Aligning Payment with Quality Improvement Objectives for Hospitals

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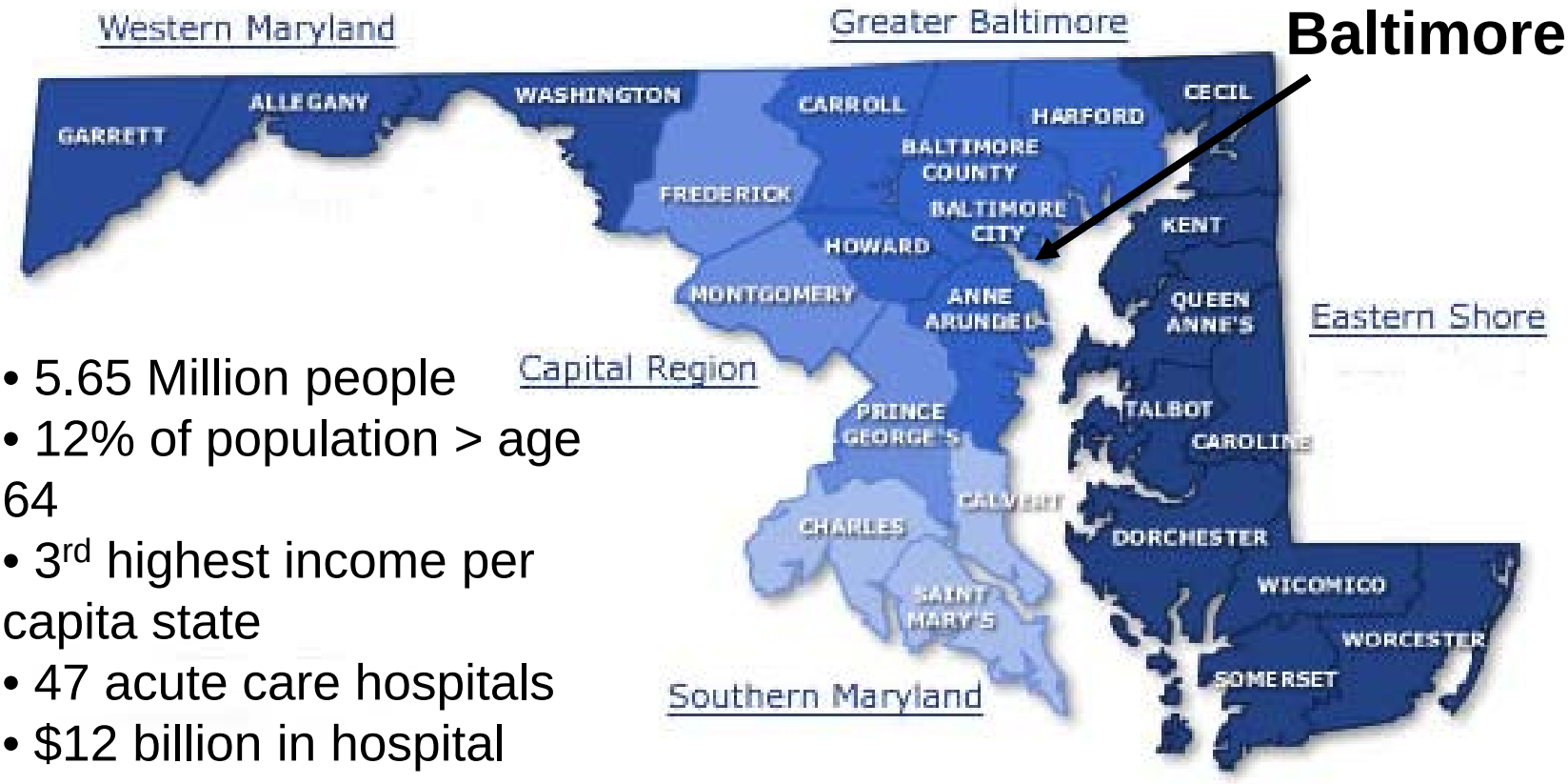
MARYLAND DHMH, HEALTH SERVICES COST REVIEW COMMISSION

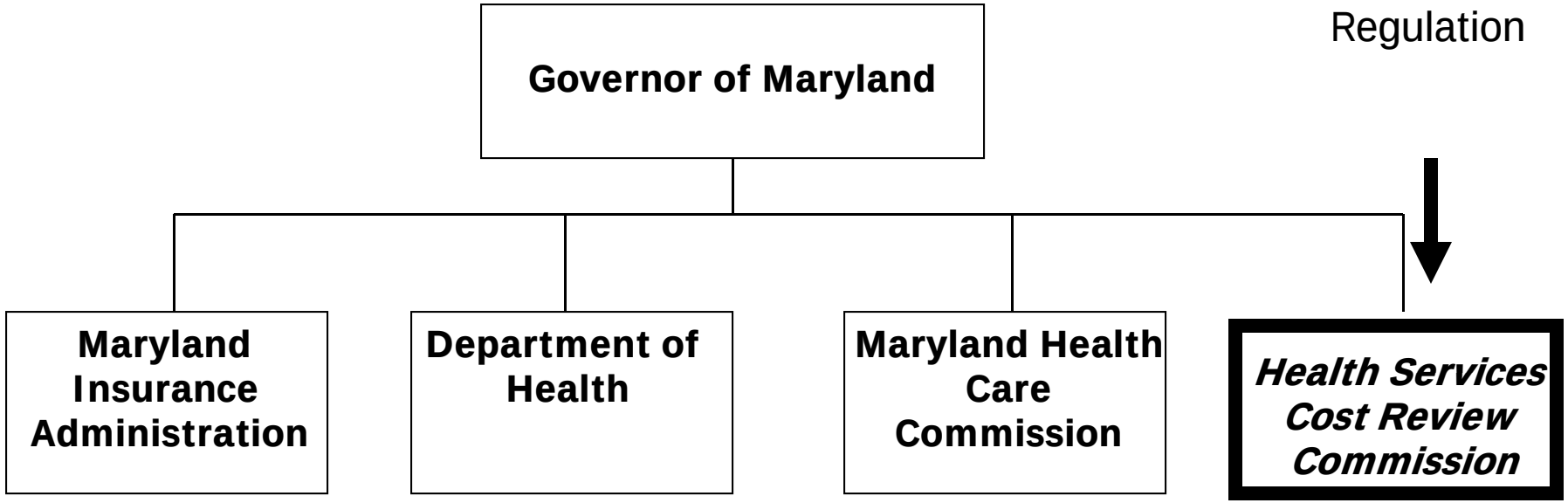
State of Maryland



- 5.65 Million people
- 12% of population > age 64
- 3rd highest income per capita state
- 47 acute care hospitals
- $12 billion in hospital revenue
- 800,000 discharges per year

Overview of Maryland Health Regulatory Agencies

HSCRC
Hospital
Regulation



Regulates Core Health Functions:
Medicaid Program
Public Health
Licensing/Certification

Regulates:
Cert. Of Need
Report Cards
Small Group Insurance

Regulates: Rates/Costs Of Acute care Hospitals

Background: HSCRC and the All Payer System

- Law enacted in 1971; First set rates in 1974
- Goals were to correct major problems
  - Control rapid cost growth
  - Improve access to care
  - Make the system equitable
  - Provide accountability and transparency
  - Ensure financial stability and predictability for hospitals and patients
- Key Components
  - All Payer System
  - Waiver Test
  - Funding for Hospital Uncompensated Care

Background: HSCRC and All Payer System

- Regulate the rates of 47 acute care hospitals (not physicians)
- Rates set prospectively
- Charge Per Case System with Annual Update Factor
- Promotes Efficiency and Effectiveness
- 7 member Commission- serve 4 year Standard Terms and include a variety of health care backgrounds – appointed to serve the “public interest”
- Professional Staff: 30 Full Time Employees-Economists, Statisticians; Accountants; Legal Staff; Clinician:
  - Rate Setting Division and Methodology Division
- Operating budget of $4.0 million per year
- Data collection is the key
- The system allows for P4P to be implemented more broadly than anywhere in the U.S.

HSCRC Quality Initiatives:

Quality Based Reimbursement (QBR)

Maryland Hospital Acquired Conditions (MHAC)

Maryland Preventable Hospital Readmissions (MHPR)

Quality Based Reimbursement Initiative

- HSCRC has implemented payment adjustments to hospital rates for the QBR Initiative for hospitals in July 2009.
- Hospital performance is measured on the identified measures for calendar year 2008.
- For the initial year, measures include nineteen Hospital Quality Alliance (HQA)/Joint Commission/CMS process measures for:
  - heart attack,
  - heart failure,
  - pneumonia, and
  - surgical infection prevention.
- CY 2008 is the first performance year for the QBR Initiative
  - Utilizes the opportunity model
  - Revenue neutral with 0.5% or $60M at risk in the update factor in the first year
  - Lowest performing hospital received 0.42% and highest performing received 0.53%
- Going forward, additional process measures will be added consistent with the measures added the Maryland Hospital Performance Evaluation Guide maintained by the Maryland Health Care Commission

Maryland Hospital Acquired Conditions Initiative

- Implemented in July 2009
- Actual versus expected rates of performance on a broad set of 50 risk/severity adjusted potentially preventable complications is measured.
- During fiscal year 2008, these hospital-based preventable complications were present in approximately 53,000 of the State's total 800,000 inpatient cases represented approximately $500 million in potentially preventable hospital payments.
- The initial of revenue "at risk" for FY 2010 (July 1, 2009 to June 30, 2010) will be determined in the Fall of 2009.
- A technical payment workgroup is currently active and is deliberating the methodology for linking individual hospital performance on MHACs to financial incentives through the rate setting system.
- Rewards and penalties will be applied to the hospitals updated rates using a scaling methodology (subject to further discussion and review of the technical payment workgroup) on a revenue neutral basis beginning FY 2011 (July 1, 2010 to June 30, 2011).

Potentially Preventable Complications

- Potentially Preventable Complications (PPCs)
  - Harmful events (accidental laceration during a procedure) or negative outcomes (hospital acquired pneumonia) that may result from the process of care and treatment rather than from a natural progression of underlying disease

Maryland Hospital Acquired Conditions Overview

- Initially modeled after CMS HACs with 85% payment decrement for cases that occurred for 11 conditions.
- The initiative is now broadened to include measurement of a set of 50 Potentially Preventable Complications (PPCs)*- Approved by the Commission at its June 3, 2009 meeting.
  - Implemented July 1, 2009
  - Risk adjusted rate based methodology – actual vs. expected
  - Complications as they are specified right now, in the system, account for ~$500 million if they were completely eliminated (HSCRC does not believe they are completely preventable)
  - Magnitude of revenue at risk for first year is undetermined (revenue neutral implementation)

***Product of 3M Health Information Systems**

What HSCRC Learned

- **Case-Specific Approach proved untenable** to industry
- Setting a specific threshold of preventability for the CMS HACs (100% preventable) and the MHACs (85% preventable was viewed as problematic)
- Because of these two limitations – focused on **“rate-based” approach** (broader number PPCs: actual vs. expected)
- We have concurrently developed a method of indexing hospital performance based on regression to estimate resources used or averted that associated with the rate of PPC occurrences

Revised MHAC Approach Based on Regression Analysis and Industry Vetting

- Regression performed for 64 PPCs based on Maryland Charge data- California data had similar relative result
- Not all PPCs incurred a statistically significant cost change with the PPC occurring (12 PPCs didn't meet this test)
- Result is an estimation of extra resource use (or averted resource use) for presence (or absence) of a PPC (see Table 1)
- Used as basis of developing a Measurement Index
- Based on industry vetting of the PPCs the following were removed from the MHAC methodology:
  - PPC 21- Chlostridium Difficile Colitis
  - PPC 64- Other In Hospital Adverse Events

Table 1. PPCs Selected as MHACs

PPC #	PPC Description	Adm $	Adm T Value
	Shaded PPCs will not be used for the MHAC Initiative- Updated 8/5/09		
1	Stroke & Intracranial Hemorrhage	$13,066	38.603236
2	Extreme CNS Complications	$12,051	30.374969
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	$5,721	40.425129
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation	$20,064	60.367208
5	Pneumonia & Other Lung Infections	$13,561	93.165292
6	Aspiration Pneumonia	$10,500	43.489609
7	Pulmonary Embolism	$10,735	26.962321
8	Other Pulmonary Complications	$7,791	53.427777
9	Shock	$11,109	42.074928
10	Congestive Heart Failure	$3,895	19.431952
11	Acute Myocardial Infarction	$5,643	20.335337
12	Cardiac Arrythmias & Conduction Disturbances	$2,418	6.8716698
13	Other Cardiac Complications	$3,197	7.6846559
14	Ventricular Fibrillation/Cardiac Arrest	$15,459	41.038245
15	Peripheral Vascular Complications Except Venous Thrombosis	$12,992	24.113279
16	Venous Thrombosis	$10,758	44.449833
17	Major Gastrointestinal Complications without Transfusion or Significant Bleeding	$11,231	34.432863
18	Major Gastrointestinal Complications with Transfusion or Significant Bleeding	$14,354	23.898709
19	Major Liver Complications	$10,045	19.089809
20	Other Gastrointestinal Complications without Transfusion or Significant Bleeding	$8,672	19.123975
21	**Clostridium Difficile Colitis**	$16,495	61.368894
22	Urinary Tract Infection	$6,462	55.126985
23	GU Complications Except UTI	$4,692	11.488989
24	Renal Failure without Dialysis	$7,920	64.262455
25	Renal Failure with Dialysis	$41,186	58.790771
26	**Diabetic Ketoacidosis & Coma**	$1,445	1.2998569
27	Post-Hemorrhagic & Other Acute Anemia with Transfusion	$4,256	14.864072
28	In-Hospital Trauma and Fractures	$4,816	8.8928586
29	Poisonings Except from Anesthesia	$1,415	2.5293641
30	**Poisonings due to Anesthesia**	-$214	-0.044442
31	Decubitus Ulcer	$18,231	60.306088
32	Transfusion Incompatibility Reaction	$48,575	13.275425
33	Cellulitis	$2,864	11.067491
34	Moderate Infectious	$12,922	46.015837
35	Septicemia & Severe Infections	$14,088	82.951889
36	Acute Mental Health Changes	$3,631	13.302443
37	Post-Operative Infection & Deep Wound Disruption Without Procedure	$15,778	55.698834
38	Post-Operative Wound Infection & Deep Wound Disruption with Procedure	$30,875	24.884632
39	Reopening Surgical Site	$13,777	14.66669
40	Post-Operative Hemorrhage & Hematoma without Hemorrhage Control Procedure or I&D Pro	$6,536	39.763252
41	Post-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D Proc	$11,158	17.164797
42	Accidental Puncture/Laceration During Invasive Procedure	$3,836	16.569302
43	**Accidental Cut or Hemorrhage During Other Medical Care**	$722	0.7864481
44	Other Surgical Complication - Mod	$12,509	28.382066
45	Post-procedure Foreign Bodies	$5,203	2.6470991
46	**Post-Operative Substance Reaction & Non-O.R. Procedure for Foreign Body**	$6,574	0.9290811
47	Encephalopathy	$10,182	38.081795
48	Other Complications of Medical Care	$10,588	41.930328
49	Iatrogenic Pneumothrax	$7,283	22.107326

Table 1. PPCs Selected as MHACs

50	Mechanical Complication of Device, Implant & Graft	$14,138	35.609177
51	Gastrointestinal Ostomy Complications	$20,608	40.248239
52	Inflammation & Other Complications of Devices, Implants or Grafts Except Vascular Infection	$8,776	31.270093
53	Infection, Inflammation & Clotting Complications of Peripheral Vascular Catheters & Infusions	$15,073	42.530628
54	Infections due to Central Venous Catheters	$22,295	40.356236
55	**Obstetrical Hemorrhage without Transfusion**	$159	0.9533953
56	**Obstetrical Hemorrhage wtih Transfusion**	$2,137	4.2845441
57	**Obstetric Lacerations & Other Trauma Without Instrumentation**	$273	1.0950693
58	**Obstetric Lacerations & Other Trauma With Instrumentation**	$646	1.6310622
59	**Medical & Anesthesia Obstetric Complications**	$487	1.2749917
60	**Major Puerperal Infection and Other Major Obstetric Complications**	$94	0.164819
61	**Other Complications of Obstetrical Surgical & Perineal Wounds**	$69	0.1035152
62	**Delivery with Placental Complications**	$525	0.8839125
63	**Post-Operative Respiratory Failure with Tracheostomy**	$115,361	91.791189
64	**Other In-Hospital Adverse Events**	$2,147	6.0351379

Note: Shaded PPCs are excluded

Application of Regression Result

- Data modeling calculated FY 08 impact on each hospital for 50 PPCs
- Compared actual value PPCs vs. expected value by PPC
- Expected value = number of complications a hospital would have experienced (given its mix of patients – per APR-DRG and severity level) if it had a rate identical to state-wide average (SWA) rate
- Hospitals exceeding the normative SWA rate by PPC then have higher than expected resource use (unfavorable) and vice-versa…
- Analysis sums each “difference” for each PPC to yield an overall impact for that hospital

Indexing Methodology

Regression Result (value of extra resource use)

Sum results of all 50 PPCs →

					PPC 1 $13,066		PPC 2 $12,051	PPC 3 $5,721	50 PPCs Totals (Sum)	At Risk Rev.	Percent of at-risk Rev.
	Actual	Expected	Extra or (Avoided) Resource Use		Resource Use		Resource Use	Resource Use			
Hospital 1	24	18.5	5.48	$13,066 x 5.48 =	$71,602		($49,769)	$169,520	$2,081,389	$127,841,557	1.63%
Hospital 2	61	48.6	12.4	$13,066 x 12.4 =	$162,018		$77,124	($328,512)	$11,615,023	$530,562,602	2.19%
Hospital 3	8	10	-2	$13,066 x -2 =	($26,001)		$100,984	($60,759)	$9,348,013	$126,865,954	7.37%
Hospital 4	13	20.4	-7.4	$13,066 x-7.4=	($96,557)		($31,332)	($17,335)	$1,233,967	$233,562,653	0.53%
Hospital 5	23	18.3	4.7	$13,066 x 18.4 =	$61,148		($14,340)	$67,911	($1,447,123)	$136,060,092	-1.06%

Used to Rank Hospitals

Benefits of Revised MHAC Approach

- Moves away from case-specific approach where providers feel “targeted” to one that considers aggregate rates
- **Rate-based (risk adjusted) approach** compares hospital performance in aggregate on a relative basis
- Shift from a “punitive” model to one that rewards relative positive performance and penalizes relative negative performance (Revenue Neutral Implementation)
- Provides strong **incentives for coding** complications
- Using more PPCs – creates more balance and is fairer
- Basis for comparing hospitals on combination of efficiency and quality = value

MHAC Reports Timeline

Early December, 2009 – HSCRC staff will send out the following data/reports:

- Appendix C, Table 3 of PPC Recommendation – 'Detailed Provider Rates by PPC' using FY09 data (July 2008 – June 2009). **The statewide standard rate and PPC regression values will now be based on FY09 data using the October 2009 release of the PPC software.**
- Excel file with FY09 Q4 (only) PPC detail for all inpatient cases
- PDF reports for cases that have PPCs for the FY09 Q4 (only) data period
- MHAC case and cost reports in aggregate, by service line and by APR DRG

HSCRC/3M Internal tasks and timeline for generating MHAC reports for FY09

- **Week ending October 31, 2009**- PPC product updated by 3M and HSCRC forwards full year FY 09 hospital data to 3M
- **Week ending November 7, 2009**- 3M to group data under PPC sand generate updated statewide normative statistics
  Week ending November 14, 2009- 3M to generate regression results and produce table 3, 'Detailed Provider Rates by PPC'
  Week ending November 21, 2009- 3M to generate hospital specific reports and send to HSCRC
  Week ending December 5, 2009- HSCRC to review and send out reports to hospitals

Upcoming meetings

All-hospital conference call: Thursday, 11/19/09, 9am to 11am

Tentative meeting to review actual FY 09 MHAC Reports: 12/11/09 at MHA

MHACs in Summary

- Provides an important and useful tool to measure relative performance
- Facilitates clinicians, coders and financial personnel to evaluate and discuss quality-related performance
- Report formats and access to hospital specific (case specific) data – working on reports to help hospitals target problem areas
- Linking of performance to actual payment implications (revenue neutral; but link to certain $ at risk)
- Use of historical “expected values” as benchmarks/targets-
  - FY 09 data will serve as the base to calculated the statewide average PPCs for each APRDRG by SOI (1256 cells)
  - FY 10 data will be used for the initial performance year
  - Rates will be adjusted for FY 11 update factor

Maryland Hospital Preventable Readmissions

- Research shows hospital readmissions are sometimes indicators of poor care or missed opportunities to better coordinate care, or poor quality care in the hospital.
- For Medicare, 18% of all Medicare patients discharged from the hospital have a readmission within 30 days of discharge, accounting for $15 billion in spending nationally (Medpac 2007).
- HSCRC's MHPR initiative will reward efforts that reduce the number of readmissions and that also increase the quality of care and decrease cost.
- HSCRC has analyzed 2006 and 2007 readmission data.

Maryland Hospital Preventable Readmissions

- HSCRC is currently working on additional analyses of PPR data
- Anticipate implementing the MHPR initiative in 2010; initial performance to be measured as of July 1, 2010 (FY 2011) , and hospital rates to be adjusted as of July 1, 2011 (FY 2012)
- Consistent with the MHAC methodology, the MHPR provides a system of payment incentives based on a hospital's actual number of readmissions versus a statewide target rate for each by APR DRG, by severity of illness (SOI) category.
- In addition to implementing payment incentives to lower readmission rates, to help hospitals to identify and adopt strategies to reduce readmissions, HSCRC also plans to form partnerships that support the alignment of efforts across all those who can influence the readmission outcome of care—hospitals, nursing homes, home health providers, payers, etc—through improved collaboration and integration in the delivery of health care.

Potentially Preventable Readmissions (PPRs)

Return hospitalizations that may result from deficiencies in the process of care and treatment (readmission for a surgical wound infection) or lack of post discharge follow-up (prescription not filled) rather than unrelated events that occur post discharge (broken leg due to trauma).

Maryland Data PPR Analysis

- 27 months of data : Jan 2006 – March 2008
- Total admissions : 1,078,667
  - 2006 : 751,300
  - 2007 : 758,695
  - 2008 : 194,382
- 320 (0.02%) admissions excluded due to invalid or missing date of birth
- 50 hospitals

Unique Patient ID

- Probabilistic matching was performed to assign each admission a unique patient ID.
- Patient date of birth, gender, zip code, and hospital medical record ID were used to assign the final unique patient ID
  - Step 1: Uniquely ID each patient based on DOB + Gender + Zip code
  - Step 2: Patients with the same Unique ID from step 1 that have more than one Medical Record ID from the same hospital, are reassigned a unique ID by the Unique ID from Step 1 + hospital ID+ Medical Record Number.
  - Step 3: If more than one Unique ID from step 2 have the same Medical Record ID from the same hospital, then these patients are reassigned a unique ID based on the Unique ID in Step 2 + Hospital ID + Medical Record Number.

Linked Patient ID Data for PPR Assignment

- 1,078,667 patients identified.
- The number of admissions per patient in MD is 1.58.
- In Florida and in another all payer state where the patient ID was based on the SSN, the ratio was 1.75, and in another all payer state where the patient ID was based on a set of encrypted data elements, the ratio was 1.36.
- Patients with inconsistent or overlapping admissions based on admit and discharge dates were excluded from the PPR analysis.
  - 34,561 (2.03%) admissions rejected from the PPR logic.
- Patients classified as a global exclusion were not included in the PPR analysis. This includes major or metastatic malignancy, trauma and burn, neonatal, obstetrical, other specific APR-DRGs, and admissions with discharge status of LAMA. Patients that are transferred or have died are not at risk for starting a chain of readmissions.
  - 517,973 (30.4%) of the admissions are excluded or died and therefore, not a candidate admission for starting a chain of PPRs or classified as a PPR.

Maryland Rates of PPRs

		PPR Rate
15 Day Readmission Time Interval Across Hospital Readmissions	**2006**	**6.74**
	2007	**6.74**
30 Day Readmission Time Interval Across Hospital Readmissions	**2006**	**9.89**
	2007	**9.81**

- PPR rates consistent between two years

Maryland PPR Impact in 2007 for a 15 Day Readmission Time Interval

- 472,380 admissions were candidates for having a subsequent potentially preventable readmission
- 31,873 admissions were followed by one or more PPRs
- PPR rate is the percent of candidate admissions that were followed by one or more PPRs
  - PPR Rate 6.75 = 31,873 / 472,380

- 38,840 admissions were indentified as PPRs
- PPRs account for $430.4 million in charges and 199,582 hospital bed days

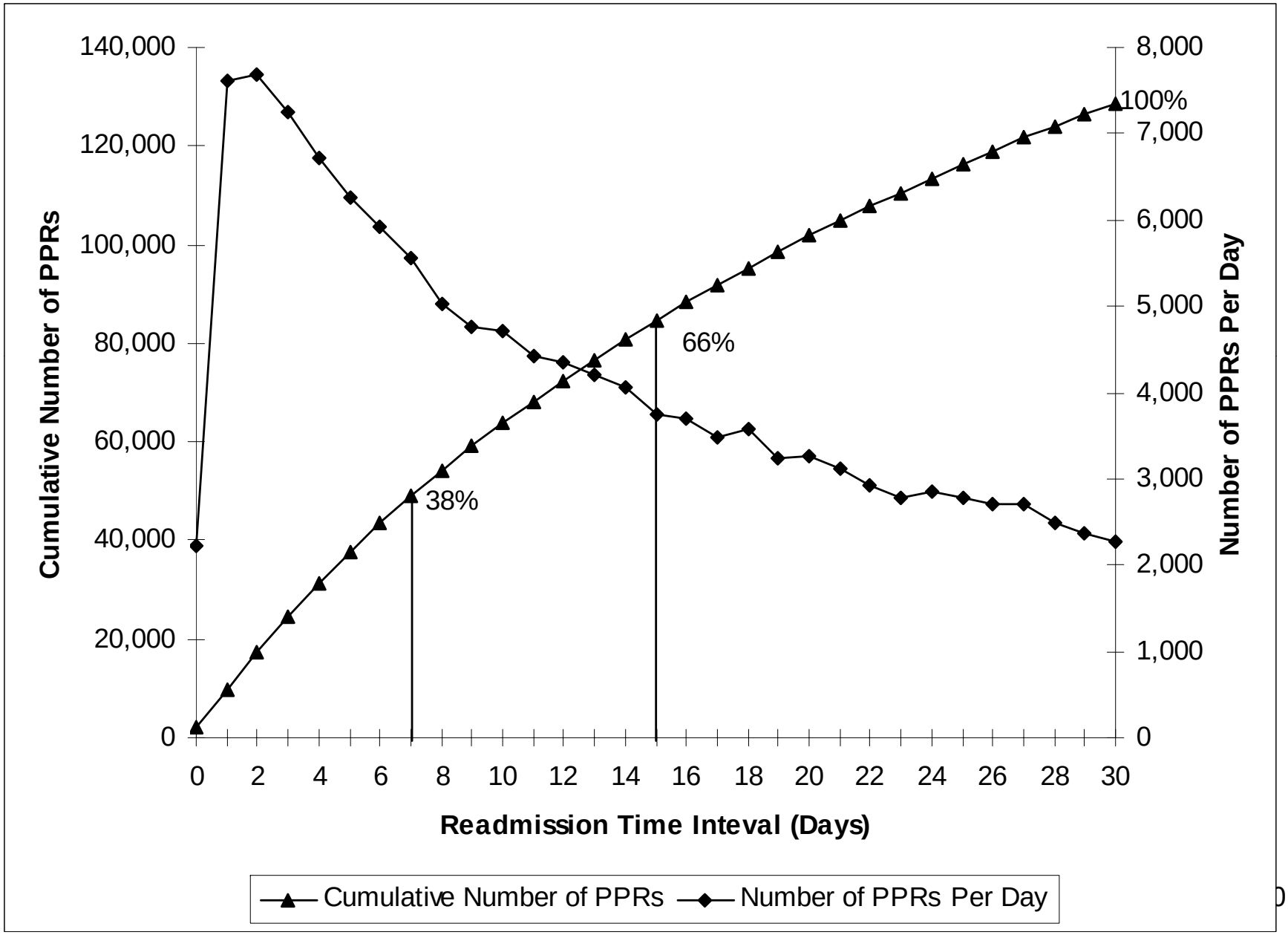
Maryland PPR Impact in 2007 for a 30 Day Readmission Time Interval

- 452,863 admissions were candidates for having a subsequent potentially preventable readmission
- 44,417 admissions were followed by one or more PPRs
- PPR rate is the percent of candidate admissions that were followed by one or more PPRs
  - PPR Rate 9.81 = 44,417 / 452,863

- 59,599 admissions were indentified as PPRs
- PPRs account for $656.9 million in charges and 303,865 hospital bed days

Length of Stay and Charges for Initial Admissions Followed by a PPR within a 30 Day Readmission Time Interval - 2007

	Number of Admissions	CMI	Average Length of Stay	Average Charge	
At Risk Not Followed by PPRs (Other Admission)	408,446	1.0481	3.75	$10,834	
			3.58	$10,337	CMI Adjusted
At Risk Followed by PPRs (Initial Admission)	44,417	1.3133	5.47	$14,930	
			4.16	$11,368	CMI Adjusted


140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
Cumulative Number of PPRs
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Number of PPRs Per Day
100%
66%
38%
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
Readmission Time Inteval (Days)
Cumulative Number of PPRs
Number of PPRs Per Day

Top 15 Initial Admissions followed by one or more PPR - 2007

APR DRG		Initial Admissions Followed by PPRs	Percent of Initial Admissions	PPR Rate	Initial Admissions Followed by PPRs	Percent of Initial Admissions	PPR Rate
		15 Day Window			30 Day Window		
194	HEART FAILURE	1,838	5.77%	12.03%	2,567	5.78%	18.80%
140	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	1,178	3.70%	10.02%	1,693	3.81%	15.67%
720	SEPTICEMIA & DISSEMINATED INFECTIONS	1,024	3.21%	10.14%	1,321	2.97%	14.31%
139	OTHER PNEUMONIA	765	2.40%	6.55%	1,078	2.43%	9.61%
175	PERCUTANEOUS CARDIOVASCULAR PROCEDURES W/O AMI	737	2.31%	8.02%	1,063	2.39%	11.81%
753	BIPOLAR DISORDERS	634	1.99%	7.53%	918	2.07%	11.56%
460	RENAL FAILURE	683	2.14%	9.85%	896	2.02%	14.01%
463	KIDNEY & URINARY TRACT INFECTIONS	606	1.90%	7.60%	836	1.88%	11.11%
201	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS	604	1.90%	6.93%	830	1.87%	9.95%
173	OTHER VASCULAR PROCEDURES	489	1.53%	10.38%	752	1.69%	16.61%
198	ANGINA PECTORIS & CORONARY ATHEROSCLEROSIS	542	1.70%	5.93%	752	1.69%	8.68%
751	MAJOR DEPRESSIVE DISORDERS & OTHER/UNSPECIFIED PSYCHOSES	512	1.61%	6.87%	732	1.65%	10.29%
383	CELLULITIS & OTHER BACTERIAL SKIN INFECTIONS	505	1.58%	4.73%	724	1.63%	7.01%
221	MAJOR SMALL & LARGE BOWEL PROCEDURES	529	1.66%	10.36%	718	1.62%	14.14%
750	SCHIZOPHRENIA	506	1.59%	9.16%	709	1.60%	13.85%

Top 15 represents 35% of all initial admissions followed by PPRs

Top 15 Reasons for PPRs - 2007

APR DRG		Number of Admissions Identified as a PPR	Total Charges for PPRs	Number of Admissions Identified as a PPR	Total Charges for PPRs
		15 Day Window		30 Day Window	
720	SEPTICEMIA & DISSEMINATED INFECTIONS	1,945	$36,578,709	3,041	$57,464,024
194	HEART FAILURE	2,929	$28,621,634	4,712	$45,489,197
140	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	1,338	$11,695,437	2,317	$19,740,461
130	RESPIRATORY SYSTEM DIAG W VENTILATOR SUPPORT 96+ HOURS	247	$13,131,776	352	$19,531,963
460	RENAL FAILURE	993	$10,852,746	1,568	$17,288,207
133	PULMONARY EDEMA & RESPIRATORY FAILURE	755	$11,477,824	1,145	$17,236,788
721	POST-OPERATIVE, POST-TRAUMATIC, OTHER DEVICE INFECTIONS	904	$9,858,735	1,241	$13,552,588
139	OTHER PNEUMONIA	878	$8,208,719	1,376	$12,538,408
711	POST-OP, POST-TRAUMA, OTHER DEVICE INFECTIONS W O.R. PROC	298	$8,652,870	441	$11,882,757
137	MAJOR RESPIRATORY INFECTIONS & INFLAMMATIONS	599	$7,545,054	855	$11,476,928
753	BIPOLAR DISORDERS	883	$7,083,904	1,365	$10,923,940
750	SCHIZOPHRENIA	678	$6,867,837	1,085	$10,247,781
45	CVA & PRECEREBRAL OCCLUSION W INFARCT	550	$6,946,806	796	$9,976,474
248	MAJOR GASTROINTESTINAL & PERITONEAL INFECTIONS	562	$5,873,658	890	$9,544,644
890	HIV W MULTIPLE MAJOR HIV RELATED CONDITIONS	231	$6,893,043	335	$9,451,503

Top 15 PPRs represents 42% of charges on PPRs for a 30 day readmission time window

Top Five PPR Reasons for an Initial Admission of Heart Failure - 2007

APR DRG		Number of Admissions Identified as a PPR	Total Charges for PPRs	Number of Admissions Identified as a PPR	Total Charges for PPRs
		15 Day Window		30 Day Window	
194	HEART FAILURE	962	$9,109,280	1,557	$14,239,684
460	RENAL FAILURE	104	$1,335,969	150	$1,969,758
720	SEPTICEMIA & DISSEMINATED INFECTIONS	97	$1,627,948	135	$2,535,465
140	RESPIRATORY SYSTEM DIAG W VENTILATOR SUPPORT 96+ HOURS	84	$691,335	134	$1,164,383
133	PULMONARY EDEMA & RESPIRATORY FAILURE	80	$1,044,021	113	$1,523,105
	All Other PPRs	1,602	$14,813,081	2,623	$24,056,802
	Total PPRs for Initial Admission of Heart Failure	2,929	$28,621,634	4,712	$45,489,197

Maryland Hospital Rates of PPRs – 2007 with 15 day window

PPR Rate	No. Hospitals
< 4	3
4-5.9	8
6 - 6.9	20
7 - 7.9	14
8+	4

-Overall Statewide PPR rate of 6.74

-27 hospitals have lower actual to expected PPR rate

-22 hospitals have higher actual to expected PPR rate with a percent difference between actual and expected PPR rate ranging from 4.8% to 29.3%

-Top 16 best practice hospitals have a 13% lower actual to expected PPR rate (BP: hospitals with the lowest actual PPR rate – expected PPR rate representing 25% of case volume)

Age and Mental Health Adjustment: Ratio of Actual to Expected PPR Rate

Condition	0-17	18-84	Age >= 85
Major Mental Health	0.6970	1.1210	1.2050
All Other	0.6860	0.9821	1.1160

Impact in Maryland Rate Setting

- Key is to put in place incentives that lead to the reduction of cost associated with PPCs and PPRs.
  - PPR (15 day) estimated associated charges in 2007: $430.4 million (5.3%)
  - PPR (30 day) estimated associated charges in 2007 : $656.9 million (8.0%)

Infrastructure Support : Collaborative Framework and Change Package Development Based on Evidence Based Best practices

- Intended to test a partnership approach among hospitals, nursing homes, home health and primary care physicians in community-based teams to enhance local improvement efforts to reduce readmission rates. Change Package concepts would include:
  - Patient safety across care transitions
    - Medication Reconciliation
    - Discharge planning
    - Communication and teamwork across settings

Infrastructure Support : Collaborative Framework and Change Package Development Based on Evidence Based Best practices

- The quality of patient care journey
  - Coordination of care across settings
  - Shared care information
  - Self-care management focus

- Access to timely and effective care
  - Joint clinical care protocols
  - Shared Single Assessment Template
  - Remote monitoring technology
  - Email consultations

Initiatives to Improve Systemic Failures

- These initiatives aim to improve discrete systemic problems. Efforts to improve the efficiency of the system may free up resources necessary for reducing readmissions.
  - Physician/Patient Communications
  - Inappropriate use of 911
  - Inappropriate use of emergency departments

Public Reporting

- Public reporting may be effective in raising awareness for the high rate of hospital complications and readmissions and incent action, as poor outcomes may adversely impact providers' reputation and market share. However, public reporting will not be as strong an incentive payment changes.

Payment Incentives to Reduce Readmissions

- Maryland all-payer hospital rate setting system
- Use of 3M Health Information System's All-Patient Refined – DRG (APR-DRGs) patient classification system and PPR system
- State is uniquely positioned to develop strong payment incentives for hospitals to reduce preventable readmissions.
- The magnitude of the incentives developed must be sufficiently broad and of sufficient magnitude to induce hospitals to invest in systematic approaches to reduce readmissions

MHPRs In Conclusion

- HSCRC's Quality Initiatives Potentially preventable readmissions are a pervasive problem that adversely affects patients, payers, and providers.
- Reducing hospital admissions within a fragmented health care system requires stakeholders to challenge aspects of the current system by breaking silos of care and politics, improving relationships between providers and working to develop the future system and workforce.

More Information on the Quality Initiatives/Activities:

http://hscrc.state.md.us/init_qi_MHAC.cfm

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