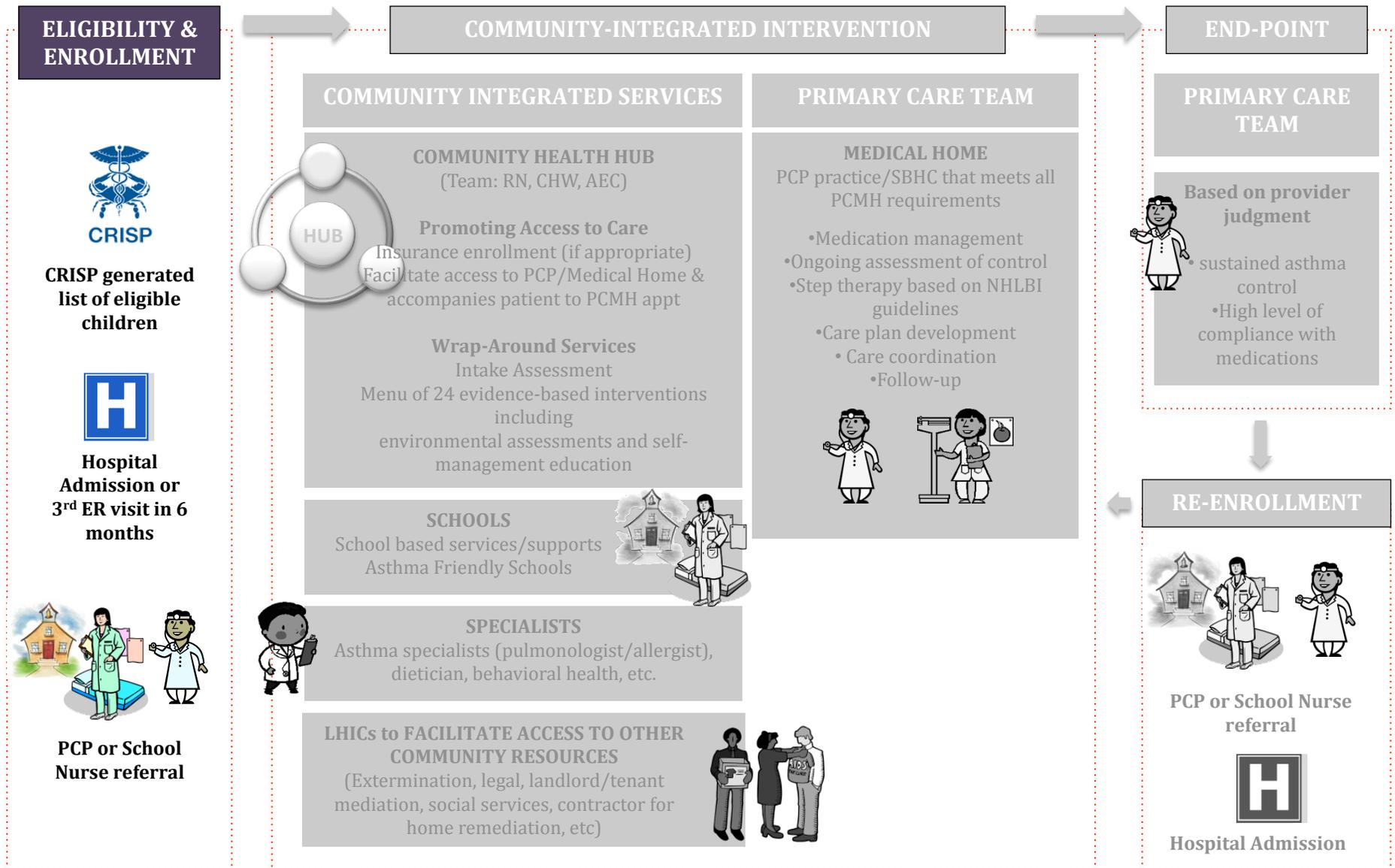
- RN
- CHW/Asthma Education Certification

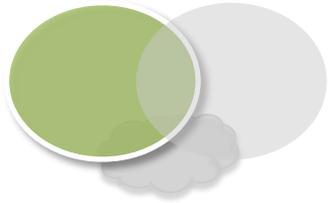
Programs Examined	Staffing Model
Seattle, WA	Clinic-based RN education CHW environmental remediation
Seattle, WA	CHW with ALA Asthma Educator Institute and Master Home Environmentalist training
Boston, MA	RN Case Manager plus RN and/or CHW HV
Philadelphia, PA	Trained CHW
Inner-City Asthma Study (7 cities)	Lay Environmental Coach + Social worker
HQP -- Pennsylvania	RN
RAD – Baltimore City, MD	CHW with RN supervision

Proposed Asthma Intervention



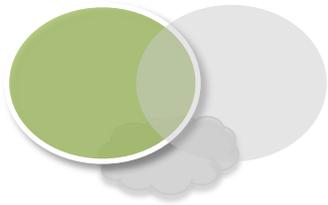
Proposed Asthma Intervention



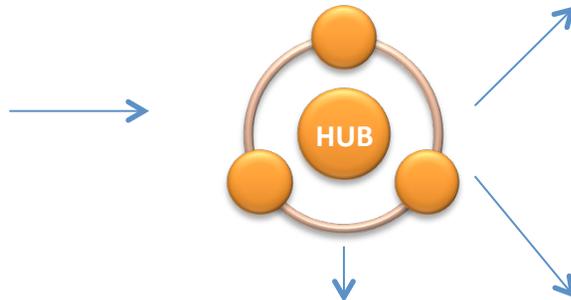


Eligibility Assessment

- Eligibility Criteria
 - ≤ 20 YO AND
 - Asthma diagnosis AND
 - History of avoidable ER (>2 ER visits in 6 months) or avoidable hospital use (≥ 1 hospitalization in 12 months) OR
 - PCP or School Nurse referral on basis of being at risk of avoidable ER or hospital use



Enrollment: Prior History of High Cost



CRISP runs an analysis of all asthmatic patients with ≥ 1 avoidable hospitalization in the past 12 months or >2 avoidable ER visits in the past 6 months



Hub is alerted and assigns CHT member to each case

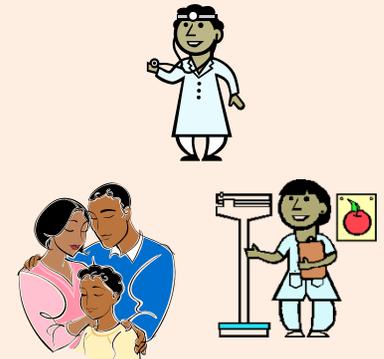
Scenario 1: patient has a PCP



PCP on record is alerted and assist with outreach to patient regarding participation; consent secured



CHT member secures follow-up appointment with PCP



CHT member attends follow-up visit with the family

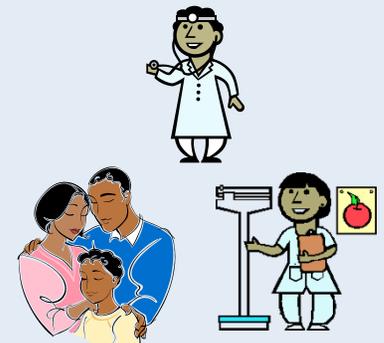
Scenario 2: patient doesn't have a PCP



School nurse will be alerted and assist with outreach to patient regarding participation; consent secured.

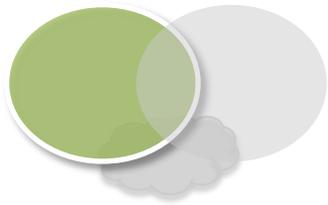


CHT member will help patient obtain insurance (if necessary), secure PCP, schedule an appointment



CHT member attends PCP visit with the family

Enrollment: Hospital/ER Use for Asthma



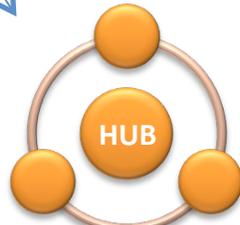
Asthmatic patient has avoidable hospital admission or third avoidable ER visit within 6 months



Admission is logged in real-time to CRISP



PCP on record is alerted



Hub is alerted and assigns CHT member to the case



Scenario 1: patient has a PCP



PCP assists with outreach to patient regarding participation; consent secured; assists with care transitions for patient, working in concert with hospital and CHT member



CHT member secures follow-up appointment with PCP



Patient discharged: CRISP sends alert to PCP & HUB



CHT member attends follow-up visit with the family



Scenario 2: patient doesn't have a PCP



Hospital to assist with outreach to patient regarding participation; consent secured; CHT member to work with hospital to begin discharge planning while PCP is being secured.

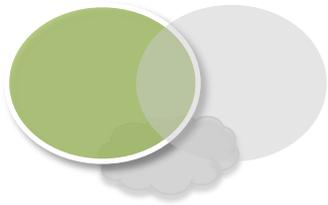


Will also help patient obtain insurance (if necessary), secure PCP, schedule an appointment



CHT member attends PCP visit with the family





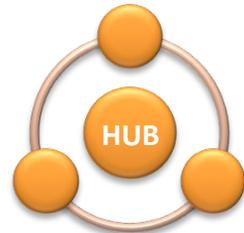
Enrollment: PCP/School Nurse Referral



PCP assists with outreach to patient regarding participation; secures consent; alerts hub about high-risk patient

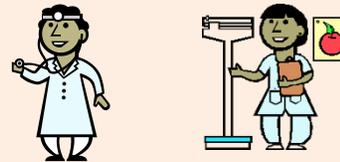


School nurse assists with outreach to patient regarding participation; secures consent; alerts hub about high-risk patient

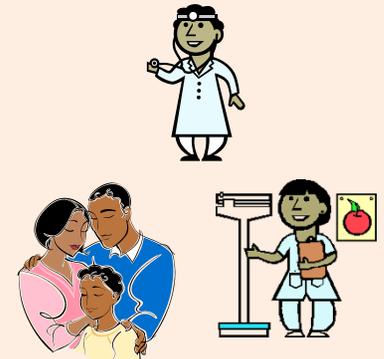


Hub is alerted and assigns CHW member to each case

Scenario 1: patient has a PCP



CHW member secures follow-up appointment with PCP

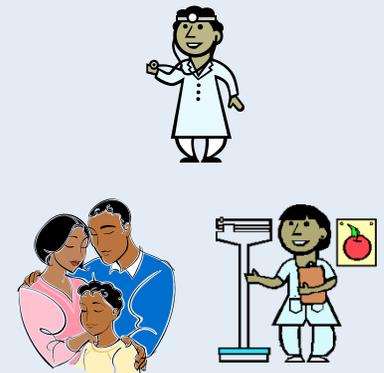


CHW member attends follow-up visit with the family

Scenario 2: patient doesn't have a PCP

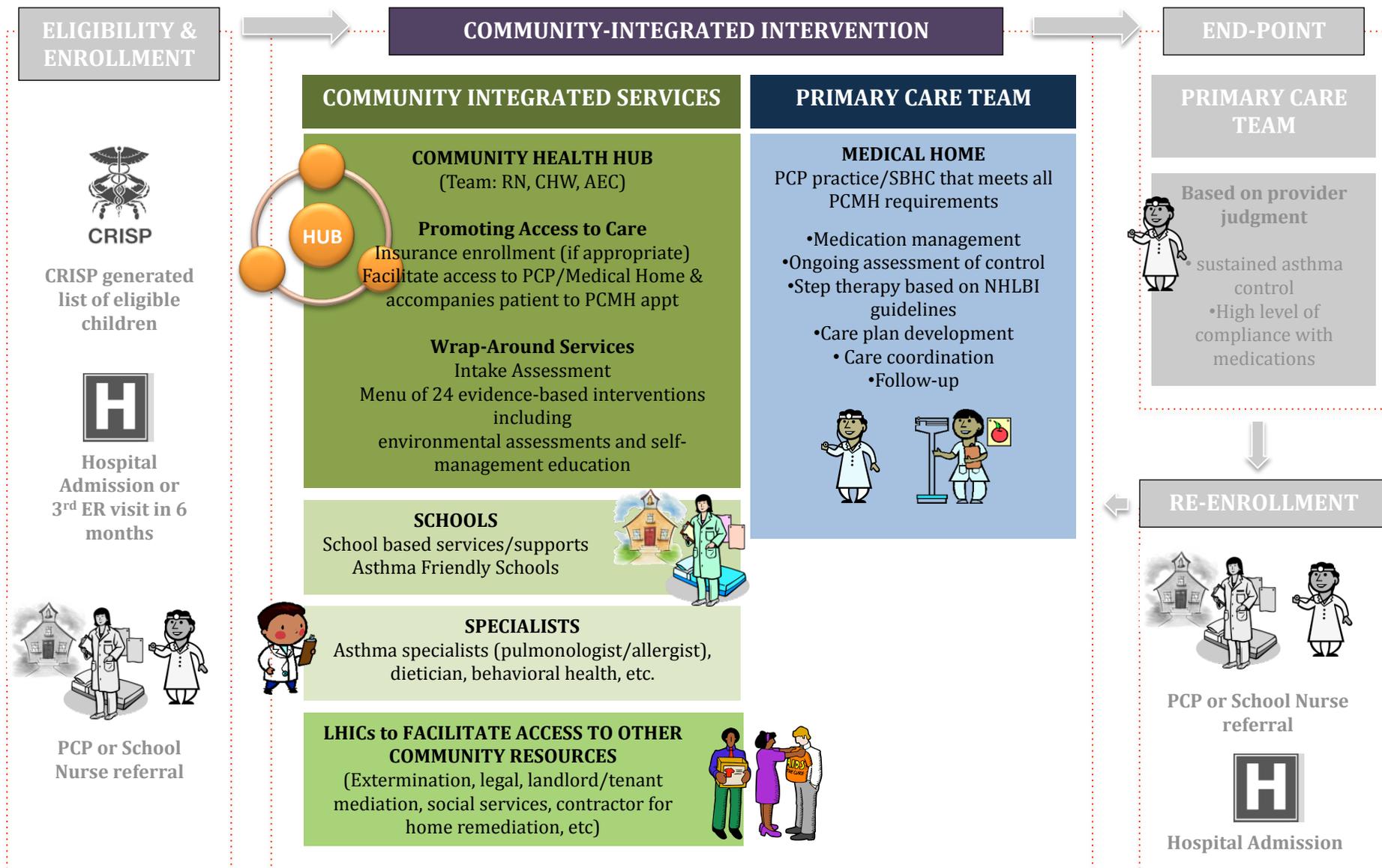


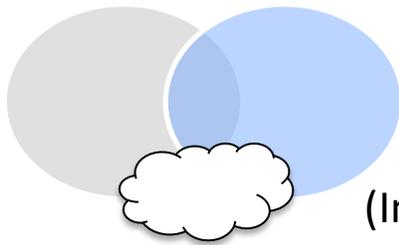
CHW member will help patient obtain insurance (if necessary), secure PCP, schedule an appointment



CHW member attends PCP visit with the family

Proposed Asthma Intervention



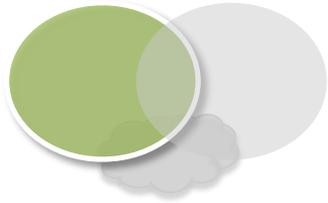


Primary Care Provider Interventions

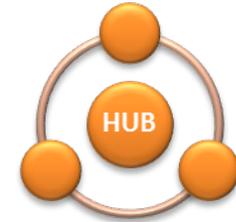
(Including School based Health Centers that meet the PCMH Standards)



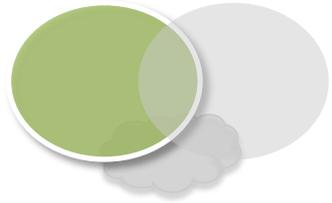
Dimension	Maryland minimum standards for primary care practices to be a participating provider in a CIMH	Examples of Related Intervention Activities of the PCP
Enhance access and continuity	<ul style="list-style-type: none"> • Accept Medicaid and Medicare enrollees, to constitute at least x% of total patient panel • Focus is on team-based care with trained staff 	<ul style="list-style-type: none"> • Work with HUB to assess insurance eligibility and enrollment
Plan and manage care, including tracking and coordinating care	<ul style="list-style-type: none"> • Collection and sharing of data for population management • Active engagement in formulating and executing patient care plan • Active engagement in tracking and coordinating tests, referrals, and care at other facilities • Active engagement in managing care transitions • Collaborate with CIMH Community Team Leader, CHWs, and LHIC 	<ul style="list-style-type: none"> • Guidelines-based asthma assessment & control • Guidelines-based asthma medication use • Make specialty referrals based on need (e.g. dietician, allergist, pulmonologist, etc.) • Assess weight, smoking status, immunization status • Communicate with HUB regarding follow-up plans and care plan development including at time of hospital discharge
Provide self-care support and community resources	<ul style="list-style-type: none"> • Participate in CIMH • Assist in providing or arranging for mental health/substance abuse treatment • Referral to & coordination with other community resources • Assist in counseling patients on healthy behaviors • Assist in identifying candidates for wrap-around service • Collaborate with CIMH Community Team Leader, CHWs, and LHIC 	<ul style="list-style-type: none"> • Communicate with patient's school: <ul style="list-style-type: none"> • Changes in medication, severity or control • Medication forms • Asthma action plan • Counsel if elevated BMI, uses tobacco • Refer patients to the HUB for intervention participation
Measure and improve performance for entire patient population	<ul style="list-style-type: none"> • Participate in CIMH • Use performance data (e.g. CRISP ENS/ERS) to monitor utilization and performance and continuously improve • Agree to use of common performance metrics • Participation in integrated evaluation 	<ul style="list-style-type: none"> • Sign up to receive real-time alerts from CRISP to monitor avoidable hospital and ER use • Agree to common metrics <ul style="list-style-type: none"> • Use of approp. medication • Asthma assessment • Weight assessment and counseling • Childhood immunization • Tobacco use screening & treatment



HUB Interventions



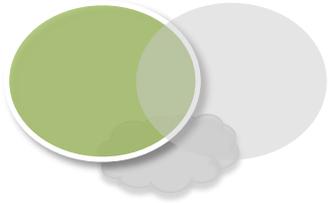
<p>Intake and assessments</p> <ul style="list-style-type: none"> • Asthma Impact • Control and caregiver • QOL assessments • Behavior change (SCT assessment tool) • Ongoing assessments and screening 	<p>Medical management with physician</p> <ul style="list-style-type: none"> • Report new or worsening symptoms, abnormal findings, psychosocial issues to PCP • Coordination on regular follow-up and ongoing treatment planning and routine preventive care
<p>Psycho-social assessments (including assessments of caregiver self-efficacy) and Information and Referral</p>	<p>Medication reconciliation and management</p> <ul style="list-style-type: none"> • Assess compliance and understanding of medications
<p>Environment assessment and remediation</p> <ul style="list-style-type: none"> • Home environmental allergen assessment and remediation <ul style="list-style-type: none"> • Emphasis on child’s bedroom • School environmental assessment and plan <ul style="list-style-type: none"> • CDC tools “How Asthma Friendly is Your School/Child care?” 	<p>Health promotion</p> <ul style="list-style-type: none"> • Quit smoking education and counseling • Weight loss/maintenance • Individual exercise plan/program • Nutrition counseling • Physical activity/exercise counseling • Tobacco cessation • Stress management education and counseling
<p>Care planning</p> <ul style="list-style-type: none"> • Asthma action plan 	<p>Discharge planning/care transitions</p>
<p>Care coordination</p>	
<p>Education and self-management development</p> <ul style="list-style-type: none"> • Asthma education based on EPR-3 guidelines • Asthma self-management training 	



Specialist Interventions



- Allergist/Pulmonologist
 - Allergy testing
 - Home remediation recommendations
 - Pulmonary function testing
- Dietician
 - Weight management counseling
 - Dietary recommendations
- Psychologist
 - Address family/child stressors and other concerns
- Pharmacists
 - Medication education and counseling to increase compliance
 - Communicate with PCP regarding prescription refill patterns



School Based Services



- Goal: 1) Provide effective asthma management to support academic success**
2) Support PCP and Collaborates with HUB

- Appraisal and assessments
- School care plan development
- Medication management
- Individualized asthma education
- Monitoring of academic performance and absenteeism
- Communication with family, PCP, specialists, HUB for care management and coordination
- Environmental assessment with assistance from HUB
- Asthma Friendly Schools designation with assistance from HUB

MANAGEMENT OF STUDENTS WITH ASTHMA

MARYLAND STATE SCHOOL HEALTH SERVICES
GUIDELINE

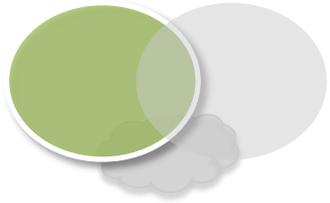
FEBRUARY 2013

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MARYLAND STATE DEPARTMENT OF
EDUCATION
Preparing World-Class Students

MARYLAND
Department of Health
and Mental Hygiene

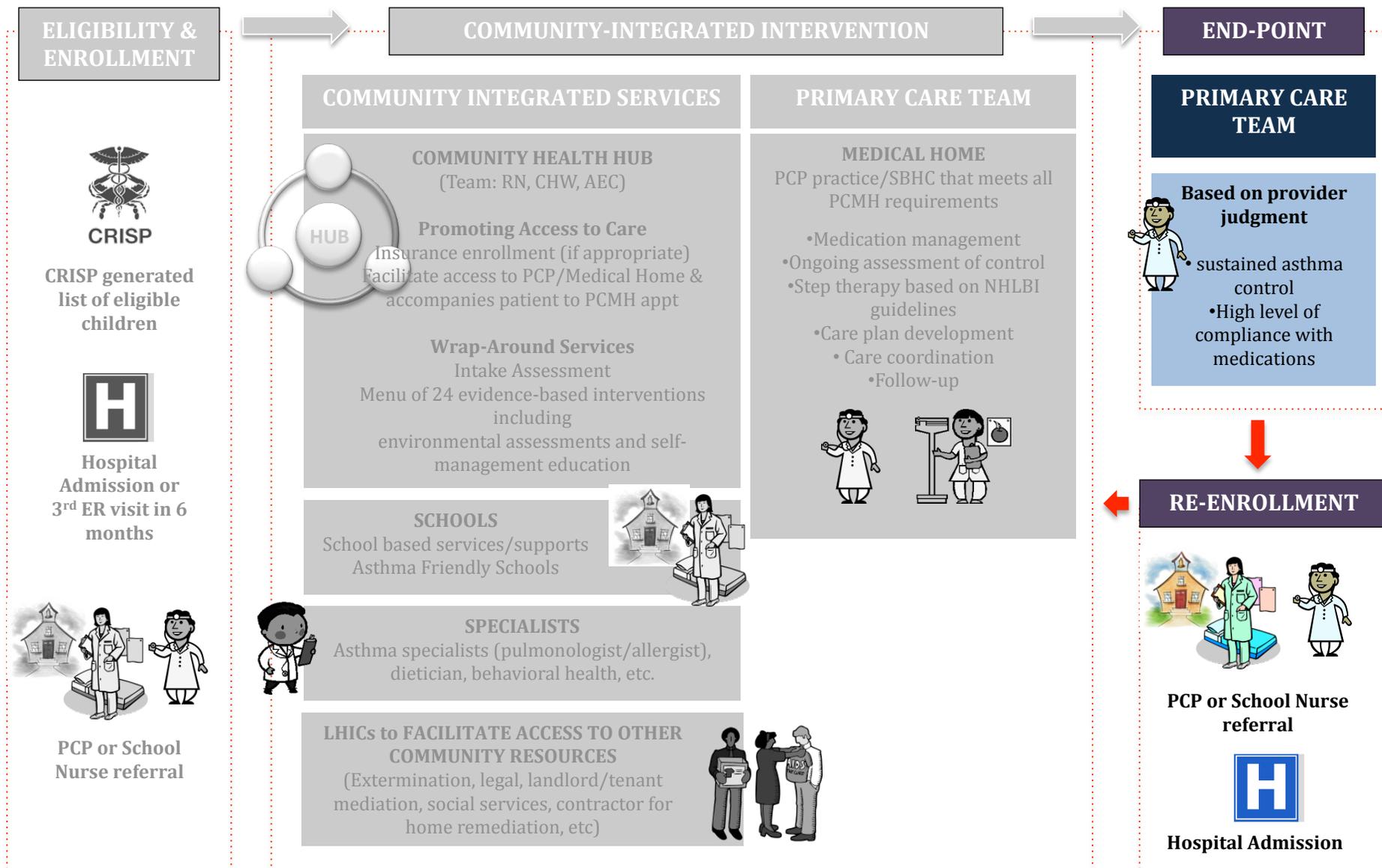


Local Health Improvement Coalition



- Support Intervention Implementation
 - Convene local stakeholders to discuss implementation process and outcomes
 - Monitor process data to foster and facilitate learning about the intervention strengths and weaknesses
 - Advise on model implementation modifications if needed
- Serve as expert in knowledge of local resources
- Monitoring SHIP measures to communicate to HUB and other stakeholders

Proposed Asthma Intervention





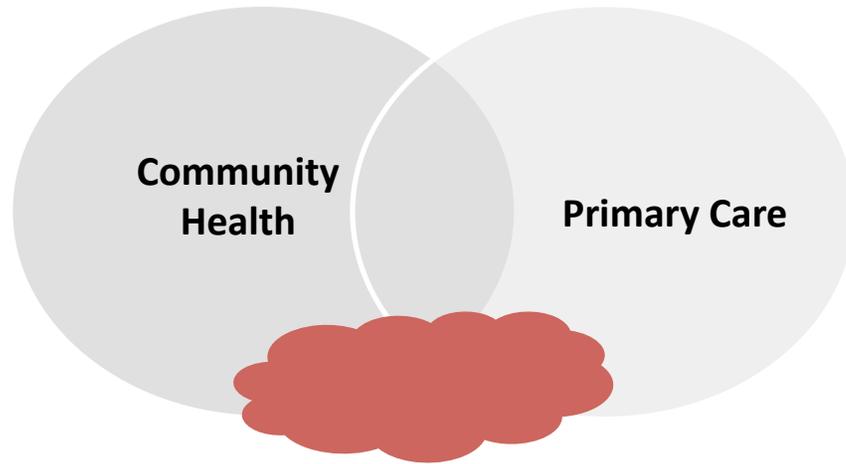
End Point

Re-admission to program

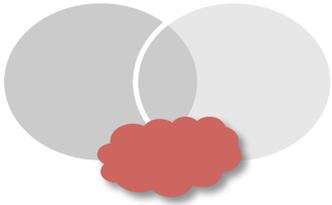
- Endpoint
 - Based on Provider judgment
 - Sustained asthma control
 - High level of compliance with medications
- Re-admission
 - Concerns by PCP or school regarding medication compliance
 - Evidence of poor-control (ED/Hosp)

Next Steps for Intervention Design

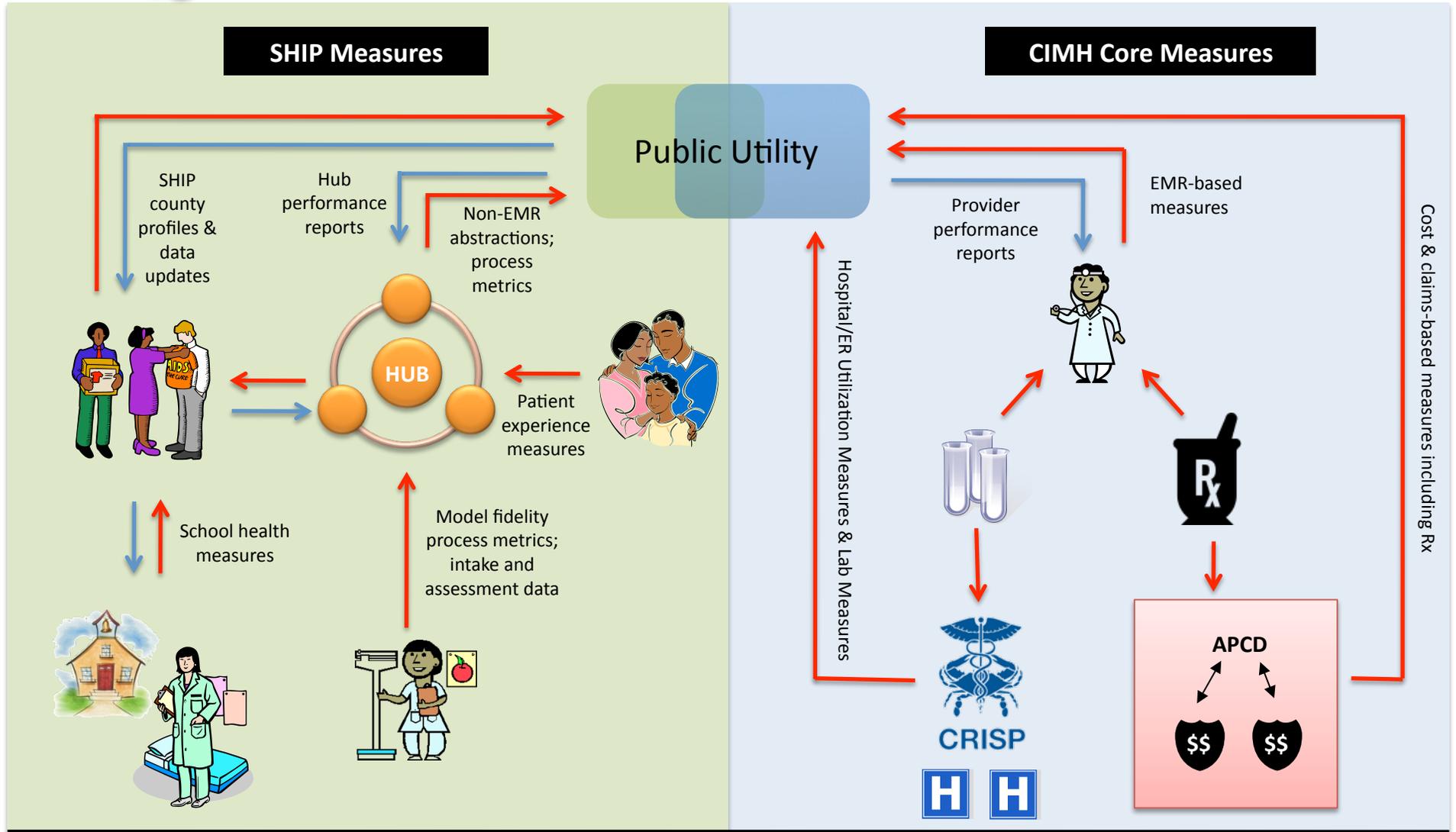
1. Identify target population based on ROI opportunity
2. Review the literature to identify evidence-based interventions with demonstrated ROI
3. “Deconstruct” the interventions to its component parts
4. Identify optimally cost-effective workforce to implement the intervention component parts
5. Model intervention cost against anticipated savings to determine ROI & refine as necessary



Performance Monitoring



Performance Monitoring



SHIP Measures

CIMH Core Measures

Public Utility

SHIP county profiles & data updates

Hub performance reports

Non-EMR abstractions; process metrics

HUB

Patient experience measures

School health measures

Model fidelity process metrics; intake and assessment data

Provider performance reports

EMR-based measures

Hospital/ER Utilization Measures & Lab Measures

Cost & claims-based measures including Rx

APCD

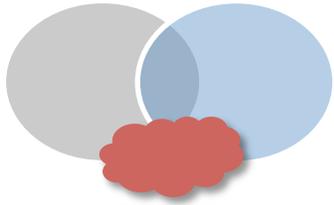
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CRISP

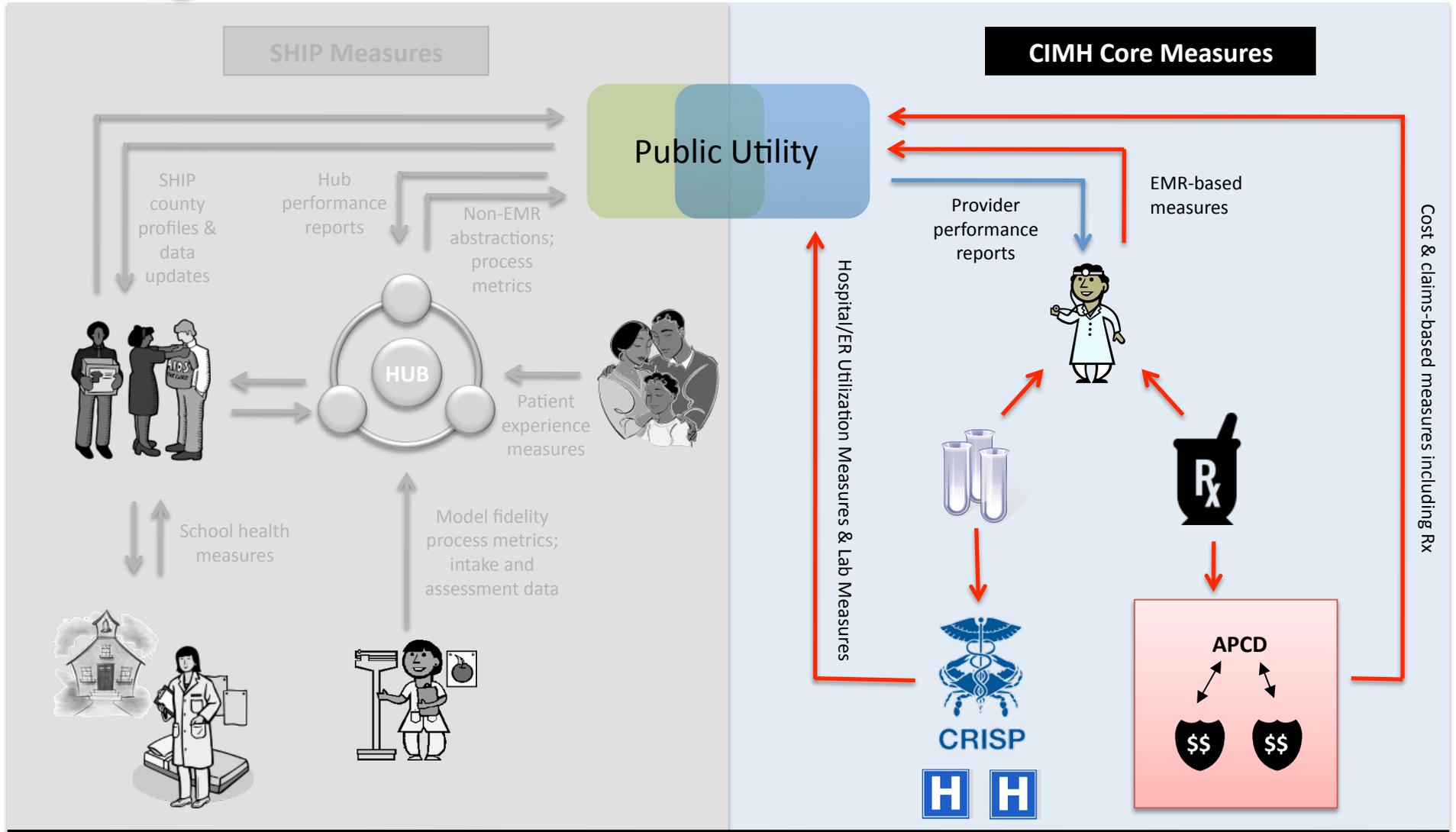
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Feedback reports from Utility

Data collection/reporting to Public Utility

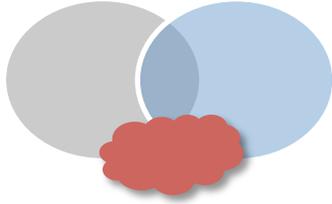


Performance Monitoring



— Feedback reports from Utility

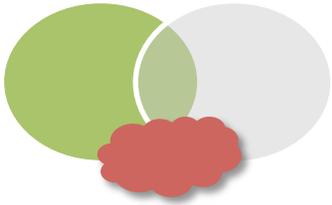
— Data collection/reporting to Public Utility



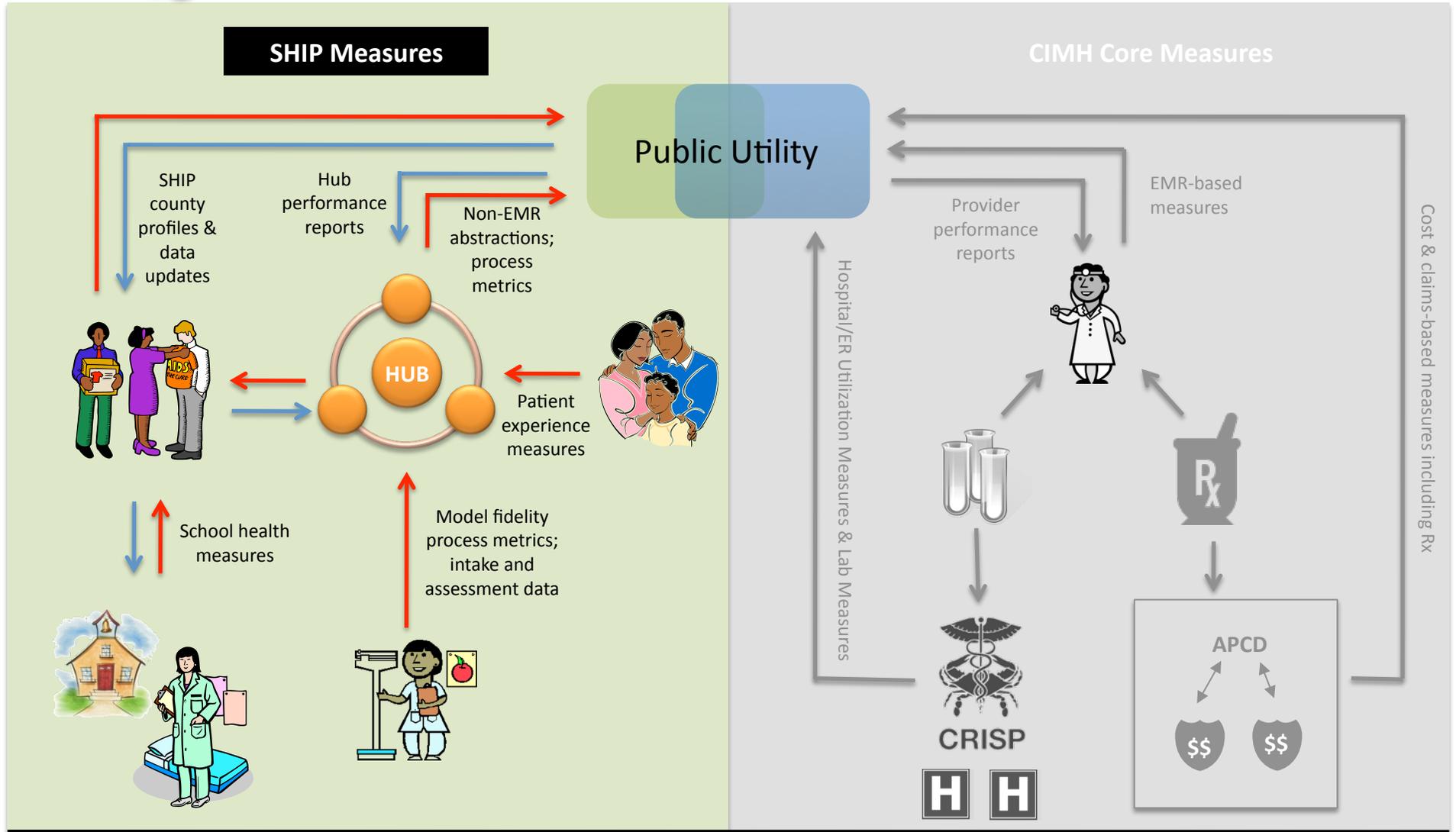
CIMH Core Measure Set: Children

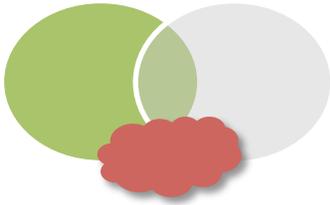
Type	NQF	Measure Description	Data Source
Utilization	69	Appropriate Treatment of Children with Upper Respiratory Infection	APCD
	AHRQ	Preventable Hospitalizations: AHRQ PDI	CRISP
	2	Appropriate Testing for Children with Pharyngitis	APCD
prevention and screening	24*	Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents	EMR/Hub
	38*	Childhood Immunization Status	APCD
	1392*	6+ Well Child Visits, 0-15 months	APCD
	28*	Preventive Care & Screening: Tobacco Use Assessment	EMR/Hub
	28*	Preventive Care & Screening: Tobacco Cessation Intervention	EMR/Hub
asthma	1	Asthma Assessment	APCD
	47*	Use of Appropriate Medications for People with Asthma	APCD + Rx
	1381*	ER Use for Asthma	CRISP
mental health	108	ADHD: Follow-up Care for Children Prescribed ADHD Medication	APCD + Rx

* HHS preferred measure



Performance Monitoring





SHIP Metrics

Vision Area	State Health Improvement Process Objectives	2012 Update
1	1. INCREASE LIFE EXPECTANCY	●
Healthy Babies	2. Reduce infant deaths	●
	3. Reduce the percent of low birth weight births	●
	4. Reduce sudden unexpected infant deaths (SUIDs)	●
	5. Reduce the teen birth rate	●
	6. Increase % of pregnant women starting care in the 1st trimester	⌘
Healthy Social Environments	7. Reduce child maltreatment	●
	8. Reduce the suicide rate	●
	9. Decrease the rate of alcohol-impaired driving fatalities	●
	10. Increase the % students entering kindergarten ready to learn	●
	11. Increase the percent of students who graduate high school	●
Safe Physical Environments	12. Reduce domestic violence	●
	13. Reduce the percent of young children with high blood lead levels	●
	14. Decrease fall-related deaths	●
	15. Reduce pedestrian injuries on public roads	●
	16. Reduce Salmonella infections transmitted through food	●
Infectious Disease	17. Reduce hospital emergency department visits from asthma	●
	18. Increase access to healthy food	⌘
	19. Reduce the number of unhealthy air days	●
	20. Reduce new HIV infections among adults and adolescents	●
	21. Reduce Chlamydia trachomatis infections	●
	22. Increase treatment completion rate for tuberculosis patients	●
	23. Increase % of young children with recommended vaccinations	●
	24. Increase the % vaccinated annually against seasonal influenza	⌘
Chronic Disease	25. Reduce deaths from heart disease	●
	26. Reduce the overall cancer death rate	●
	27. Reduce diabetes-related emergency department visits	●
	28. Reduce hypertension-related emergency department visits	●
	29. Reduce drug-induced deaths	●
	30. Increase the proportion of adults who are at a healthy weight	⌘
	31. Reduce the proportion of children who are considered obese	●
	32. Reduce the proportion of adults who are current smokers	⌘
	33. Reduce the % of youths who use any kind of tobacco product	⌘
34. Reduce emergency visits related to behavioral health conditions	●	
Healthcare Access	35. Reduce % of hospitalizations related to Alzheimer's disease	●
	36. Increase the proportion of persons with health insurance	●
	37. Increase % of adolescents with an annual wellness checkup	●
	38. Increase % of individuals receiving dental care	⌘
	39. Reduce % of individuals unable to afford to see a doctor	⌘

Any Questions or
Comments?



Payment Model



Payment Model Design

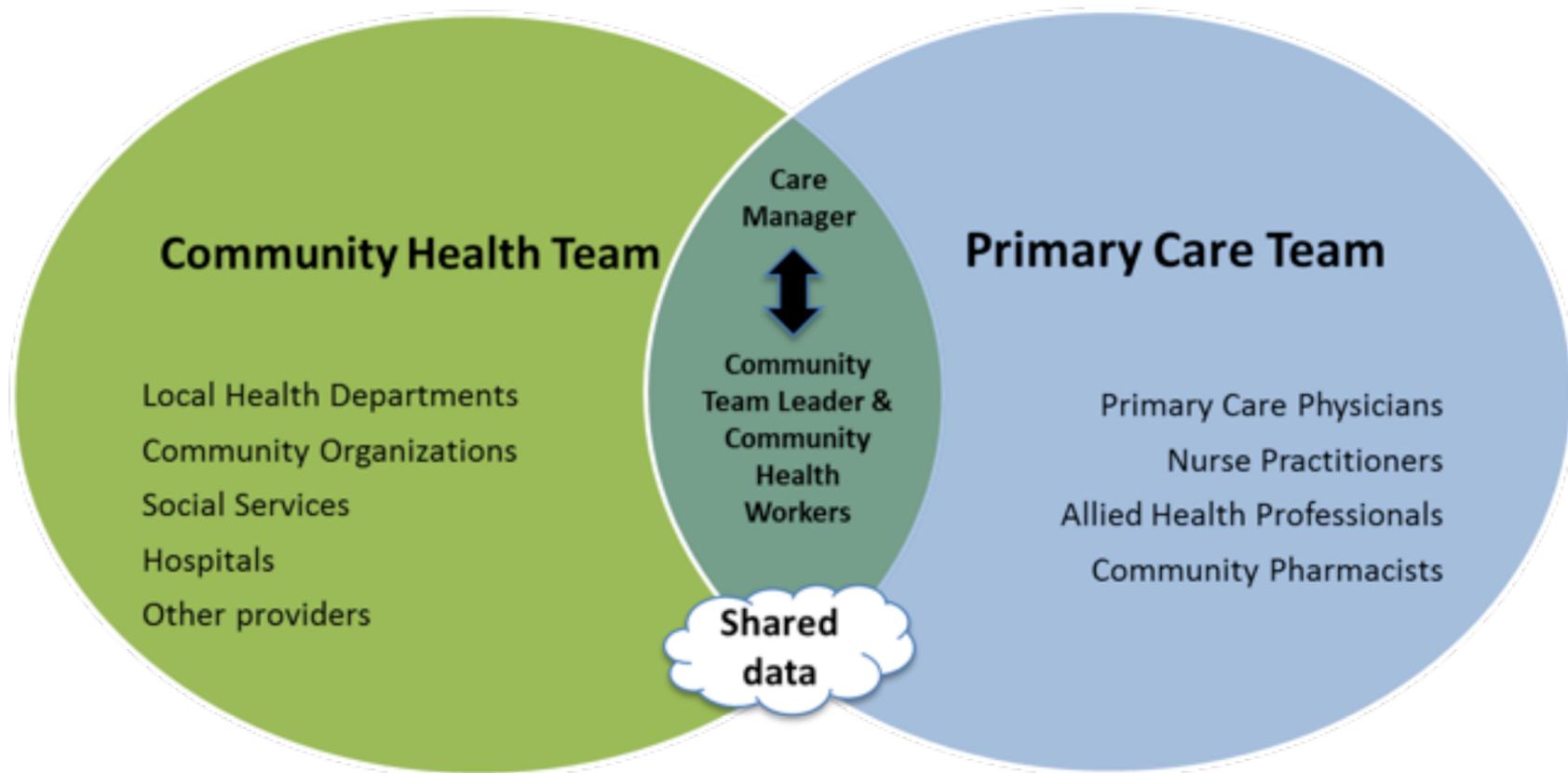
- Payment model is for how Community Health Interventions will be paid
- Shaped by CMMI guidance on payment model design offered to Challenge Award applicants
 - <http://innovation.cms.gov/Files/slides/HCIATwoPymtMdl.pdf>
- Two payers initially envisioned in the Maryland SIM are Medicare and Medicaid
 - Other payers will be inclined to participate as a track record of effectiveness develops



Key Elements of Payment Model Design

- Return on investment – achieving net savings
- Payment details – how funds flow
- Payment principles – creating incentives
- Risk parameters – addressing financial risk
- Progression – how model parameters will progress over time

Background: CIMH





Review of Proposed Models and Stakeholder Feedback

- Service Delivery Model
 - Delivery reforms under SIM should not interfere with other reforms underway (e.g., ACOs, PCMHs, etc.)
 - Community wrap-around service approach would be agnostic to and compatible with ongoing delivery reform models
- Payment Model
 - Payment models and fee schedules involving Primary Care (blue oval on right-hand side of CIMH diagram) would remain flexible and independent of State involvement in SIM
 - Community interventions (green oval on left-hand side of CIMH diagram) would be funded through payer contributions to a CIMH Public Utility based on target populations served



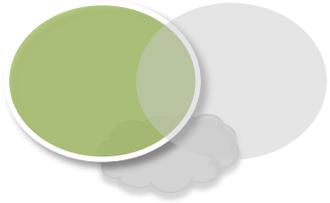
Community Health Interventions – Financed as a Public Utility

A capitation fee would be levied to fully finance the cost of an advanced, longitudinal, evidence-based community intervention exclusively structured for high-risk beneficiaries meeting target population criteria and supporting ongoing monitoring in the community.



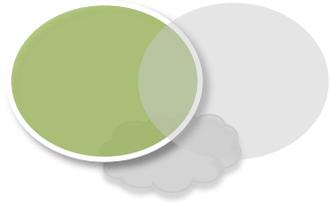
Payment Details

- The CIMH Public Utility has overall accountability for the operational support of the CIMH at the state level
- Community Health Hubs, (CHHs) – oversee implementation of Community Health Interventions (CHIs) regionally
 - CHHs could be LHICs, LHDs, or other types of organizations meeting pre-specified, qualifying criteria
- CIMH Public Utility receives payments from payers
 - Based on target population-specific care management capitation fee and number of individuals enrolled statewide
- CIMH Public Utility disburses funds to CHHs
 - Based on the number of participants actively receiving services (enrolled) at each CHH



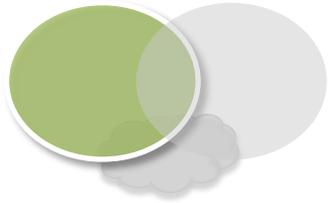
Key Features

- No downside financial risk borne by either the CIMH Public Utility or the CHHs – at least initially
 - If net savings for payers is not achieved, go forward options might include;
 - CHHs may receive additional support, be placed on probation, or terminated
 - CHIs may be modified, replaced, or dropped
- Additional upside bonus payments from payers to the CIMH Public Utility could be available if criteria are met;
 - Net savings to payers on a state-wide basis
 - Distribution to CHHs is related to # enrolled, impact on acute care utilization, and achievement of target levels of quality and service performance



Critical Success Factors

- Target population selection
 - Opportunity to improve health outcomes and reduce acute care costs must exist
- Community Health Intervention selection
 - Interventions with strong evidence of effectiveness and opportunity for a positive ROI
- Pricing the care management capitation fee
 - Fees must be based on best available evidence; lean, but sufficient to fully support effective interventions
- Operational excellence in delivering the community intervention with high reliability
 - Case finding, engagement, and processes of care, monitoring, and assessment



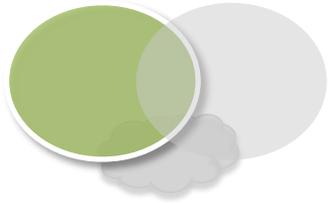
ROI – Return on Investment

- ROI is the net result of
 - CHI price
 - CHI effectiveness reducing acute care costs
- Pricing – based on operational implementation and ROI analyses for each CHI and target population pair
 - Lower pricing is not better if it adversely impacts program effectiveness
 - Evidence of CHI effectiveness is extremely important as is cautious, thoughtful estimation of same where gaps in evidence exist
- An active learning system will help hone both CHI price and effectiveness over time; improving ROI



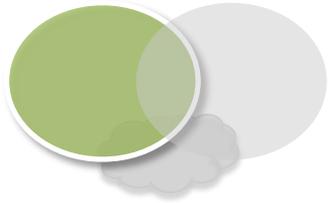
Financial Impact Evaluation Methods

- None are perfect, all have trade-offs
 - Randomized Controlled Trial
 - Propensity Score Matching
 - Wait List Control Group
 - Difference-in-differences modeling
 - Inflation-adjusted target pricing and analysis



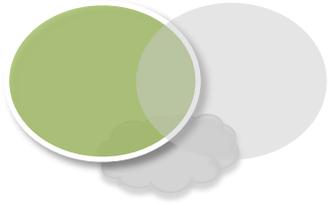
Payment Principles

- Encourages CHH case-finding, enrollment, and sustained engagement of target population
- Capitation provides flexibility of implementation of CHIs at local CHH level
- Means to prevent unintended consequences
 - Target population eligibility verification using independent data sources
 - CHI service and quality performance measures to be robust, transparent, and publicly available
 - Active real-time monitoring by each CHH and CIMH Public Utility
 - Corrective action options include CHI redesign, QI, fee reductions, or CHH contract termination



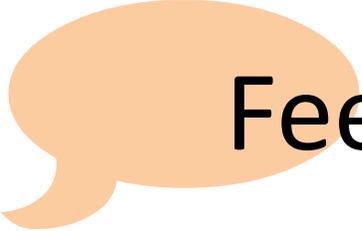
Risk Parameters

- No downside financial risk to the CIMH Public Utility or CHHs initially
 - After the testing period, when performance characteristics of CHI / Target population pairs are better understood, partial risk transfer may be desirable and feasible
- Lack of immediate risk borne by CIMH Public Utility or CHHs to be partially 'offset' by
 - Strong incentive alignment
 - Strict performance standards
 - Active monitoring
 - Robust outcome evaluations



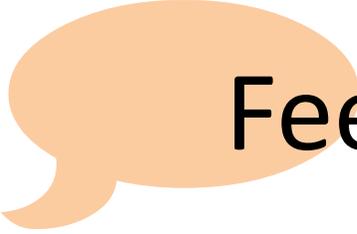
Progression

- Capitation fees for enrolled members of target populations leaves a 'start-up' funding gap
 - Covered by implementation test grant (if available)
 - As enrolled membership increases over time, payer funding of the CIMH model increases
- Later consideration of additional financial risk sharing by CIMH Public Utility or CHHs
- Recruitment of payers beyond Medicaid and Medicare as model proves its value



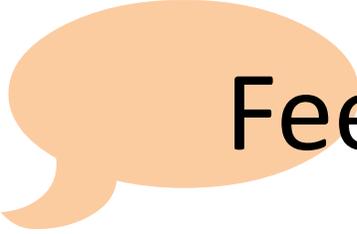
Feedback: Payment Model

Who is the target population or populations? It would seem that having some specific parameters on who the "community" (or communities) might be would help in defining outcomes of interest and the ROI that could be anticipated. Are we trying to target a group of geographically similar people or groups based on other factors, such as Medicare or age.



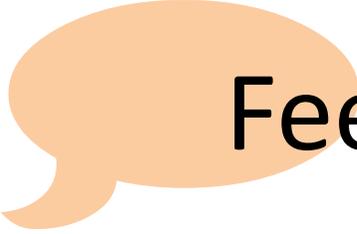
Feedback: Payment Model

- Which “providers” does this payment model pertain to.
- Is there a point in time that this payment model transitions to an all-payer model rather than Medicare and Medicaid focused?
- How do these payments to primary care (blue side) providers transition for those practices who are part of the multi-payer PCMH pilot (that is ending in a year or so)? How does it relate to ongoing payments for primary care (blue team) providers that are part of existing PCMH payments such as the Carefirst PCMH program?



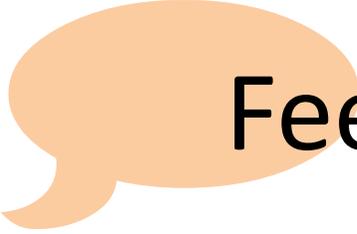
Feedback: Payment Model

Regarding risk, I think it would be favorable for all providers who are part of this, as a way of understanding the income and sustainability of this, to initially, for the first few years, receive funds without risk, and then have an option to continue and take on risk following that period of time. But to ensure adequate recruitment of providers, there should be an ability to bail out of the program prior to taking on financial risk... At every transition of increased risk, there should be an option for the provider to continue or not in the program



Feedback: Payment Model

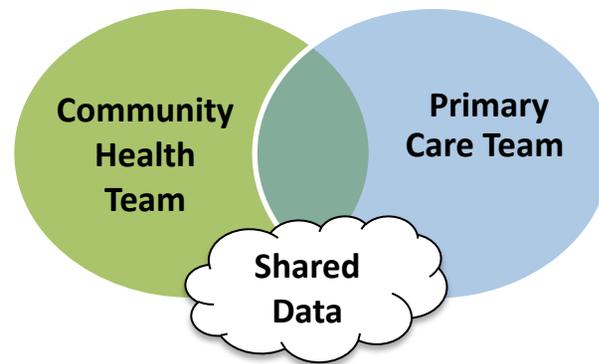
- I have some questions about the following passage from the ROI section of the plan: "...well-tested programs with good data on operational costs and solid evidence of improving health outcomes, reducing acute health service usage, and achieving a positive ROI are critical to the success of the Maryland State Innovation Plan. Following the best evidence available, it is advisable that price setting in the Maryland SIM context be sufficient to replicate best-in-class programs with fidelity."
- 1) The paragraph that follows the above quote mentions "data from published and unpublished sources". Can you please forward this data. The only specific evidence I recall is from the HQP experience. My recollection is that the HQP was limited to Medicare recipients with somewhat narrow demographic characteristics and living in a relatively restricted geographic area. Are there any other studies that look at Medicare recipients with demographic and geographic (urban/suburban/rural) distributions more similar to the state of Maryland?



Feedback: Payment Model

- 2) Since third party insurers have been part of this process, are there studies that have looked at community-based interventions in people under age 65?
- 3) Are there data from studies of community-based initiatives aimed at medically higher risk children and pregnant women? We should keep in mind that healthier early development may result in more LONG-TERM health savings than those aimed at seniors... Since the lifetime reduction in healthcare spending resulting from these prevented preterm births will not be measurable in a 2-5 year study period, the projected long-term financial benefits should be added into the statistical analysis with an evidence-based adjustment factor. There are also spillover societal benefits such as less special education students and fewer behavioral disorders that can lead increased juvenile justice services

Any Questions or
Comments?



CHW Workforce Development Technical Assistance and CIMH Readiness

Workforce Development and CIMH Readiness

- Conduct background research to inform Community Health Worker development
 - √ Inventory of training programs and CHW models
 - √ Identify best practices for integration of CHW into medical practices and broader health care system
 - √ Will present findings at LHIC stakeholder engagement process
- Technical assistance and CIMH readiness
 - Identify various ongoing TA and develop recommendation for streamlining
 - Identify and describe quality improvement efforts in local communities
 - Assist in scaling up of promising QI models

CHW Workforce Development

- White paper development
 - Literature review of effective CHW models and best practices for integration of CHW into medical practices and broader health care system
 - Key informant interviews with state and national experts
 - Maryland CHW program survey
- Key constituent meeting to obtain feedback on the role(s) of CHW and the necessary infrastructure to support the CHW role
 - Development of “scope of services” for CHW, based on identified models and interventions

CHW Workforce Development

Next Steps

- Identification of CHW roles based on proposed models and identified interventions
 - Meeting with HQP and UMD consultants to develop “scope of services” framework
 - Providing of a wide variety of opportunities to improve health for individuals by addressing social determinants of health through interventions
 - Matrix comparison of each intervention based on the MD context

TA and CIMH Readiness

Next Steps

- Environmental scan of MD TA providers and consultants
 - Key informant interviews with MD TA providers and consultants
- Mapping and identifying patterns of TA received and provided within DHMH
 - Federal and State partnerships
 - State support to locals
 - Gaps and needs analysis
- Identifying and describing quality data integration efforts in local communities
 - UMD, JHU, Delmarva Foundation interviews

Any Questions or
Comments?