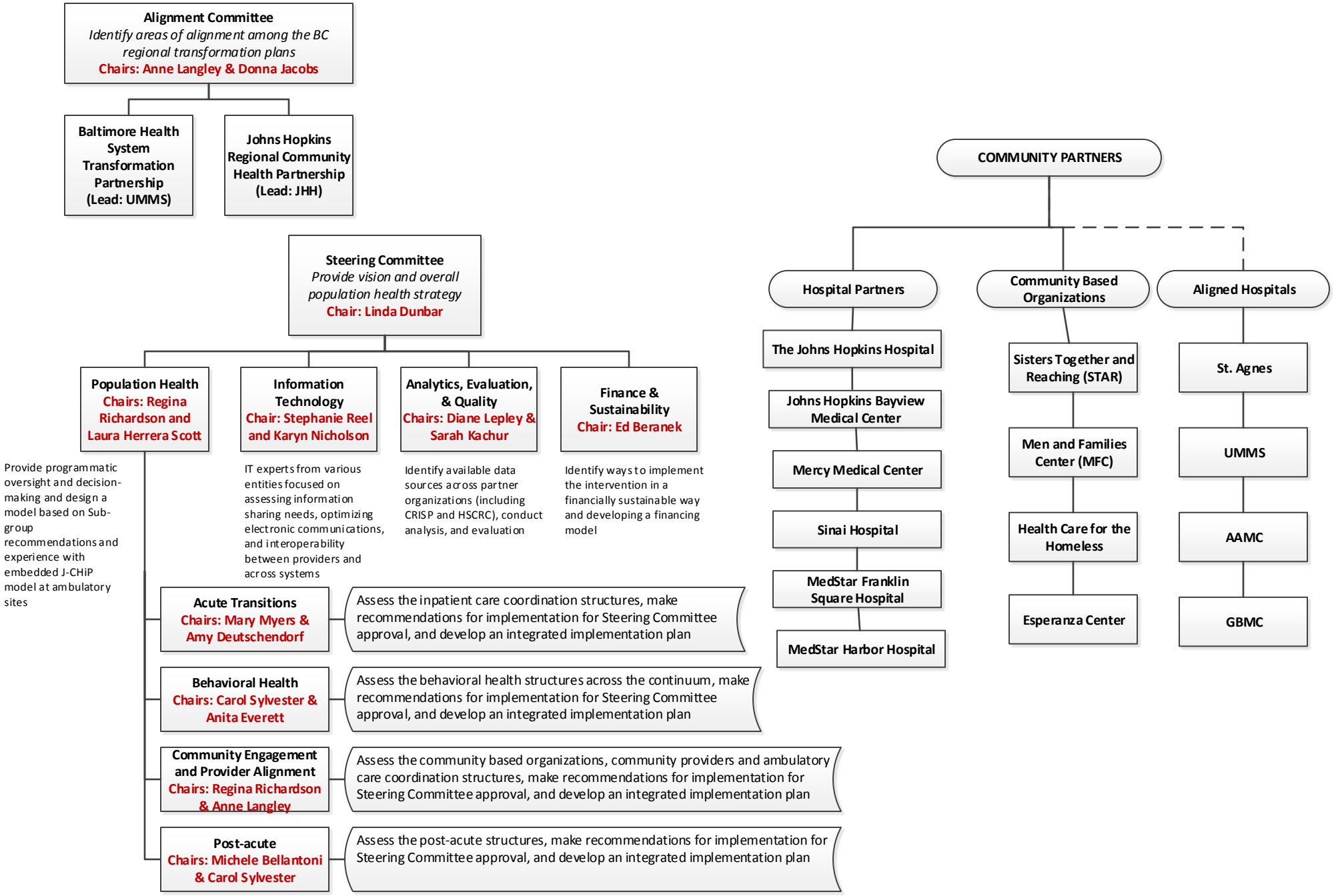
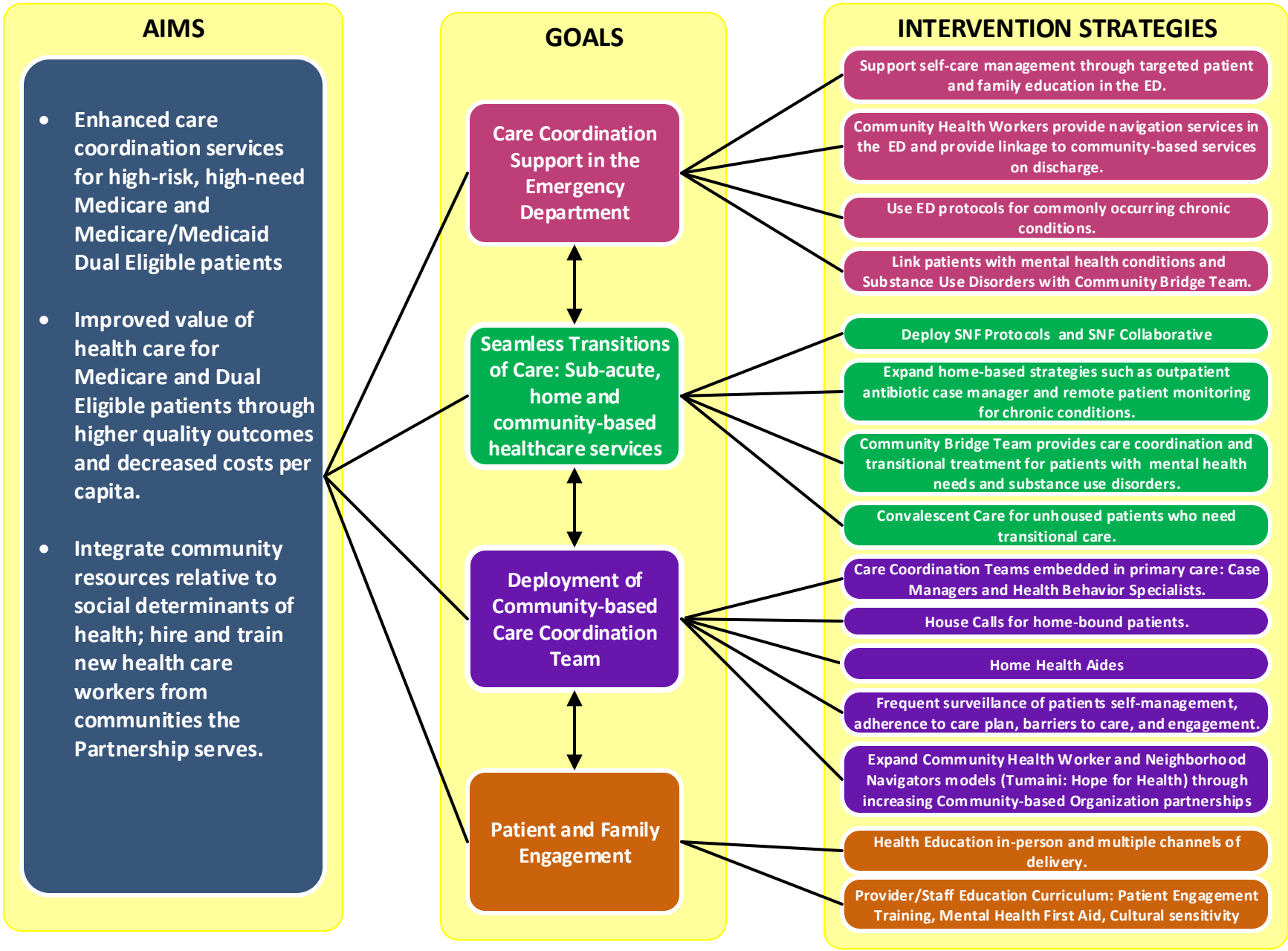
Appendix A
Organizational Structure for the Johns Hopkins Regional Partnership Planning Grant



Appendix B
The Community Health Partnership of Baltimore: Achieving the Triple Aim



BRG Healthcare

complex problems.
EXPERT ADVICE.

Johns Hopkins Collaborative: High Utilizer Strategy

December 15, 2015

High Utilizer Definition

- High Utilizers identified across 6 Baltimore hospitals using EMPI, SSN, Birthdate, and Zip
  - The Johns Hopkins Hospital (JHH)
  - Johns Hopkins Bayview Medical Center (JHBMC)
  - Sinai Hospital
  - MedStar Franklin Square Medical Center (FSMC)
  - Mercy Medical Center
  - MedStar Harbor Hospital

- <u>High Utilizer Definition:</u>
  - Data period: Fiscal Year 2015
  - <u>≥</u> 3 Inpatient or Observation <u>≥</u>24 hours encounters (Bedded Care) in the year
  - Exclusions:
    - Age 0-17
    - Mortalities
  - Limited to patients residing in 19 distinct Baltimore Zip Codes (these represent the combined community benefit service areas “CBSAs” of the partner hospitals):
    - 21202, 21205, 21206, 21209, 21211, 21213, 21214, 21215, 21216, 21217, 21218, 21219, 21222, 21223, 21224, 21225, 21230, 21231, 21237

All Payor High Utilizers by Provider

- 3,148 patients are identified as the Johns Hopkins Collaborative All Payor High Utilizers (limited to the 19 CBSA defined Baltimore Zip Codes)
- High Utilizers by provider:

	Total High Utilizers In 19 Zips	JHH	JHBMC	Sinai	FSMC	Mercy	Harbor
Unique Patients	3,148	1,273	1,086	521	805	551	381
Total Charges	$220.1 M	$86.2 M	$38.7 M	$35.9 M	$26.3 M	$17.7 M	$15.2 M
Total Visits	20,292	5,667	4,219	3,097	3,128	2,392	1,789
IP Visits	11,247	3,692	2,242	1,893	1,582	989	849
OBV Visits ≥24hrs	1,618	19	378	141	602	223	255
OBV Visits <24hrs	784	340	150	31	120	90	53
ER Visits	6,643	1,616	1,449	1,032	824	1,090	632
Avg Charge/Patient	$69.9 K	$67.7 K	$35.6 K	$69.0 K	$32.6 K	$32.2 K	$40.0 K
Avg Visits/Patient	6.4	4.5	3.9	5.9	3.9	4.3	4.7
(IP+OBV≥24)/Patient	4.1	2.9	2.4	3.9	2.7	2.2	2.9
ER/Patient	2.1	1.3	1.3	2.0	1.0	2.0	1.7

Note: Unique patients by hospital will not sum to total High Utilizers due to patients with utilization at more than one hospital being counted in each column

High Utilizers by Payor

- 3,148 patients are identified as the Johns Hopkins Collaborative All Payor High Utilizers (further limited to the 19 CBSA defined Baltimore Zip Codes)
- High Utilizers are then split into cohorts by payor, with focus on the Medicare population

	Total High Utilizers In 19 Zips	Medicare Only	Medicaid Only	Dual Eligible	Other
Unique Patients	3,148	904	1,105	808	331
Total Charges	$220.1 M	$61.3 M	$74.7 M	$58.1 M	$26.0 M
Total Visits	20,292	4,472	8,571	5,636	1,613
IP Visits	11,247	3,053	4,101	2,995	1,098
OBV Visits ≥24hrs	1,618	456	586	441	135
OBV Visits <24hrs	784	134	353	255	42
ER Visits	6,643	829	3,531	1,945	338
Avg Charge/Patient	$69.9 K	$67.9 K	$67.6 K	$71.9 K	$78.4 K
Avg Visits/Patient	6.4	4.9	7.8	7.0	4.9
(IP+OBV≥24)/Patient	4.1	3.9	4.2	4.3	3.7
ER/Patient	2.1	0.9	3.2	2.4	1.0

Payor Cohort:

MEDICARE POPULATION

Medicare High Utilizers

- 904 patients (29% of high utilizers) are Medicare patients
  - Medicare payor includes FFS and MCO
  - Medicare High Utilizers excludes dual eligible population
- 6% of total Medicare patients in the defined 19 zip codes are high utilizers, accounting for 24% of total Johns Hopkins Collaborative Medicare charges in the 19 zip codes.

	Medicare High Utilizers	Total JH Collaborative Medicare in 19 Zips	MC HU % of Total Medicare	Total All Payor High Utilizers	MC % of Total High Utilizers
Unique Patients	904	15,973	6%	3,148	29%
Total Charges	$61.3 M	$251.9 M	24%	$220.1 M	28%
Total Visits	4,472	27,667	16%	20,292	22%
IP Visits	3,053	11,730	26%	11,247	27%
OBV Visits ≥24hrs	456	1,953	23%	1,618	28%
OBV Visits <24hrs	134	1,389	10%	784	17%
ER Visits	829	12,595	7%	6,643	12%

Medicare High Utilizers by Provider

- 904 patients are identified as the Johns Hopkins Collaborative Medicare High Utilizers (limited to the 19 CBSA defined Baltimore Zip Codes)
- High Utilizers by provider:

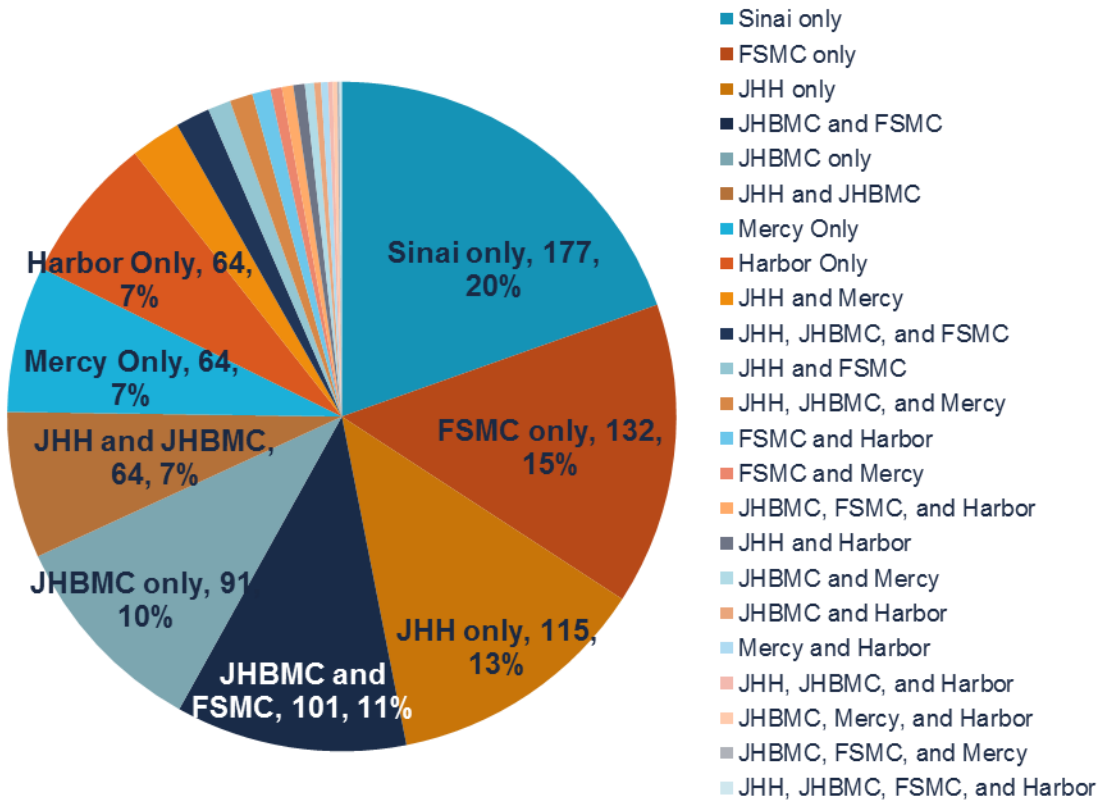
	Medicare High Utilizers	JHH	JHBMC	Sinai	FSMC	Mercy	Harbor
Unique Patients	904	244	299	177	278	111	93
Total Charges	$61.3 M	$18.5 M	$11.8 M	$11.6 M	$10.4 M	$4.9 M	$4.1 M
Total Visits	4,472	823	955	835	980	471	408
IP Visits	3,053	686	653	612	599	273	230
OBV Visits ≥24hrs	456	2	87	41	211	59	56
OBV Visits <24hrs	134	29	32	8	34	19	12
ER Visits	829	106	183	174	136	120	110
Avg Charge/Patient	$67.9 K	$75.8 K	$39.5 K	$65.8 K	$37.4 K	$43.9 K	$44.2 K
Avg Visits/Patient	4.9	3.4	3.2	4.7	3.5	4.2	4.4
(IP+OBV≥24)/Patient	3.9	2.8	2.5	3.7	2.9	3.0	3.1
ER/Patient	0.9	0.4	0.6	1.0	0.5	1.1	1.2

Note: Unique patients by hospital will not sum to total High Utilizers due to patients with utilization at more than one hospital being counted in each column

Medicare High Utilizers by Provider: Utilization Across Facilities

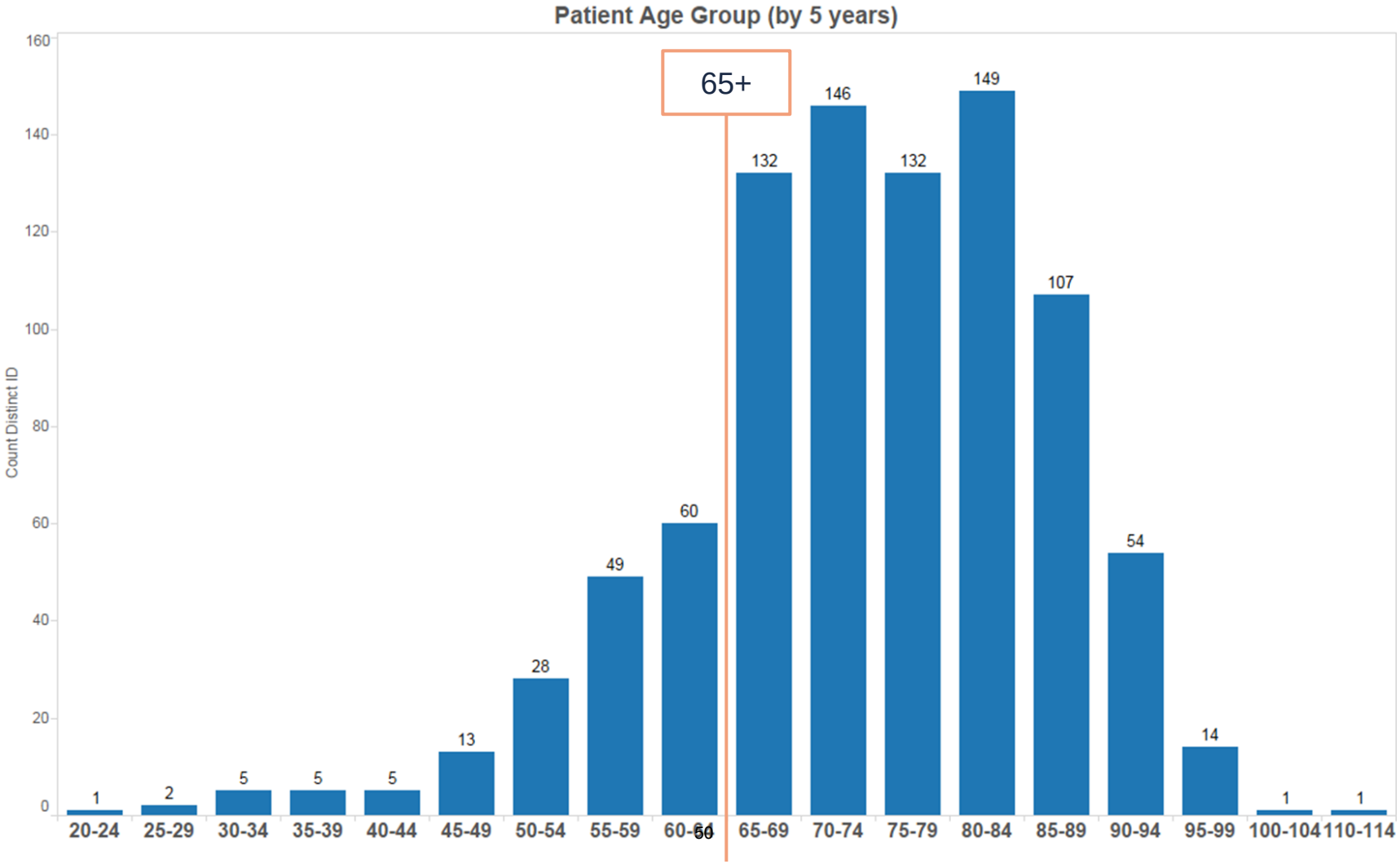
Distribution of the 904 Medicare High Utilizer patients:

- 71% of patients (643) had an encounter at only 1 Johns Hopkins Collaborative facility
- 29% of patients (261) had an encounter at 2 or more Johns Hopkins Collaborative facilities
  - 25% of patients (225) had encounters at 2 different Johns Hopkins Collaborative facilities
  - 4% of patients (35) had encounters at 3 different Johns Hopkins Collaborative facilities
  - Only 1 patient had encounters at 4 different Johns Hopkins Collaborative facilities



Medicare High Utilizers: Age Distribution

- Limited to the 904 Medicare High Utilizers



Medicare High Utilizers: By Primary Diagnosis

- Limited to the 904 Medicare High Utilizers

ICD-9	Primary Diagnosis	Patients	IP Cases	OBV Cases	ER Cases	Total Cases	Total Charges	Avg. Charge per Case
0389	Unspecified septicemia	131	153	2	-	155	$3,932,586	$25,372
V5789	Care involving other specified rehabilitation procedure	74	91	-	-	91	2,000,512	21,984
41071	Subendocardial infarction, initial episode of care	47	55	-	-	55	1,341,369	24,389
42823	Acute on chronic systolic heart failure	51	71	5	-	76	1,327,725	17,470
49121	Obstructive chronic bronchitis with (acute) exacerbation	70	95	15	9	119	1,316,598	11,064
42833	Acute on chronic diastolic heart failure	73	88	4	-	92	1,291,786	14,041
4280	Congestive heart failure, unspecified	82	87	26	14	127	1,195,707	9,415
51881	Acute respiratory failure	31	38	1	-	39	1,096,890	28,125
5990	Urinary tract infection, site not specified	97	83	17	40	140	943,690	6,741
486	Pneumonia, organism unspecified	72	75	7	4	86	927,437	10,784
43491	Cerebral artery occlusion, unspecified with cerebral infarction	39	42	-	-	42	788,930	18,784
42731	Atrial fibrillation	51	59	10	2	71	765,434	10,781
51884	Acute and chronic respiratory failure	16	22	-	-	22	693,961	31,544
5849	Acute kidney failure, unspecified	48	53	1	-	54	652,630	12,086
99666	Infection and inflammatory reaction due to internal joint prosthesis	8	12	-	-	12	587,107	48,926
V5811	Encounter for antineoplastic chemotherapy	9	33	-	-	33	566,269	17,160
4241	Aortic valve disorders	7	8	1	-	9	562,139	62,460
41401	Coronary atherosclerosis of native coronary artery	19	19	2	-	21	528,016	25,144
78659	Other chest pain	64	20	55	12	87	527,083	6,058
5770	Acute pancreatitis	8	7	-	1	8	510,057	63,757
	Subtotal		1,111	146	82	1,339	$21,555,926	$16,099
	All Other		1,942	444	747	3,133	39,788,013	12,700
	Total	**904**	**3,053**	**590**	**829**	**4,472**	**$61,343,939**	**$13,717**

Notes:
[1] Patient count by diagnosis will not sum to total high utilizer patients due to patients being counted for the primary diagnosis on each case.
[2] Table sorted on total charges.

Medicare High Utilizers: Prevention Quality Indicator (PQI) Summary

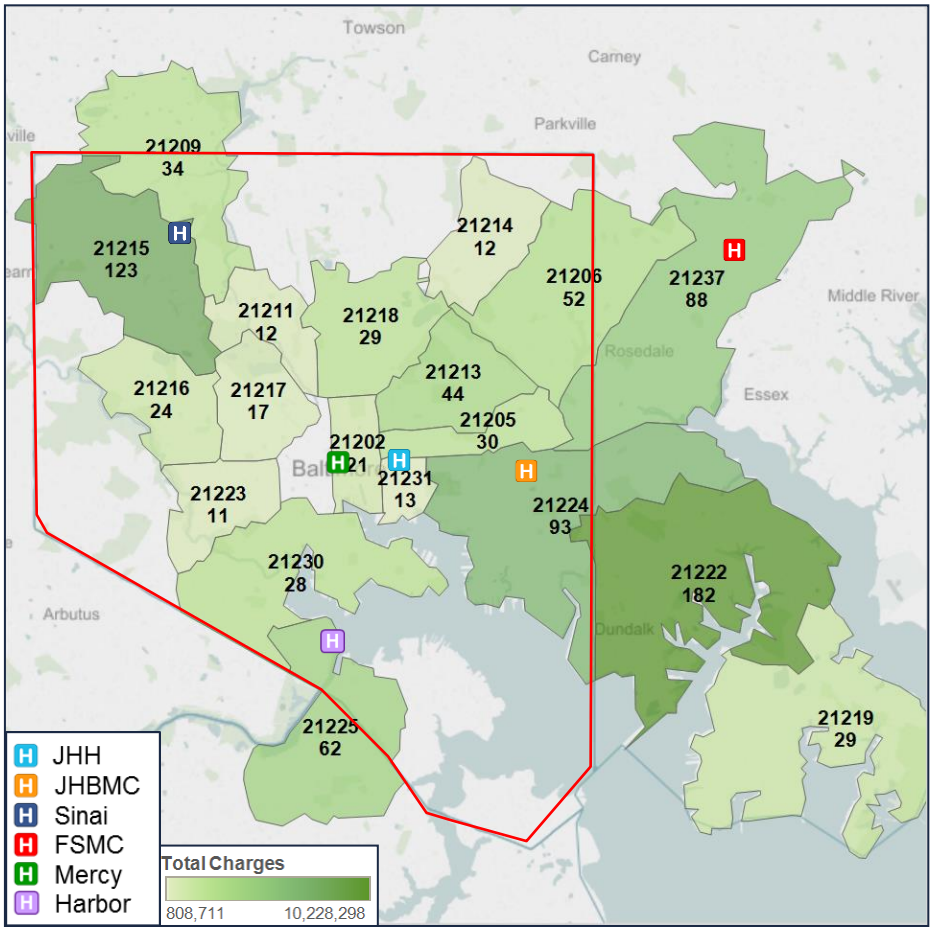
- Limited to the 904 Medicare High Utilizers
- 786 (22%) of 3,509 Medicare High Utilizer Inpatient + Observation cases ≥24 hours are for a PQI diagnosis

	PQI	Unique Patients	Inpatient Cases	Observation cases ≥24 hrs	Total PQI Cases	Total Charges
	Cardiac PQIs	**229**	**328**	**46**	**374**	**$4,706,006**
PQI 08	Heart Failure	207	309	42	351	4,519,551
PQI 07	Hypertension	18	16	3	19	162,940
PQI 13	Angina w/o Procedure	4	3	1	4	23,515
	Diabetes	**55**	**62**	**5**	**67**	**$1,510,771**
PQI 03	Diabetes: Long-Term Complications	37	40	4	44	914,501
PQI 01	Diabetes: Short-Term Complications	3	6	0	6	72,093
PQI 16	Diabetes: Lower-Extremity Amputation	13	15	0	15	511,497
PQI 14	Uncontrolled Diabetes	2	1	1	2	12,680
	Infections	**137**	**147**	**19**	**166**	**$1,739,845**
PQI 11	Bacterial Pneumonia	67	69	6	75	940,173
PQI 12	Urinary Tract Infection	70	78	13	91	799,672
	Asthma and COPD	**87**	**125**	**27**	**152**	**$1,648,763**
PQI 05	COPD or Asthma in Older Adults	87	125	27	152	1,648,763
PQI 15	Asthma in Younger Adults	0	0	0	0	0
PQI 10	**Dehydration**	**26**	**26**	**1**	**27**	**$256,059**
	Total	**435**	**688**	**98**	**786**	**$9,861,444**

Notes: [1] PQI cases include Inpatient and Observation cases ≥24 hours.
[2] Unique patients by PQI type will not sum to total because patients who fall into more than one PQI category will be counted in each category.

Medicare High Utilizers: By Zip Code

Unique Patients by Zip Code



Zip Code	Unique Patients	Total Visits[1]	Total Charges
21222	182	886	$10.2 M
21215	123	595	8.0 M
21224	93	491	6.9 M
21237	88	423	5.2 M
21225	62	339	4.2 M
21206	52	206	3.1 M
21213	44	258	3.6 M
21209	34	151	2.5 M
21205	30	151	2.5 M
21218	29	134	2.5 M
21219	29	141	1.9 M
21230	28	154	2.6 M
21216	24	104	1.6 M
21202	21	120	1.5 M
21217	17	82	1.1 M
21231	13	58	0.8 M
21211	12	74	1.0 M
21214	12	53	1.0 M
21223	11	52	1.0 M
Total	**904**	**4,472**	**$61.3 M**

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Notes: [1] Visits include Inpatient, Observation, and ER encounters

Medicare High Utilizers: By Chronic Condition

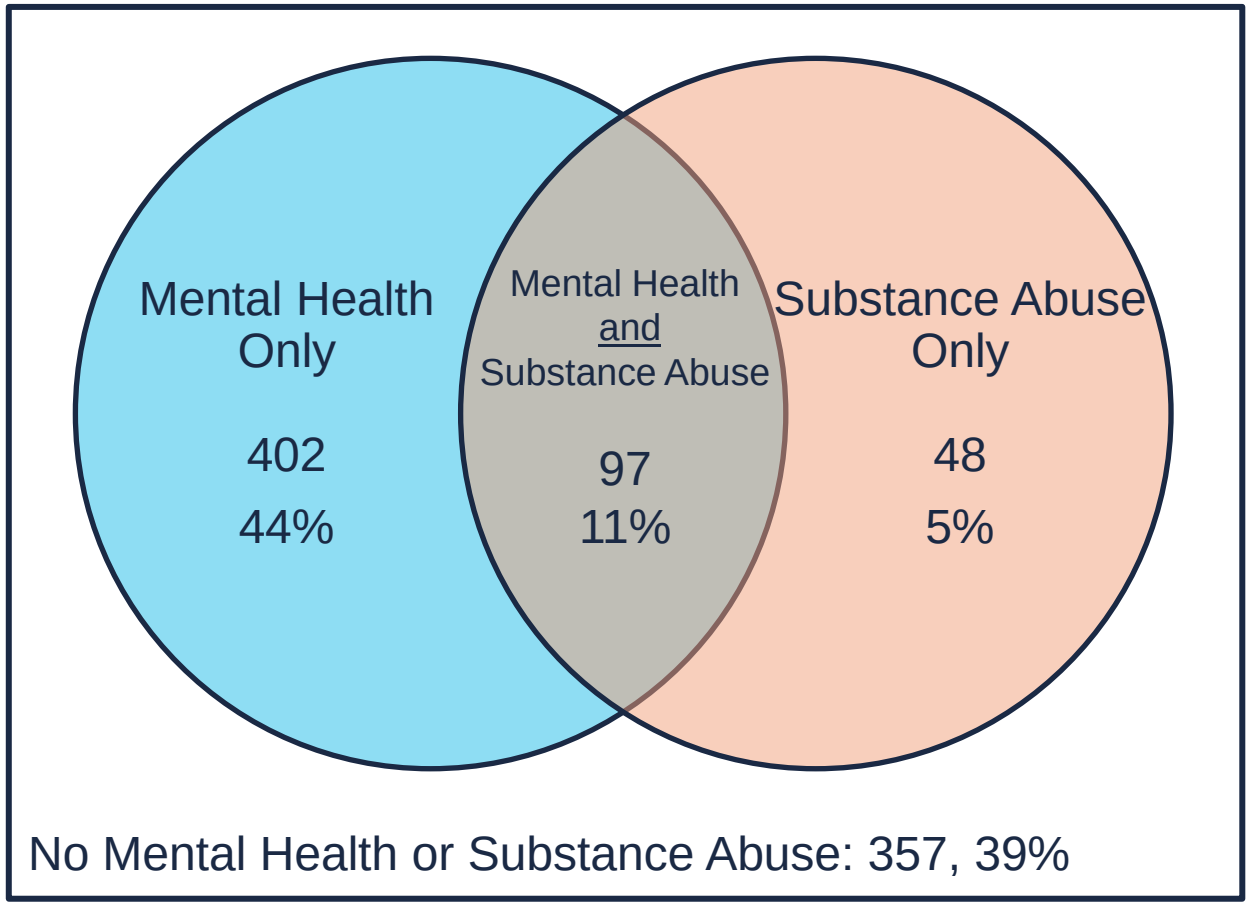
- Limited to the 904 Medicare High Utilizers
- 1,579 (45%) of 3,509 Medicare High Utilizer "bedded care" cases (IP/OBV≥24hrs) have a Chronic or Potentially Avoidable Condition as the primary diagnosis.

	Primary Diagnosis				Across All Diagnoses			
Chronic Condition[1]	Unique Patients	IP/OBV ≥24Hr Cases	ER/OBV <24Hr Cases	Total Cases	Unique Patients	IP/OBV ≥24Hr Encounters	ER/OBV <24Hr Encounters	Total Encounters[2]
Hypertension	64	67	11	78	857	2,880	385	3,265
Congestive Heart Failure (CHF)	234	389	22	411	549	2,823	143	2,966
Coronary Artery Disease (CAD)	26	28	2	30	533	3,119	251	3,370
Diabetes	50	59	8	67	468	1,699	197	1,896
Chronic Obstructive Pulmonary Disease (COPD)	108	164	31	195	446	1,371	192	1,563
Chronic Kidney Disease	8	5	4	9	415	1,657	178	1,835
Obesity	1	1	0	1	289	986	13	999
Pneumonia	86	99	4	103	236	319	5	324
Septicemia	163	203	2	205	227	558	3	561
Hepatitis	2	2	0	2	61	160	25	185
Chronic Condition Total	**537**	**1,017**	**84**	**1,101**	**899**			
Mental Health	51	66	25	91	499	1,846	142	1,988
Substance Abuse	31	38	8	46	145	508	48	556
Chronic + Mental Health / Sub Abuse Total	**585**	**1,121**	**117**	**1,238**	**904**			
Potentially Avoidable Endocrine System Conditions	102	107	15	122	788	3,218	68	3,286
Potentially Avoidable Circulatory Conditions	226	237	113	350	771	3,077	269	3,346
Tobacco Use	0	0	0	0	571	1,310	131	1,441
Potentially Avoidable Digestive Conditions	83	83	21	104	563	1,255	60	1,315
Potentially Avoidable Infectious Diseases	24	27	3	30	486	1,128	32	1,160
Potentially Avoidable Respiratory Conditions	9	4	5	9	58	58	11	69
Grand Total	**746**	**1,579**	**274**	**1,853**	**904**			

Notes: [1] Conditions identified are based on AHRQ CCS level 3 classification. CCS Codes used to identify Chronic Conditions can be found in the Appendix.
[2] Encounters is a count of diagnosis codes across all 30 positions for each patient. Therefore, encounters will be much higher than the count of total visits.
Table sorted on unique patient count across all diagnoses.

Medicare High Utilizers: Mental Health / Substance Abuse

- 547 of 904 Medicare High Utilizers **(61%)** have a Mental Health or Substance Abuse diagnosis on an encounter in any position



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Medicare High Utilizers: Multiple Chronic Conditions

- Limited to the 904 Medicare High Utilizers
- Focus on 10 Chronic Conditions: Hypertension, Diabetes, CAD, CHF, Chronic Kidney Disease, Obesity, COPD, Septicemia, Pneumonia, and Hepatitis
- Looking across all diagnosis code positions to identify patients with overlapping Chronic Conditions, as well as Mental Health or Substance Abuse
- Includes Inpatient, Observation, and ER data

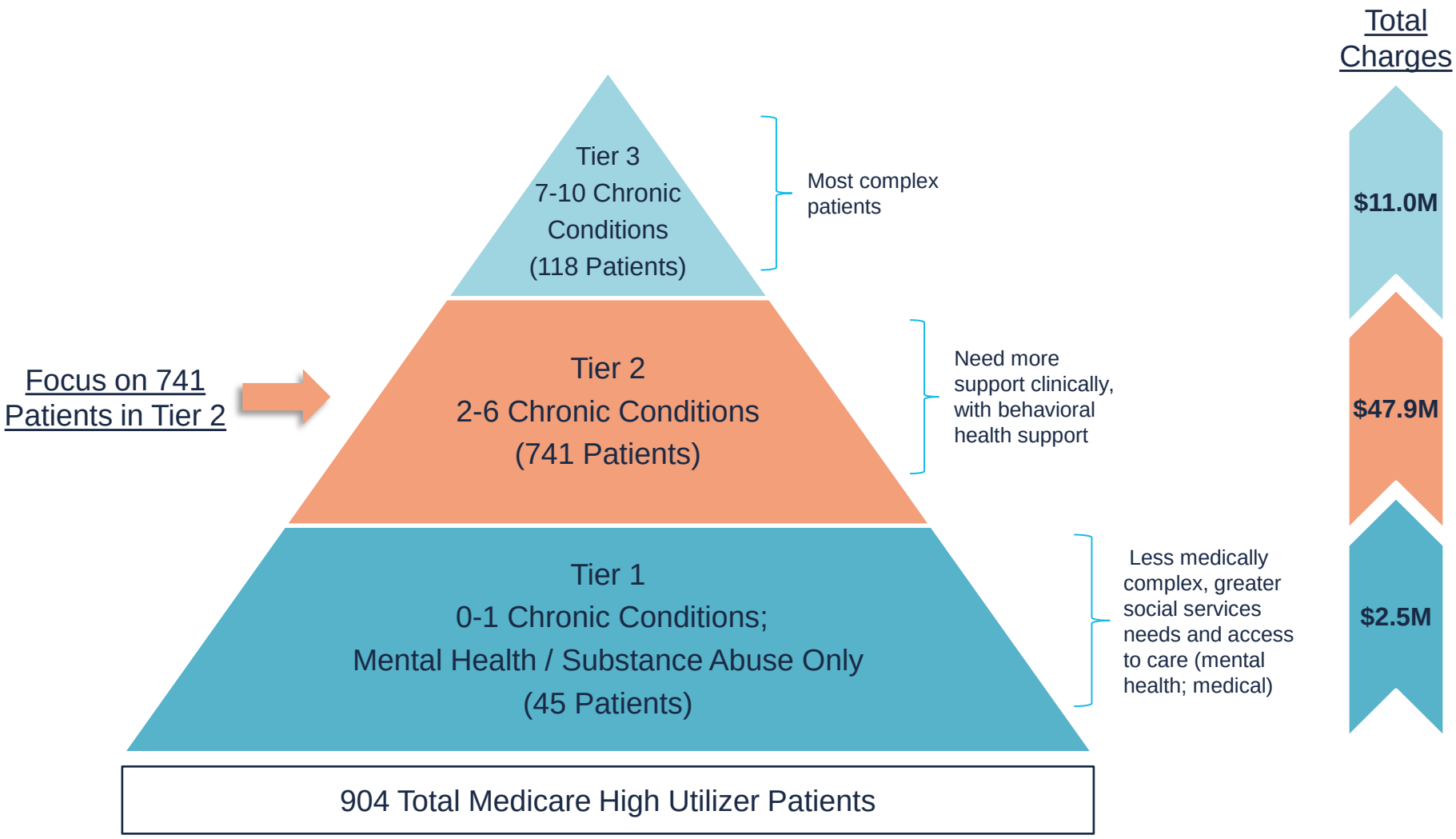
# of Chronic Conditions for Patient	Unique Patients	Chronic Cases	Charges on Chronic Cases	Average Charge per Patient		Chronic + MH/SA Patients
10	0	0	$0	$0		0
9	10	78	$1,434,031	$143,403		9
8	28	219	$2,623,923	$93,712		20
7	80	449	$6,914,047	$86,426		51
6	166	804	$11,579,054	$69,753		84
5	182	878	$12,197,864	$67,021		100
4	159	714	$9,467,087	$59,541		100
3	157	760	$10,351,088	$65,930		99
2	77	371	$4,279,801	$55,582		51
1	40	166	$2,278,087	$56,952		28
Chronic Subtotal	**899**	**4,439**	**$61,124,982**	**$67,992**		**542**
MH/SA Only	5	33	$218,955	$43,791		
Total	**904**	**4,472**	**$61,343,937**	**$67,858**		**547**

Of the 904 Medicare High Utilizers:

- 99% of patients (899) have at least 1 Chronic Condition
- 99% of cases and 99% of charges are associated with Chronic Conditions
- 95% of patients (859) have at least 2 different Chronic Conditions
- 61% of patients (547) have a Mental Health or Substance Abuse condition

Notes: [1] CCS Codes used to identify Chronic Conditions can be found in the Appendix

Medicare High Utilizers: Tiered Patient Population



Tier 2 Medicare High Utilizers: By Chronic Condition

- Limited to the 741 Tier 2 Medicare High Utilizers
  - Tier 2 patients are those with 2-6 Chronic Conditions

	Primary Diagnosis				Across All Diagnoses			
Chronic Condition[1]	**Unique Patients**	**IP/OBV ≥24Hr Cases**	**ER/OBV <24Hr Cases**	**Total Cases**	**Unique Patients**	**IP/OBV ≥24Hr Encounters**	**ER/OBV <24Hr Encounters**	**Total Encounters[2]**
Hypertension	47	47	8	55	711	2,275	289	2,564
Congestive Heart Failure (CHF)	180	289	11	300	436	2,034	82	2,116
Coronary Artery Disease (CAD)	24	27	1	28	423	2,417	188	2,605
Diabetes	35	43	4	47	370	1,230	122	1,352
Chronic Obstructive Pulmonary Disease (COPD)	83	130	26	156	341	980	144	1,124
Chronic Kidney Disease	5	4	1	5	310	1,120	106	1,226
Obesity	0	0	0	0	211	683	6	689
Pneumonia	61	71	2	73	164	208	3	211
Septicemia	114	141	1	142	159	387	1	388
Hepatitis	0	0	0	0	42	105	20	125
Chronic Condition Total	**427**	**752**	**54**	**806**	**741**			
Mental Health	42	54	23	77	395	1,462	111	1,573
Substance Abuse	26	31	7	38	118	402	37	439
Chronic + Mental Health / Sub Abuse Total	**466**	**837**	**84**	**921**	**741**			
Potentially Avoidable Endocrine System Conditions	80	83	15	98	643	2,499	53	2,552
Potentially Avoidable Circulatory Conditions	184	193	82	275	633	2,380	186	2,566
Potentially Avoidable Digestive Conditions	69	66	19	85	453	1,002	46	1,048
Tobacco Use	0	0	0	0	451	1,019	105	1,124
Potentially Avoidable Infectious Diseases	21	25	2	27	389	866	27	893
Potentially Avoidable Respiratory Conditions	9	4	5	9	47	44	10	54
Grand Total	**606**	**1,208**	**207**	**1,415**	**741**			

Notes: [1] Conditions identified are based on AHRQ CCS level 3 classification. CCS Codes used to identify Chronic Conditions can be found in the Appendix.
[2] Encounters is a count of diagnosis codes across all 30 positions for each patient. Therefore, encounters will be much higher than the count of total visits.
Table sorted on unique patient count across all diagnoses.

Payor Cohort:

DUAL ELIGIBLE POPULATION

Dual Eligible High Utilizers: By Chronic Condition

- Limited to the 808 Dual Eligible High Utilizers
- 1,786 (52%) of 3,436 Dual Eligible High Utilizer "bedded care" cases (IP/OBV≥24hrs) have a Chronic or Potentially Avoidable Condition as the primary diagnosis.

	Primary Diagnosis				Across All Diagnoses			
Chronic Condition[1]	Unique Patients	IP/OBV ≥24Hr Cases	ER/OBV <24Hr Cases	Total Cases	Unique Patients	IP/OBV ≥24Hr Encounters	ER/OBV <24Hr Encounters	Total Encounters[2]
Hypertension	67	63	25	88	714	2,627	705	3,332
Chronic Obstructive Pulmonary Disease (COPD)	142	255	131	386	477	1,593	464	2,057
Diabetes	81	126	35	161	441	1,841	497	2,338
Congestive Heart Failure (CHF)	164	299	27	326	440	2,155	251	2,406
Coronary Artery Disease (CAD)	21	22	7	29	392	2,505	382	2,887
Chronic Kidney Disease	11	4	7	11	352	1,556	292	1,848
Obesity	5	5	0	5	297	1,317	57	1,374
Pneumonia	76	82	13	95	190	287	20	307
Septicemia	112	145	0	145	165	447	1	448
Hepatitis	3	7	0	7	139	469	109	578
Chronic Condition Total	**487**	**1,008**	**245**	**1,253**	**797**			
Mental Health	125	178	76	254	563	2,595	445	3,040
Substance Abuse	71	108	109	217	294	1,346	265	1,611
Chronic + Mental Health / Sub Abuse Total	**588**	**1,294**	**430**	**1,724**	**804**			
Potentially Avoidable Endocrine System Conditions	114	115	42	157	703	2,839	159	2,998
Potentially Avoidable Circulatory Conditions	225	233	242	475	657	2,706	571	3,277
Tobacco Use	0	0	0	0	572	1,561	294	1,855
Potentially Avoidable Digestive Conditions	79	92	25	117	503	1,288	119	1,407
Potentially Avoidable Infectious Diseases	40	36	14	50	458	1,280	142	1,422
Potentially Avoidable Respiratory Conditions	31	16	19	35	93	82	34	116
Grand Total	**718**	**1,786**	**772**	**2,558**	**808**			

Notes: [1] Conditions identified are based on AHRQ CCS level 3 classification. CCS Codes used to identify Chronic Conditions can be found in the Appendix.
[2] Encounters is a count of diagnosis codes across all 30 positions for each patient. Therefore, encounters will be much higher than the count of total visits.
Table sorted on unique patient count across all diagnoses.

Dual Eligible High Utilizers: Multiple Chronic Conditions

- Limited to the 808 Dual Eligible High Utilizers
- Focus on 10 Chronic Conditions: Hypertension, Diabetes, CAD, CHF, Chronic Kidney Disease, Obesity, COPD, Septicemia, Pneumonia, and Hepatitis
- Looking across all diagnosis code positions to identify patients with overlapping Chronic Conditions, as well as Mental Health or Substance Abuse
- Includes Inpatient, Observation, and ER data

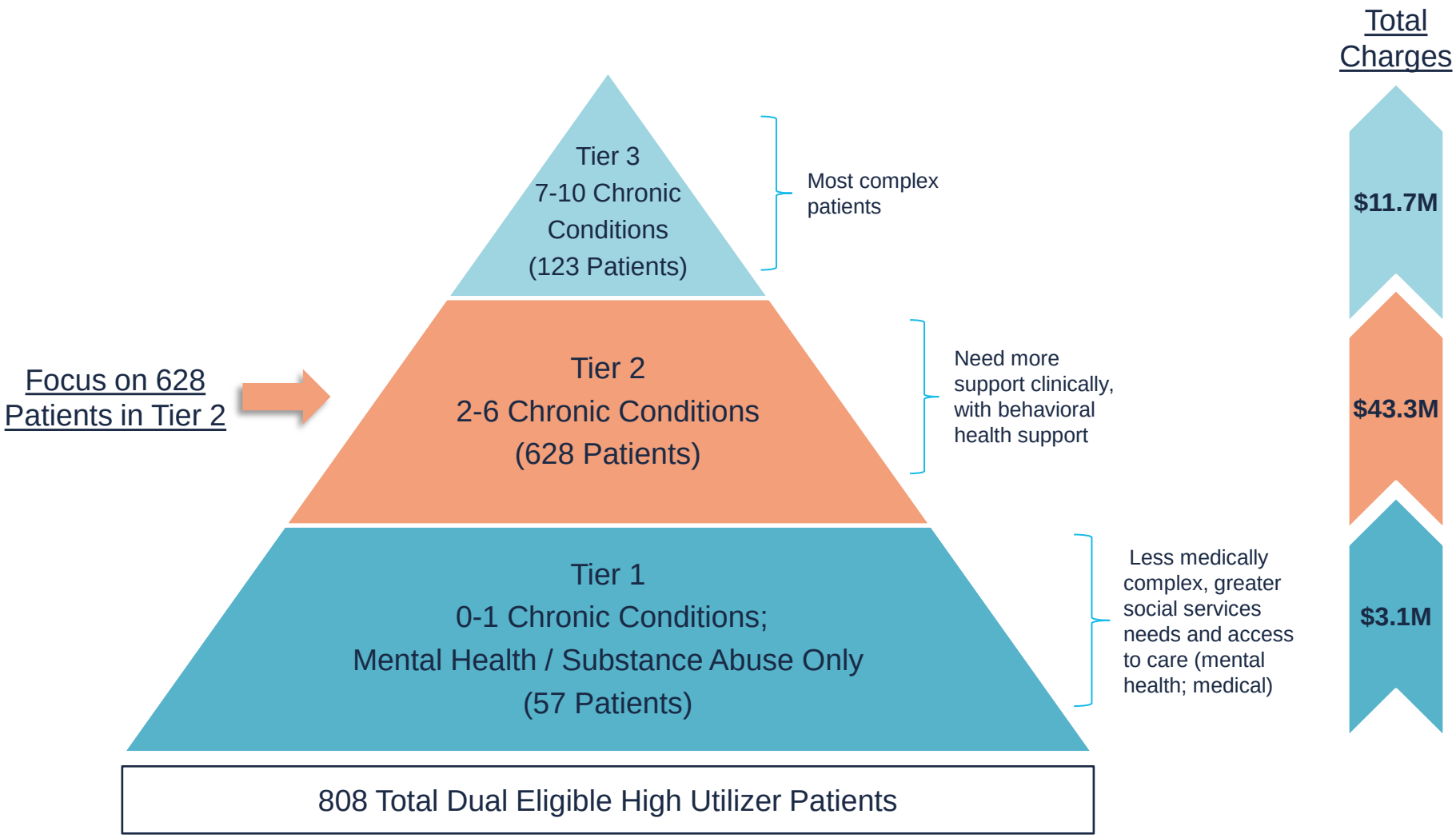
# of Chronic Conditions for Patient	Unique Patients	Chronic Cases	Charges on Chronic Cases	Average Charge per Patient		Chronic + MH/SA Patients
10	1	5	$30,747	$30,747		0
9	10	101	$1,494,002	$149,400		10
8	29	211	$3,184,905	$109,824		17
7	83	591	$6,963,935	$83,903		63
6	125	1,030	$9,736,608	$77,893		95
5	164	1,153	$12,989,929	$79,207		127
4	140	898	$8,536,460	$60,975		106
3	120	719	$7,247,261	$60,394		99
2	79	527	$4,752,925	$60,164		66
1	46	320	$2,511,273	$54,593		37
Chronic Subtotal	**797**	**5,555**	**$57,448,045**	**$72,080**		**620**
MH/SA Only	7	62	$291,039	$41,577		
Total	**804**	**5,617**	**$57,739,084**	**$71,815**		**627**

Of the 808 Dual Eligible High Utilizers:

- 99% of patients (797) have at least 1 Chronic Condition
- 99% of cases and 99% of charges are associated with Chronic Conditions
- 93% of patients (751) have at least 2 different Chronic Conditions
- 78% of patients (627) have a Mental Health or Substance Abuse condition

Notes: [1] CCS Codes used to identify Chronic Conditions can be found in the Appendix

Dual Eligible High Utilizers: Tiered Patient Population



Appendix

CCS codes used to identify Chronic and Potentially Avoidable Conditions

Appendix

- Diseases of the Circulatory System
  - Hypertension
    - 7.1.1 - ESSENTIAL HYPERTENSION [98.]
    - 7.1.2 - HYPERTENSION WITH COMPLICATIONS AND SECONDARY HYPERTENSION [99.]
  - Coronary Artery Disease (CAD)
    - 7.2.4 - CORONARY ATHEROSCLEROSIS AND OTHER HEART DISEASE [101.]
  - Congestive Heart Failure (CHF)
    - 7.2.6 - PULMONARY HEART DISEASE [103.]
    - 7.2.11 - CONGESTIVE HEART FAILURE; NONHYPERTENSIVE [108.]
  - Other Potentially Avoidable Circulatory
    - 7.2.5 - NONSPECIFIC CHEST PAIN [102.]
    - 7.3.4 - TRANSIENT CEREBRAL ISCHEMIA [112.]
    - 7.4.1 - PERIPHERAL AND VISCERAL ATHEROSCLEROSIS [114.]
    - 7.4.2 - AORTIC; PERIPHERAL; AND VISCERAL ARTERY ANEURYSMS [115.]
    - 7.4.3 - AORTIC AND PERIPHERAL ARTERIAL EMBOLISM OR THROMBOSIS [116.]
    - 7.4.4 - OTHER CIRCULATORY DISEASE [117.]
    - 7.5.1 - PHLEBITIS; THROMBOPHLEBITIS AND THROMBOEMBOLISM [118.]
    - 7.5.2 - VARICOSE VEINS OF LOWER EXTREMITY [119.]
    - 7.5.3 - HEMORRHOIDS [120.]
    - 7.5.4 - OTHER DISEASES OF VEINS AND LYMPHATICS [121.]

- Diseases of the Genitourinary System
  - Chronic Kidney Disease
    - 10.1.3 - CHRONIC KIDNEY DISEASE [158.]

Appendix

- Endocrine; nutritional; and metabolic diseases and immunity disorders
  - Diabetes
    - 3.2 - DIABETES MELLITUS WITHOUT COMPLICATION [49.]
    - 3.3.1 - DIABETES WITH KETOACIDOSIS OR UNCONTROLLED DIABETES
    - 3.3.2 - DIABETES WITH RENAL MANIFESTATIONS
    - 3.3.3 - DIABETES WITH OPHTHALMIC MANIFESTATIONS
    - 3.3.4 - DIABETES WITH NEUROLOGICAL MANIFESTATIONS
    - 3.3.5 - DIABETES WITH CIRCULATORY MANIFESTATIONS
    - 3.3.7 - DIABETES WITH OTHER MANIFESTATIONS
  - Obesity
    - 3.11.2 – OBESITY
  - Other Potentially Avoidable Endocrine
    - 3.5.1 - UNSPECIFIED PROTEIN-CALORIE MALNUTRITION
    - 3.5.2 - OTHER MALNUTRITION
    - 3.7 - GOUT AND OTHER CRYSTAL ARTHROPATHIES [54.]
    - 3.8.1 - HYPOSMOLALITY
    - 3.8.2 - HYPOVOLEMIA
    - 3.8.3 - HYPERPOTASSEMIA
    - 3.8.4 - HYPOPOTASSEMIA
    - 3.8.5 - OTHER FLUID AND ELECTROLYTE DISORDERS
    - 3.11.3 - OTHER AND UNSPECIFIED METABOLIC; NUTRITIONAL; AND ENDOCRINE DISORDERS

- Diseases of the Respiratory System
  - Pneumonia
    - 8.1.1 - PNEUMONIA (EXCEPT THAT CAUSED BY TB OR STD) [122.]
  - Chronic Obstructive Pulmonary Disease (COPD)
    - 8.2.1 - EMPHYSEMA
    - 8.2.2 - CHRONIC AIRWAY OBSTRUCTION; NOT OTHERWISE SPECIFIED
    - 8.2.3 - OBSTRUCTIVE CHRONIC BRONCHITIS
    - 8.2.4 - OTHER CHRONIC PULMONARY DISEASE
    - 8.3.1 - CHRONIC OBSTRUCTIVE ASTHMA
    - 8.3.2 - OTHER AND UNSPECIFIED ASTHMA
  - Other Potentially Avoidable Respiratory
    - 8.1.5 - OTHER UPPER RESPIRATORY INFECTIONS [126.]

Appendix

- Infectious and Parasitic Diseases
  - Septicemia
    - 1.1.2 - SEPTICEMIA (EXCEPT IN LABOR) [2.]
  - Hepatitis
    - 1.3.2 - HEPATITIS [6.]
  - Other Potentially Avoidable Infectious Disease
    - 1.1.1 - TUBERCULOSIS [1.]
    - 1.1.3 - SEXUALLY TRANSMITTED INFECTIONS (NOT HIV OR HEPATITIS) [9.]
    - 1.1.4 - OTHER BACTERIAL INFECTIONS [3.]
    - 1.2.1 - CANDIDIASIS OF THE MOUTH (THRUSH)
    - 1.2.2 - OTHER MYCOSES
    - 1.3.1 - HIV INFECTION [5.]
    - 1.3.3 - OTHER VIRAL INFECTIONS [7.]
    - 1.4 - OTHER INFECTIONS; INCLUDING PARASITIC [8.]
    - 1.5 - IMMUNIZATIONS AND SCREENING FOR INFECTIOUS DISEASE [10.]

- Diseases of the Digestive System
  - Potentially Avoidable Digestive
    - 9.4.2 - GASTRODUODENAL ULCER (EXCEPT HEMORRHAGE) [139.]
    - 9.6.1 - APPENDICITIS AND OTHER APPENDICEAL CONDITIONS [142.]
    - 9.6.4 - DIVERTICULOSIS AND DIVERTICULITIS [146.]
    - 9.8.2 - OTHER LIVER DISEASES [151.]
    - 9.9.1 - ACUTE PANCREATITIS
    - 9.9.2 - CHRONIC PANCREATITIS
    - 9.9.3 - OTHER PANCREATIC DISORDERS
    - 9.10.1 - HEMORRHAGE FROM GASTROINTESTINAL ULCER
    - 9.12.1 - CONSTIPATION
    - 9.12.2 - DYSPHAGIA

Appendix

- Mental Health
  - 5.1 - ADJUSTMENT DISORDERS [650]
  - 5.2 - ANXIETY DISORDERS [651]
  - 5.3.1 - CONDUCT DISORDER [6521]
  - 5.3.3 - ATTENTION DEFICIT DISORDER AND ATTENTION DEFICIT HYPERACTIVITY DISORDER [6523]
  - 5.4 - DELIRIUM DEMENTIA AND AMNESTIC AND OTHER COGNITIVE DISORDERS [653]
  - 5.5.1 - COMMUNICATION DISORDERS [6541]
  - 5.5.2 - DEVELOPMENTAL DISABILITIES [6542]
  - 5.5.3 - INTELLECTUAL DISABILITIES [6543]
  - 5.5.4 - LEARNING DISORDERS [6544]
  - 5.6.3 - PERVASIVE DEVELOPMENTAL DISORDERS [6553]
  - 5.7 - IMPULSE CONTROL DISORDERS NOT ELSEWHERE CLASSIFIED [656]
  - 5.8.1 - BIPOLAR DISORDERS [6571]
  - 5.8.2 - DEPRESSIVE DISORDERS [6572]
  - 5.9 - PERSONALITY DISORDERS [658]
  - 5.10 - SCHIZOPHRENIA AND OTHER PSYCHOTIC DISORDERS [659]
  - 5.13 - SUICIDE AND INTENTIONAL SELF-INFLICTED INJURY [662]
  - 5.14.1 - CODES RELATED TO MENTAL HEALTH DISORDERS [6631]
    - *Excluding ICD-9 code V1582 – Personal history of tobacco use*
  - 5.15.2 - EATING DISORDERS [6702]
  - 5.15.3 - FACTITIOUS DISORDERS [6703]
  - 5.15.4 - PSYCHOGENIC DISORDERS [6704]
  - 5.15.5 - SEXUAL AND GENDER IDENTITY DISORDERS [6705]
  - 5.15.7 - SOMATOFORM DISORDERS [6707]
  - 5.15.8 - MENTAL DISORDERS DUE TO GENERAL MEDICAL CONDITIONS NOT ELSEWHERE CLASSIFIED [6708]
  - 5.15.9 - OTHER MISCELLANEOUS MENTAL CONDITIONS [6709]

- Substance Abuse
  - 5.11 - ALCOHOL-RELATED DISORDERS [660]
  - 5.12 - SUBSTANCE-RELATED DISORDERS [661]
  - 5.14.2 - CODES RELATED TO SUBSTANCE-RELATED DISORDERS [6632]

Appendix D: Acute Transition Interventions

The interventions for this regional partnership that are related to care coordination have the opportunity to combine the best practices of each hospital in the collaborative to maximize their impact. Each of the partner hospitals have well developed care coordination and acute care transition strategies in place. The Partnership provides the opportunity for hospital partners to share their experiences and strategies which could be adopted at other hospitals depending on their strategic plans, objectives and funding. Below are examples of some of the strategies that have been adopted.

Intervention: Improving Transitions from the Hospital to Home: The Bridge to Home Program

The Bridge to Home program is designed to help patients prepare for discharge and achieve a safe transition from hospital to home. Focused upon the critical aspects of self-care management, Bridge to Home offers education about the "four pillars" of care transition, with a special emphasis upon understanding what to do, what to watch for (i.e. "red flags"), who to call, and who to see. In addition, the program encourages patients to identify a "Health Buddy" who can assist them in the critical weeks after hospitalization. The goal is for the Buddy to be present during education to provide an extra set of eyes and ears regarding the discharge plan and can use this information to support the patient at home.

Intervention: Improving Transitions from the Hospital to Home: Transition Guides

The Transition Guide (TG) program is designed to support patients who may not need or qualify for skilled home care, but who could benefit from additional teaching and assistance after they leave the hospital. Available for up to 30 days post-discharge, these experienced home health nurses serve as coaches to help patients understand their discharge plan, set goals, and identify behaviors to prevent avoidable ED visits and readmissions. Home visits are highly encouraged, but TGs will also follow patients by phone if visits are refused or patients live out of the service area.

Intervention: Improving Transitions from the Hospital to Home: Patient Access Line (PAL)

The Patient Access Line (PAL) is a post-discharge call service designed to help patients manage their critical transition from hospital to home. Staffed by a team of experienced Hopkins nurses from a broad range of specialties, the service currently supports 21 adult units at JHH and JHB, with the goal of blanketing both campuses and serving as a model for the JHM enterprise. Following a scripted survey tool and using the Discharge Worksheet as a guideline, PAL nurses call patients after they have gone home to review: how they are feeling; their medication regimen; instructions for self-care management; "red flags," and scheduled appointments. The nurses provide additional education to reinforce key instructions, such as when to take medications. They also assess patients' ability to manage their own care and, where appropriate, engage additional support. This may include contacting the medical team to report clinical issues/concerns, contacting a case manager, referral to TGs, Home Care, or Transitional Pharmacists, and/or referral to Patient Relations (for compliments/concerns).

Intervention: After Hours

The Johns Hopkins After Care Clinic (ACC) provides a safety net for patients discharged from the hospital or emergency department who need rapid follow-up but cannot secure appointments within the necessary timeframe. Its goal is to serve as a bridge for these patients – offering a setting where they can be assessed, treated, and transitioned to a community provider for primary care. The Clinic is intended to support at-risk patients and to prevent unnecessary readmissions and ED visits for issues that could be handled on an outpatient basis. In addition to physicians and advanced practice providers, the Clinic features a team of "wraparound" support, including nurses, pharmacists, social workers, and transition guides who can provide education, counseling, and coordination of follow-up services.

Appendix E: Team Member Roles and Responsibilities

The Case Manager (CM) is responsible for assessing, planning, implementing, coordinating, and monitoring the options and services available to patients and their families. The CM is responsible for appropriate communications and collaboration of a patient's care through transitions across the health system, and between the primary care provider in the practice and the community health worker in the community. They are the bridge that connects the practice to the community. Case manager functions include the following:

- conducts assessments to identify the patient's physical, psychosocial, spiritual, & financial needs
- develops patient-centered goals and identifies appropriate interventions;
- provides self-management support to help patients better care for themselves;
- acts as a patient liaison when coordinating the patient's healthcare needs with care team members, agencies and facilities; and
- works one-on-one with patients to track and review their progress.

The Community Health Worker (CHW) is responsible for addressing the complex social problems of patients and assists with navigating the healthcare system on behalf of the patient. The CHW serves a designated geographic area and receives clinical oversight from one or more CMs, which includes assignment of tasks. The CHW functions include the following:

- is actively engaged in the community and knowledgeable about the cultural landscape;
- has a working knowledge of community organizations and resources;
- checks in with patients on an ongoing basis to assess their engagement;
- assists patients with arranging appointments and coordinating transportation, if needed;
- provides patient mentorship;
- reinforces treatment plan tasks and goals; and
- provides patient education, or refers patients to a Health Educator

The Health Behavior Specialist (HBS) is responsible for assessing, planning, implementing, coordinating, and monitoring the behavioral health options and services available to patients and their families. Patients are referred to an HBS if they have behavioral health issues as their primary diagnoses. HBSs are skilled in offering interventions that are based on a Cognitive Behavioral Model (CBT). The HBS:

- identify and guide referred patients through protocols and therapeutic interventions relevant to their needs;
- facilitates referrals to psychiatry if the patient's psychiatric condition is beyond the scope of the embedded HBS services available;
- coordinates care for mental health and substance abuse services received outside of the primary care clinic; and
- evaluates and develops a safety plans for patients with a mental health crisis

The Health Educator (HE) is responsible for planning, delivering and evaluating educational opportunities and behavior modification programs to teach patients about behaviors that promote wellness. The HE:

- Provides education material and facilities one-one-one sessions as well as group education interventions to provide patients with the skills and tools they need to meet their goals.
- serves as a resource to the care team by providing oversight on topics like weight management, physical activity, and smoking cessation.

Appendix F: Services Provided by the Bridge Team

These are the types of services that Bridge Team will provide:

- Barriers to care assessments that focus on identifying the social, mental, and physical needs of the individual
- Linkages to community organizations and social services to address the social determinants of health and assistance in getting needed resources: housing, employment, documents (ID, birth certificate, etc.)
- Psychiatric clinical assessment and psychopharmacologic treatment let by the Community Bridge psychiatrist until established with permanent outpatient psychiatrist
- PCP consultation and care coordination by Community Bridge PCP until more permanent PCP can be established
- Assessment of needs and patient preferences to help match the individual to a practice where their needs will be best met
- Facilitated referral to Substance Use Disorder (SUD) program, Mental Health (MH) program, Primary Care
- Up to daily interface as needed
- Active outreach to ensure patients are supported through transition and into long-term medical and behavioral health treatment
- Link to CHW in the community that will address barriers to care and social determinants of health
- Overdose education would be provided to patients with substance use disorders

Appendix G: Overview of Community Partners

Sisters Together and Reaching (STAR)
STAR is a community- and faith-based 501(c)(3) non-profit organization with more than 23 years' experience providing direct case management and support services to the HIV/AIDs infected and affected communities of Baltimore, as well as low-income minority communities struggling with chronic diseases. STAR is led by Rev. Debra Hickman, a life-long Baltimore resident with decades of experience providing support services to low-income members of Baltimore's African American community.

STAR's vision is to advocate and provide optimal health and wellness to underserved and at-risk minority communities in a holistic and faith-centered environment. Its mission is to transform the health and wellness of minority communities as a leading faith- and community-based organization on local, national, and global levels. STAR maintains the belief that empowering the communities they serve to make healthy lifestyle choices increases health and wellness.

The Men and Families Center (M&FC)
M&FC is a 501(c)(3) non-profit community center with more than 17 years of experience providing individual and family support services to address social determinants of health. It is directed by Leon Purnell, a life-long East Baltimore resident with decades of experience as a community mental health therapist and frontline service provider in East Baltimore's African American community. M&FC is committed to capacity building and has served as an incubator for several other important East Baltimore organizations and resident-led efforts.

Training is a central component to this intervention—the NNs receive more than 60 hours of intensive training at the beginning of their engagement, and they meet as a group with supervisors every two weeks for additional training. Trainings are designed to ensure that the navigators are effective and residents of the area get the help they need, but as the navigators are also residents, even after their service to the program ends, the knowledge and skills gained generally remain in the neighborhood, serving as an additional level of capacity-building in the neighborhood. They also participate in case reviews, discussion of successes and challenges, problem solving, and discussion of factors affecting the health and well-being of the neighborhood as a whole and their blocks specifically. Each NN has at least 1 one-on-one encounter with a supervisor each week.

Members of the current cohort of navigators reside in specific East Baltimore neighborhoods – currently Middle East, McElderry Park, Madison/East End, Broadway East, and Berea – and provide services on blocks near where they live. They are socioeconomically similar to the neighbors to whom they are providing support, approximately half male and half female, with ages ranging from 22 to 65, and most are African American. When the pilot was launched, about half of the initial cohort of navigators received services from the M&FC as they were entering the program and receiving training. This illustrates the degree to which this intervention is rooted in individual communities, engaging residents in both offering and receiving support and solution. The navigators are based at and supervised and supported by the Men and Families Center staff, including 3 case managers in addition to Mr. Leon Purnell.

Appendix H: Alignment with the West Side Collaborative

In April of 2015, the Johns Hopkins Hospital submitted a response to DHMH and the Health Services Cost Review Commission (HSCRC) competitive application entitled, "*Regional Partnerships for Health System Transformation*" (now called the Community Health Partnership of Baltimore). In a separate application entitled the *Baltimore Health System Transformation Partnership* (the West Baltimore Collaborative), the University of Maryland Medical Center (UMMC), and the University of Maryland Medical Center Midtown Campus (Midtown) partnered with Bon Secours Hospital and St. Agnes Hospital to do very similar work.

Since the time of the initial planning grant award, and in fact prior to that during the development of the proposals, the two partnerships have been committed to working together, knowing that many high-cost high-use patients visit multiple hospitals across the city, and that the goals of the partnership cannot be achieved without improving the health and lowering costs for all city residents. One of the goals of the planning process – and a charge to us by the HSCRC/DHMH staff when the planning grant was awarded – was to identify the areas that most lend themselves to be developed jointly. The two regional partnerships jointly established an Alignment Work Group to identify and plan common approaches to reducing avoidable admissions that could be implemented across Baltimore City. The Alignment Work Group identified three areas offering significant opportunity for improvement in patient care and efficiency through alignment of practices across hospitals and partnerships:

1. Patient Attribution
2. Care Plans
3. Quality Measures

The Work Group established three subcommittees to address these areas. Representatives from University of Maryland Medical Center, The Johns Hopkins Hospital and Johns Hopkins Bayview Medical Center, Mercy Medical Center, University of Maryland Medical Center Midtown Campus, St. Agnes Hospital, Bon Secours Hospital, and LifeBridge Health participated in the workgroups. In addition, representatives from CRISP, HMA, and BRG also participated.

Patient Attribution

In order to coordinate the development of patient care plans across the city in a way that is patient centered and does not result in redundant, overlapping, and potentially conflicting care plans for high utilizing patients, the Patient Attribution subcommittee developed an approach that could be used by all of the hospitals. The result is an algorithm that starts with connecting the patient to their PCP and if one does not exist, working with both regional partnerships to connect the individual to a medical home based on the patient's home zip code, the plurality of the patients care and patient choice (see figure on the next page).

While the subcommittee did not think that there will be a market share impact because the impact is expected to occur evenly across all hospitals, the participants realize that this has not been done before and both regional partnerships agree that they should monitor this for impact on market share.

Diagram 1: Algorithm developed to help determine where to attribute patients

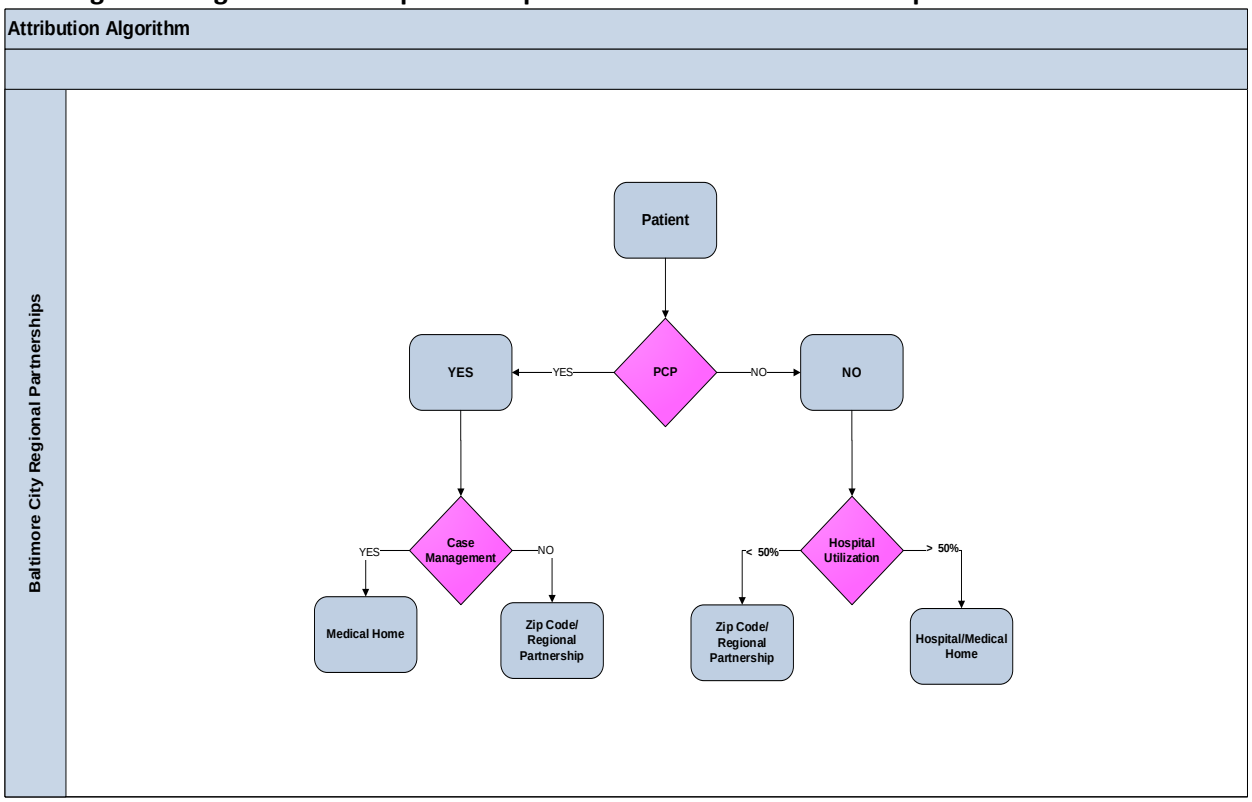
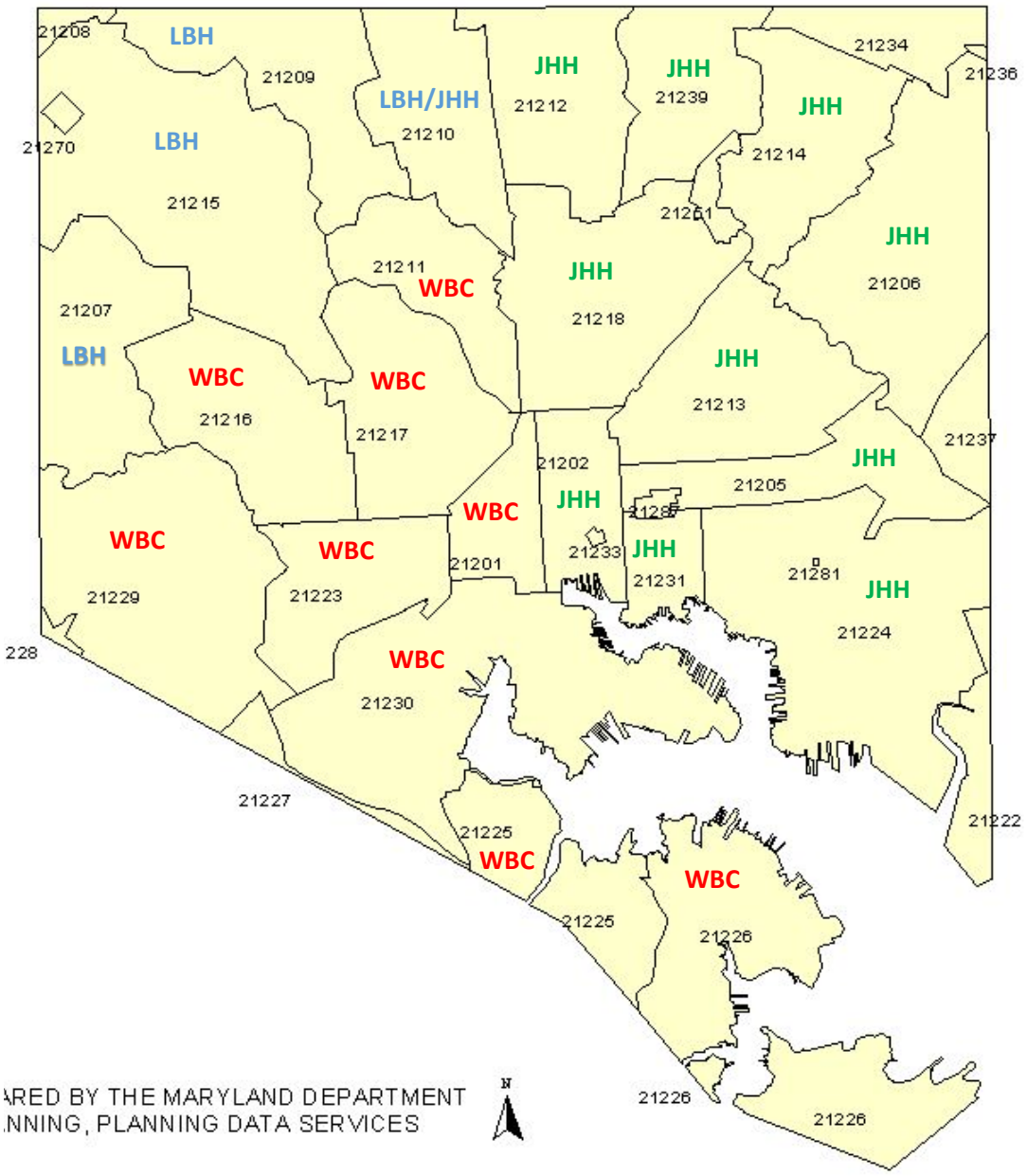


Diagram 2: Zip code attribution map



Key for Diagram 2:
LBH = LifeBridge Health
JHH = Johns Hopkins Hopsital
WBC = West Baltimore Collaborative

Care Plans
In order to coordinate care, it is important for care managers to have access to existing care plans, which may have been developed at other facilities. Initial discussions of the workgroup focused on the development of a common comprehensive care management plan for the regional partnership. Because

of the complexity of this endeavor due to the variability in EMR systems and other technical issues, the focus shifted to utilization of CRISP's Care Alert and Care Profile. All of the partner hospitals in both regional partnerships will use CRISP's care alert that will notify partners that a care plan exists. Though the plan itself would not be visible, the care manager's contact information would be available which would allow for coordination of care management efforts.

CRISP is also improving the functionality of the existing Clinical Query Portal to include elements more relevant to coordinated care. Examples of improved functionality (expected late Spring 2016) include:

- A listing of current notification subscribers
- A dedicated section that lists care plans that have been provided to CRISP.
- A dedicated section that provides a care summary
- A risk score derived from risk-stratified case mix data

Quality Measures

In addition to the recommended measures proposed by HSCRC, the partnerships discussed identifying a core set of quality measures that could be used as a proxy for population health measures for Baltimore City. A small number of current measures accepted by CMS, that are in use and/or are required for other programs, have been identified. Both regional partnerships, the Community Health Partnership of Baltimore and the West Baltimore Collaborative, have agreed to use the same core quality measures which include the following:

Core Quality Metrics that both Baltimore City Regional Partnerships have agreed to use
Hypertension (HTN): Controlling High Blood Pressure
Diabetes Mellitus: Hemoglobin A1c Poor Control
Influenza Immunization
Pneumococcal Vaccination for Patients 65 Years and Older
Screening for Clinical Depression and Follow-Up Plan

Social Determinants of Health

In addition to the work of the Alignment Work Group, which is specific to this proposal, nearly all of the hospitals in Baltimore City have been working together as part of the Baltimore City Hospitals Community Benefit Collaborative to improve the health of residents of Baltimore City. Representatives of the Community Benefits programs meet once a month to discuss how the hospitals can work together to maximize the impact of their community health improvement efforts. This collaborative is considering whether it is possible to combine and capitalize on efforts related to their Community Health Needs Assessments and Community Health Implementation Plans. The group prioritizes social determinants of health, and for the coming year has committed to work on health literacy, specifically focusing on messages encouraging positive engagement with the healthcare system by establishing a relationship with a primary care provider. The goal is to help people understand how to use the healthcare system effectively, which will reduce ED and inpatient utilization. Potential areas for future collaboration that have been identified by the group as priorities include transportation, nutrition and housing.

Appendix I

Community Health Partnership of Baltimore Dashboard

Monitoring Measures

2016

Categories & Measures	Q1	Q2	Q3	Q4
Process Metrics				
Total number eligible for Regional intervention				
Identified using high risk criteria				
Referral				
N(%) eligible patients with no known care manager who are assigned a care manager				
N(%) eligible patients with known behavioral health condition and no known PCP who are referred to the Community Bridge Team				
Of eligible patients without a known PCP, the N(%) assigned to PCP				
N(%) eligible patients referred to Community Bridge Team who are assigned a PCP				
N referrals from hospital to the Convalescent Care Program				
Of those enrolled in ambulatory case management, N(%) with a completed Health Risk Assessment				
Of those enrolled in ambulatory case management, N(%) with a completed Longitudinal Care Plan in CRISP				
% of inpatient discharges that result in an Encounter Notification System alert going to a physician				
All Population for Covered ZIPs				
Target Population				
Training and Education				
Number of staff who complete at least one regional training initiative (i.e. Patient Engagement Training)				

Physicians				
Nurses				
Nurse Practitioners				
Care Managers				
Community Health Workers				
Categories & Measures	**Q1**	**Q2**	**Q3**	**Q4**
Quality Metrics				
Patient Experience				
N(%) "Top Box" responses to HCAHPS Discharge Information Domain: *"During your hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?"*				
N(%) "Top Box" on HCAHPS: Care Transitions Domain: "*When I left the hospital, I had good understanding of the things I was responsible for in managing my health?*				
Preventive Care and Chronic Condition Management*				
Hypertension (HTN): Controlling High Blood Pressure				
Diabetes Mellitus: Hemoglobin A1c Poor Control				
Influenza Immunization				
Pneumococcal Vaccination for Patients 65 Years and Older				
Screening for Clinical Depression and Follow-Up Plan				
Categories & Measures	**Q1**	**Q2**	**Q3**	**Q4**
Cost and Utilization Metrics				
Utilization				
ED Visits per 1,000				
All Population for Covered ZIPs				
Target Population				
Total Hospital Admits per 1,000				
All Population for Covered ZIPs				

Target Population				
Ambulatory Care Sensitive Conditions				
Composite ACSC Discharge Rates per 1,000				
All Population for Covered ZIPs				
Target Population				
Chronic Obstructive Pulmonary Disease or Asthma Discharge Rate per 1,000				
Congestive Heart Failure: Discharge Rate per 1,000				
All Cause 30-day Readmissions per 1,000				
All Population for Covered ZIPs				
Target Population				
Cost				
Total Hospital Cost per Person				
All Population for Covered ZIPs				
Target Population				
Total Health Care Cost per Person**				
All Population for Covered ZIPs				
Target Population				

Calculated Yearly	
Return On Investment (ROI)***	
Target Population	
High Cost Top 10%	

KEY
*Measures will only be available for patients at primary care practices which choose to participate in reporting these measures
**Total Health Care Cost per person will not be possible to calculate without Medicare Claims Data
***ROI will not be calculated in year 1

Appendix J

Table 1. Core Outcome Measures

Community Health Partnership of Baltimore - Core Outcome Measures

Community Health Partnership of Baltimore Core Outcome Rates

	Total Unique Patients	Total Hospital Cost per Capita	Total Health Care Cost per Person	Total Hospital Admits per 1,000 Population	ED Visits per 1,000 Population	Readmissions per 1,000 Population	Potentially Avoidable Utilization Cost per Capita	Hospital Specific High Utilizers per 1,000 Population	Hospital Specific Population Target per 1,000 Population	Patient Experience
All Payer	52.1%	$4,454	-	188.0	693.5	24.0	$709	264.76	-	-
Medicare FFS	71.1%	$12,624	-	519.6	730.1	91.3	$2,891	214.56	214.56	-
2+ Conditions Medicare FFS	50.1%	$11,101	-	471.4	572.5	86.1	$2,785	-	-	-
People 3+ IP/Obs>24 All Payer	1.5%	$1,309	-	68.0	69.9	20.1	$484	5.08	-	-
People 3+ IP/Obs>24 Medicare FFS	5.7%	$5,021	-	256.2	179.3	77.6	$2,024	-	12.14	-

Community Health Partnership of Baltimore Core Outcomes - Numerators

	Total Unique Patients	Total Hospital Cost	Total Health Care Cost per Person	Total Hospital Admits	ED Visits	Readmissions	Potentially Avoidable Utilization Cost	Hospital Specific High Utilizers	Hospital Specific Population Target	Patient Experience
All Payer	323,010	$2,760,151,686	-	116,518	429,708	14,894	$439,047,820	164,061	-	-
Medicare FFS	52,911	$939,808,682	-	38,679	54,349	6,794	$215,254,853	15,973	15,973	-
2+ Conditions Medicare FFS	37,313	$826,414,447	-	35,097	42,620	6,408	$207,325,891	-	-	-
People 3+ IP/Obs>24 All Payer	9,193	$811,282,434	-	42,142	43,326	12,481	$300,196,110	3,148	-	-
People 3+ IP/Obs>24 Medicare FFS	4,214	$373,778,022	-	19,074	13,349	5,775	$150,689,218	-	904	-

Community Health Partnership of Baltimore Core Outcomes - Denominators (Populations)

All Payer	619,661	619,661	619,661	619,661	619,661	619,661	619,661	619,661	619,661	619,661
Medicare FFS	74,445	74,445	74,445	74,445	74,445	74,445	74,445	74,445	74,445	74,445
2+ Conditions Medicare FFS	74,445	74,445	74,445	74,445	74,445	74,445	74,445	74,445	74,445	74,445
People 3+ IP/Obs>24 All Payer	619,661	619,661	619,661	619,661	619,661	619,661	619,661	619,661	619,661	619,661
People 3+ IP/Obs>24 Medicare FFS	74,445	74,445	74,445	74,445	74,445	74,445	74,445	74,445	74,445	74,445

Notes:

[1] Numerator and denominator are based upon PSA and SSA Zipcodes per the attached summary. See Table 1A.

Appendix J
Table 1A

The Community Health Partnership of Baltimore - Community Benefit Service Area Populations by Category

Calendar Year 2014

CHPB PSA/SSA Zip Codes	County	City	All Payer	Medicare FFS	2+ Conditions Medicare FFS	People 3+ IP/Obs>24 All Payer	People 3+ IP/Obs>24 Medicare FFS
21202	Baltimore City	Baltimore	22,832	1,532	1,532	22,832	1,532
21205	Baltimore City	Baltimore	16,146	1,627	1,627	16,146	1,627
21206	Baltimore City	Baltimore	50,846	4,882	4,882	50,846	4,882
21209	Baltimore City	Baltimore	26,465	4,157	4,157	26,465	4,157
21211	Baltimore City	Baltimore	17,351	2,836	2,836	17,351	2,836
21213	Baltimore City	Baltimore	32,733	3,562	3,562	32,733	3,562
21214	Baltimore City	Baltimore	20,564	2,213	2,213	20,564	2,213
21215	Baltimore City	Baltimore	60,161	10,092	10,092	60,161	10,092
21216	Baltimore City	Baltimore	32,071	4,330	4,330	32,071	4,330
21217	Baltimore City	Baltimore	37,111	4,127	4,127	37,111	4,127
21218	Baltimore City	Baltimore	49,796	5,660	5,660	49,796	5,660
21219	Baltimore	Sparrows Point	9,379	1,595	1,595	9,379	1,595
21222	Baltimore	Dundalk	55,786	8,242	8,242	55,786	8,242
21223	Baltimore City	Baltimore	26,366	2,760	2,760	26,366	2,760
21224	Baltimore City	Baltimore	49,134	5,194	5,194	49,134	5,194
21225	Baltimore City	Brooklyn	33,545	3,379	3,379	33,545	3,379
21230	Baltimore City	Baltimore	33,568	3,018	3,018	33,568	3,018
21231	Baltimore City	Baltimore	15,748	1,293	1,293	15,748	1,293
21237	Baltimore	Rosedale	30,059	3,946	3,946	30,059	3,946
CHRB CBSA Total			**619,661**	**74,445**	**74,445**	**619,661**	**74,445**

*While some zip codes extend outside of Baltimore City and Baltimore City County, our parnership is foucsed on individuals within Baltimore City and Baltimore City County

Appendix K: Participants in The Community Health Partnership of Baltimore

	Organization	Name and Title (if available)
Partner Hospitals	Johns Hopkins Hospital	- Dan Brotman, MD, SFHM, FACP, Director, Hospitalist Program - Amy Deutschendorf, MS, RN ACNS-BC, Vice President, Care Coordination/Clinical Resource Management - Diane Lepley, RN, MSN, Admin Director for Grants and Special Projects; Director of Clinical Analytics Care Coordination/Clinical Resource Mgmt - Steve Mandell, Senior Director, Healthcare Information Systems - Stephanie Reel, Chief Information Officer, University Administration - Melissa Richardson, MBA, Director, Care Coordination
	Johns Hopkins Bayview Medical Center	- Michele Bellantoni, MD, CMD, Medical Director, Specialty Hospital Programs - Anita Everett, MD, DFAFA, Division Director of Community and General Psychiatry - Dan Hale, PhD, Special Advisor, Office of the President - Carol Sylvester, RN, MS, Vice President of Care Management Services
	MedStar Franklin Square Medical Center	- Debi Kuchka-Craig, Vice President of Managed Care, MedStar Health, Inc. - Kathy Talbot, Vice President of Reimbursement, MedStar Health, Inc .
	MedStar Harbor Hospital	- Debi Kuchka-Craig, Vice President of Managed Care, MedStar Health, Inc. - Kathy Talbot, Vice President of Reimbursement, MedStar Health, Inc .
	Mercy Medical Center	- Michael Mullane, Senior Advisor to the President and CEO - Christopher Thomaskuttty, Chief of Staff; Sr Vice President, Clinical Programs
	Sinai Hospital	- Darleen Won, Director of Population Health, LifeBridge Health

	Organization	Name and Title (if available)
Physician Practice Sites	Family Health Center of Baltimore	
	Health Care for the Homeless	- Kevin Lindamood, President & CEO - Nilesh Kalyanaraman, MD, Chief Medical Officer
	*Johns Hopkins Bayview Beacham Center for Geriatrics Medicine	
	*Johns Hopkins Bayview Comprehensive Care Practice	- Michael Fingerhood, MD
	*Johns Hopkins Bayview General Internal Medicine	
	*Johns Hopkins Community Physicians at Greater Dundalk	
	*Johns Hopkins Community Physicians at East Baltimore Medical Center	
	*Johns Hopkins Community Physicians at Wyman Park	
	*Johns Hopkins Outpatient Center	

Note: We await target population data from CRISP about patient attribution to primary care practice sites in order to finalize our list but anticipate the sites listed above will have a large number of Medicare patients who reside in our target geography. * Denotes a current J-CHiP site.

	Organization
Post-Acute Facilities	Brinton Woods Post-Acute Care Center
	Future Care – North Point
	Future Care – Canton Harbor
	Genesis Heritage Elder Care
	Riverside Skilled Nursing Facility

	Organization	Name and Title (if available)
Community-based Partners	Health Care for the Homeless	- Kevin Lindamood, President & CEO - Nilesh Kalyanaraman, MD, Chief Medical Officer
	Sisters Together and Reaching (STAR)	- Debra Hickman, President and CEO - Demetrius Frazier, Supervisor of CHWs
	The Men and Families Center	- Leon Purnell, Executive Director - Brian Knight, Program Director
	Esperanza Center	- Kathryn Kline, MD, Medical Director

	Organization	Name and Title (if available)
Other Key Partners in the Planning Process	Advanced Health Collaborative	- Robb Cohen, CEO
	Johns Hopkins Community Physicians	- Jenny Bailey, RN, BS, Senior Director for Quality and Transformation - Scott Feeser, MD, Medical Director, Johns Hopkins Medical Alliance for Patients ACO - Steve Kravet, MD, MBA, FACP, President
	Johns Hopkins HealthCare	- Linda Dunbar, PhD, RN, Vice President of Population Health and Care Management - Felicia Hill Briggs, PhD, Senior Director of Population Health Research and Development (R&D) - Victoria Lo, Population Health Research Associate - Sarah Kachur, PharmD, Director, Population Health R&D - Karyn Nicholson, MSN, RN, Clinical Informatics Specialist - Tracy Novak, MHS, Mgr, Population Health Project Mgmt - Regina Richardson, RN, BSN, MBA, CCM, Senior Director of Population Health and Care Mgmt - Melissa Sherry, MPH, Senior Research Associate for Population Health (Pop Health) - Laura Herrera Scott, MD, MPH, Medical Dir, Pop Health
	Johns Hopkins Health System	- Ed Beranek, Vice President of Revenue Management and Reimbursement - Scott Berkowitz, MD, MBA, Medical Dir, Accountable Care - Anne Langley, JD, MPH, Senior Director, Health Policy Planning and Community Engagement
	Johns Hopkins Home Care Group	- Katie Blythe, MHA, Administrative Resident - Mary Myers, RN, MS, Vice President/COO
	Matrix Ventures, LLC	- Vince Truant, CEO

HEALTH CARE for the HOMELESS INC.

December 21, 2015

Donna Kinzer
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215

Dear Ms. Kinzer:

Health Care for the Homeless strongly supports the Community Health Partnership of Baltimore's application for the HSCRC Transformation Implementation Program. We are eager to build upon our current collaborations with Mercy Medical Center, Johns Hopkins, and other partners to increase access to primary care, lower overall costs, and improve the health and well-being of the most vulnerable members of our community.

The approval of the all payer hospital payment model in January 2014 aligns hospital incentives with community and primary care efforts to improve health by shifting away from traditional fee-for-service (FFS) payments and toward overall health improvement. A partnership across city hospitals to address the needs of high-cost high-need patients offers a new perspective and new opportunities to minimize duplication of effort and better coordinate care for patients. The Community Health Partnership of Baltimore holds great promise to improve health, lower costs, and better engage disconnected people.

During past several months, I participated on the Steering Committee that The Johns Hopkins Hospital convened and facilitated as part of a collaborative planning process leading to this proposal. It was important to bring together hospital partners in Baltimore City as well as a broad spectrum of other community-based partners to share programs, experiences, and data with the goal of developing a regional approach for care coordination to address the health and socio-demographic needs of the most frequent users of Baltimore-area hospital and emergency department resources. I was impressed with the level of community engagement in this process and am particularly excited about new opportunities to share data with hospitals and work together to identify shared patients and ensure the best care for them delivered in the most appropriate setting.

Health Care for the Homeless is Maryland's leading provider of comprehensive health services for individuals and families experiencing homelessness. Recent expansion of Maryland Medicaid has dramatically changed the health insurance landscape for those we serve – with 90% of our patients now enrolled in Medicare or Medicaid (up from 30% in 2013). This growth in insurance coverage already has allowed us to expand our services and sustain these interventions for vulnerable individuals receiving Medicare, Medicaid, the particularly vulnerable "dual eligible," and the uninsured. Current HSCRC efforts both leverage and supplement this stronger capacity to improve health.

421 Fallsway, Baltimore, MD 21202 • 410-837-5533 • 410-837-8020 fax • www.hchmd.org

Building upon our shared experiences and embracing the new technologies and opportunities before us, the Community Health Partnership of Baltimore can create a more efficient, cost-effective model to improve the health of our most vulnerable residents. Health Care for the Homeless is enthusiastic about our involvement in this partnership. It has truly been a collaborative effort and promises to deliver on its promise to transform health care delivery in Baltimore.

Sincerely,

Kevin Lindamood
President and CEO

Sisters Together And Reaching, Inc. (STAR)

901 N. Milton Avenue, Suite 260
Baltimore Maryland 21205
Office (410) 276-8969 Fax (410) 276-8970

December 16, 2015

Donna Kinzer
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215

Dear Ms. Kinzer:

I am writing to express my support for the Community Health Partnership of Baltimore in response to the HSCRC Transformation Implementation Program Request for Applications.

The Community Health Partnership of Baltimore hopes to begin changing the drivers of health in Baltimore City that have led to the high utilization and poor health outcomes seen in this region today. During the last several months, I participated on the Steering Committee that The Johns Hopkins Hospital convened and facilitated as part of a collaborative planning process. It was important to bring together hospital partners in Baltimore City as well as other community-based partners to share programs, experiences, and data with the goal of developing a regional approach for care coordination.

As a partner in the Johns Hopkins Community Health Partnership (J-CHiP), Sisters Together and Reaching assisted in the development and management of the community-based Community Health Worker intervention to address J-CHiP client needs. We have experience addressing many major barriers to health including health literacy, housing, hunger, workforce development, and mental health. Building on those experiences and lessons learned in J-CHiP, we will expand this work for the Community Health Partnership of Baltimore.

I am extremely enthusiastic about this new opportunity to build on previous work with current partners and develop relationships with new hospitals as we all work together to improve the health of our communities. Together we can create a more efficient, cost-effective model that better meets the needs of our clients in a more seamless way.

Sincerely,

Debra Hickman, M. Div., President and CEO

Men & Families Center, Inc.

(Formerly the Men's Center, Inc.)

2222 Jefferson Street
Baltimore, Maryland 21205

16 December 2015

Donna Kinzer
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215

Dear Ms. Kinzer:

I am writing to express my support for the Community Health Partnership of Baltimore's proposal in response to the HSCRC Transformation Implementation Program Request for Applications.

By partnering across hospitals, primary care practices, community organizations, and skilled nursing facilities, the Community Health Partnership of Baltimore hopes to begin changing the drivers of health in Baltimore City that have led to the high utilization and poor health outcomes seen in this region today. This is work I have been engaged in for nearly twenty years, and I am gratified to see the hospitals and other providers in the city move toward this more collaborative model and toward addressing some of the issues that really impact people.

As a partner in the Johns Hopkins Community Health Partnership (J-CHiP), the Men and Families Center has developed and managed the Neighborhood Navigator (NN) Program in the 21205 zip code of East Baltimore. The NN model combines features of community health worker and peer advocate/mentor models. The primary roles of the Neighborhood Navigators are relationship building and social support, linkages to care, identification and monitoring of unmet needs related to access to health care and other services, regular contact be it via phone or home visits to help engage people and mitigate barriers, and capacity-building and mobilization of neighborhood residents. It is a successful way to engage patients and "meet them where they are" with their health and other challenges that impact their health.

Building on our experiences in J-CHiP, we will expand this work as a part of the Community Health Partnership of Baltimore. I look forward to continuing to work with Johns Hopkins and to developing new relationships with additional hospitals and community partners. We will work together to address those social determinates of health that often prevent patients and families from being able to take care of their health.

Sincerely,

Leon Purnell
Executive Director

Office: (410) 614-5353
Fax: (410) 276-1087
Email: menandfamiliescenter@gmail.com
Website: www.menandfamiliescenter.org

CATHOLIC CHARITIES

December 16, 2015

Donna Kinzer
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215

Dear Ms. Kinzer:

I am writing to express my support for the Community Health Partnership of Baltimore's application for the HSCRC Transformation Implementation Program.

A partnership across city hospitals to address regional health offers a new perspective and new opportunities to come together to address health determinants that greatly effect individuals across the geographic area. By partnering across hospitals, primary care practices, community organizations, and skilled nursing facilities, the Community Health Partnership of Baltimore hopes to begin changing the drivers of health in Baltimore City that have led to the high utilization and poor health outcomes seen in this region today.

We look forward to being a part of this new level of collaboration across the city, and to making connections between our many programs serving vulnerable populations and the programming proposed by the Partnership. In fact, we are working with the Partnership now to identify space to house one of the innovative interventions, the Bridge Team. We are excited about the opportunities this co-location will offer for sharing information and making linkages that will benefit our clients.

I am enthusiastic about the level of collaboration among hospitals, community-based organizations, and other providers that this application represents. This type of partnership, and the alignment of incentives to achieve better health for all of our residents in Baltimore City, including those with the greatest needs, will help us move the needle and achieve better outcomes. This is a unique opportunity to build on previous work with current partners and develop new relationships as we all work together to improve the health of our communities. Together we can create a more efficient, cost-effective model that better meets the needs of our clients and residents. For all of these reasons, we offer our strong support for the Community Health Partnership of Baltimore's proposal.

Sincerely,

Mary Anne O'Donnell

Mary Anne O'Donnell
Assistant Director/CAO

CITY OF BALTIMORE
STEPHANIE RAWLINGS-BLAKE, Mayor

HEALTH DEPARTMENT
Leana S. Wen, M.D., M.Sc.
Commissioner of Health
1001 E. Fayette Street
Baltimore, Maryland 21202

December 16, 2015

Donna Kinzer
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, MD 21215

Dear Ms. Kinzer:

The Baltimore City Health Department is pleased to support the Community Health Partnership of Baltimore's application for funding assistance under the Health Services Cost Review Commission's Transformation Implementation Program.

The approval of the all payer hospital payment model in January 2014 aligns hospital incentives with community and primary care efforts to improve health by shifting away from traditional fee-for-service payment towards global budgets. Because the success of the new payment model is time-sensitive, there is a sense of urgency to transform the delivery system from one of volume to value. A partnership across city hospitals to address regional health offers a new perspective and new opportunities to come together to address health determinants that greatly effect individuals across the geographic area. By partnering across hospitals, primary care practices, community organizations, and skilled nursing facilities, the Community Health Partnership of Baltimore hopes to begin changing the drivers of health in Baltimore City that have led to the high utilization and poor health outcomes seen in this region today.

We are enthusiastic about the level of collaboration among hospitals, community-based organizations, and other providers that this application represents. This type of partnership, and the alignment of incentives to achieve better health for all of our residents in Baltimore City, including those with the greatest needs, will help us move the needle and achieve better outcomes. This is a unique opportunity to build on previous work with current partners and develop new relationships as we all work together to improve the health of our communities. Together we can create a more efficient, cost-effective model that better meets the needs of our clients and residents.

Sincerely,

Dawn O'Neill

Dawn O'Neill, M.P.H.
Deputy Commissioner

Behavioral Health System
Baltimore

December 18, 2015

Donna Kinzer
Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215

Dear Ms. Kinzer:

I am writing to express my support for the Community Health Partnership of Baltimore's application for the HSCRC Transformation Implementation Program.

A partnership across city hospitals to address regional health offers a new perspective and new opportunities to come together to address health determinants that greatly effect individuals across the geographic area. By partnering across hospitals, primary care practices, community organizations, and skilled nursing facilities, the Community Health Partnership of Baltimore hopes to begin changing the drivers of health in Baltimore City that have led to the high utilization and poor health outcomes seen in this region today.

BHSB is a nonprofit organization established by Baltimore City to perform the governmental function of managing Baltimore City's behavioral health system—the system of care that addresses emotional health and well-being and provides services for individuals with substance use and mental health disorders. As such, BHSB serves as the local behavioral health authority (LBHA) for Baltimore City and works to improve access to a full range of quality behavioral health services and advocate for innovative approaches to prevention, early intervention, treatment and recovery to help build healthier individuals, stronger families and safer communities.

We look forward to being a part of this new level of collaboration across the city, and to making connections between the public behavioral health system providers and the programming proposed by the Partnership. In fact, we will be working with the Partnership to ensure transition to longer term treatment with the Bridge Team. We are excited about this opportunity with the Bridge Team and the role it will play in enhancing the crisis response system for Baltimore City.

I am enthusiastic about the level of collaboration among hospitals, community-based organizations, and other providers that this application represents. This type of partnership, and the alignment of incentives to achieve better health for all of our residents in Baltimore City, including those with the greatest needs, will help us move the needle and achieve better outcomes. This is a unique opportunity to build on previous work with current partners and develop new relationships as we all work together to improve the health of our communities. Together we can create a more efficient, cost-effective model that better meets the needs of our clients and residents. For all of these reasons, we offer our strong support for the Community Health Partnership of Baltimore's proposal.

Sincerely,

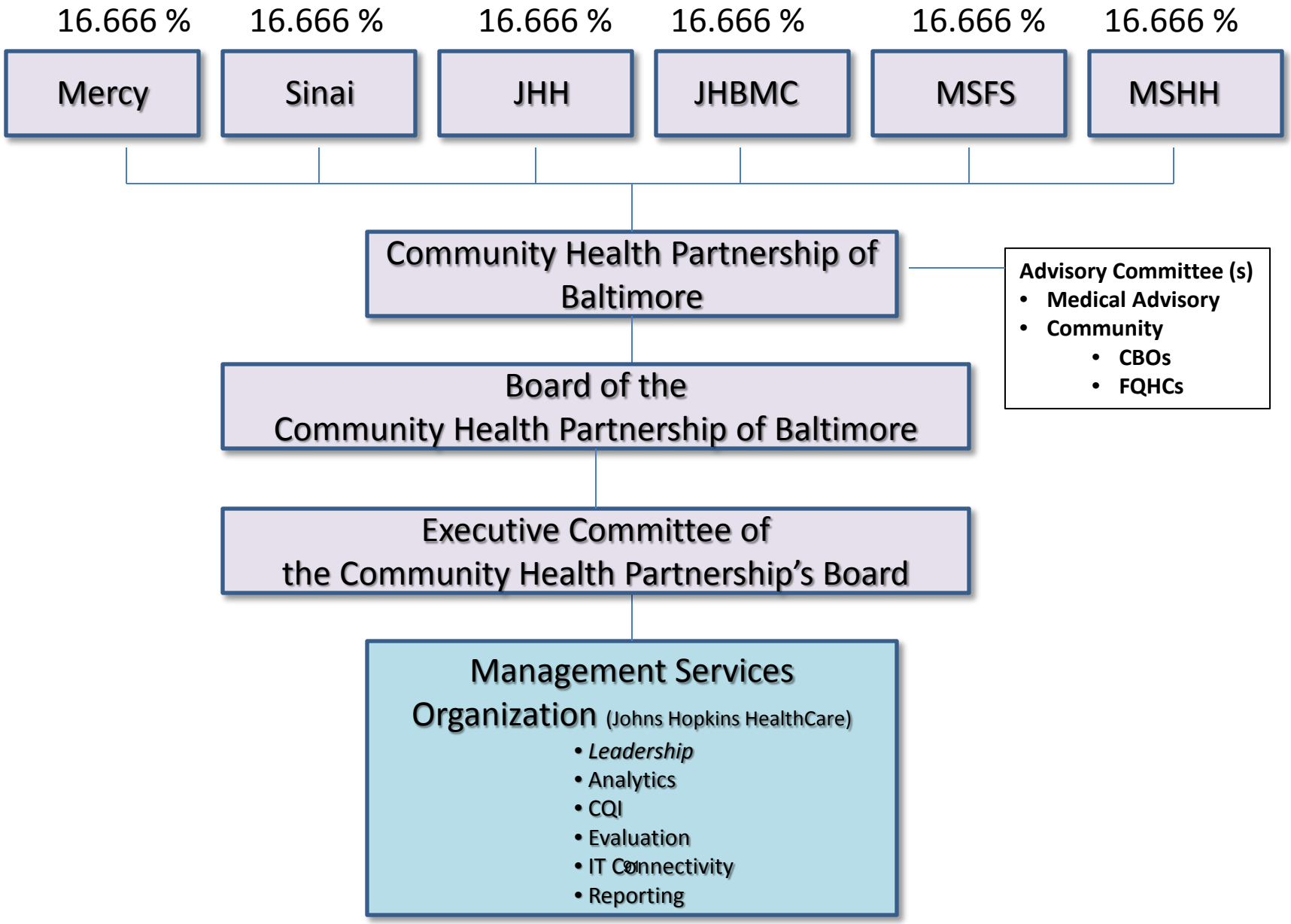
Kathleen Westcoat, MPH
President and CEO

Appendix M

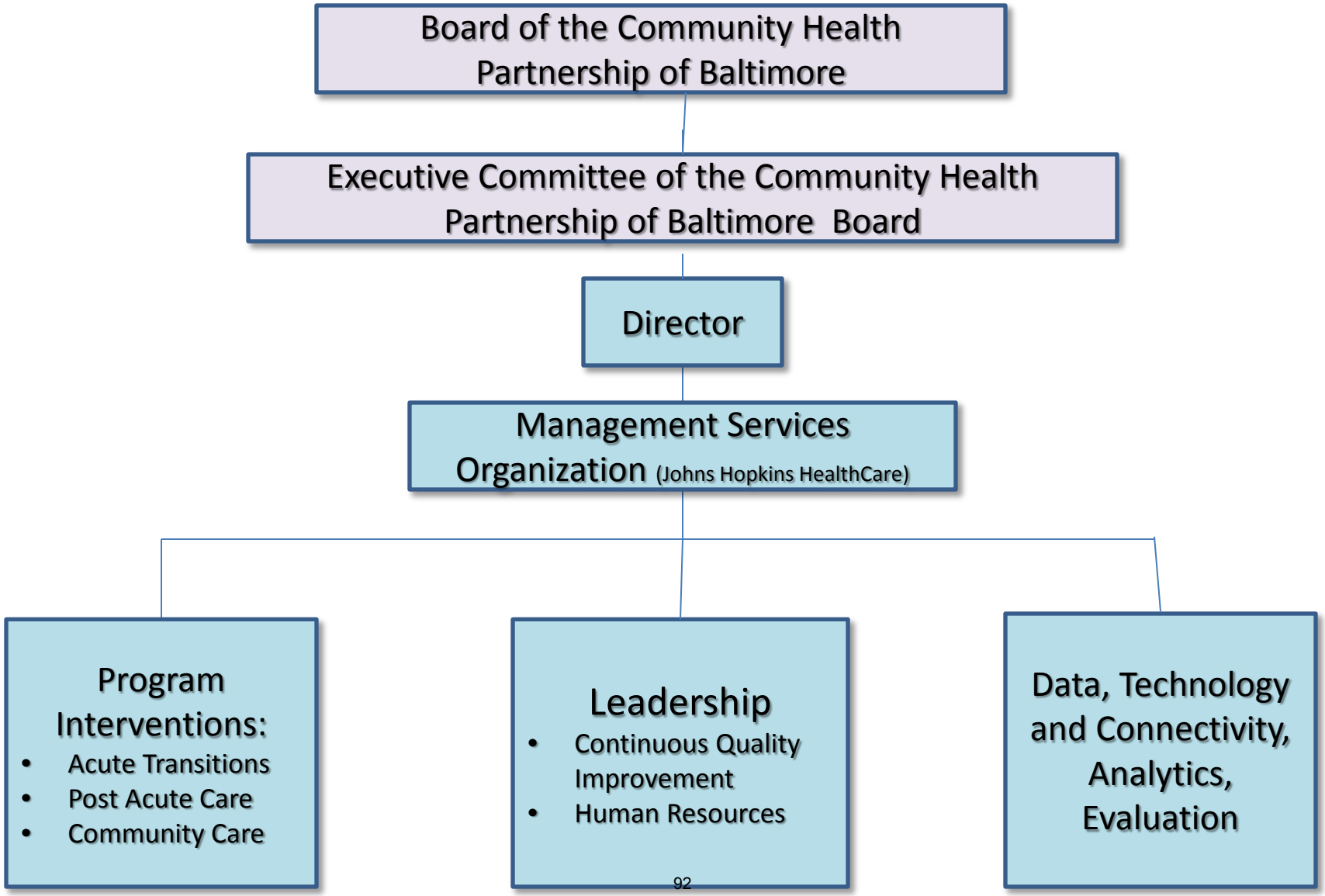
Community Health Partnership of Baltimore

Governance and Operating Structure

Community Health Partnership of Baltimore
Governance Structure – Equal Hospital Interest



Operating Structure



Community Health Partnership of Baltimore
Funds Flow