Prove It!

Data Measurement in Mobile Integrated Healthcare & Community Paramedicine

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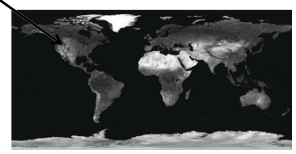


Session Goals

- Understand the motivation of key external stakeholders for outcome-based measures
- Learn key outcome-based measures that can demonstrate the value of MIH/CP programs
- Learn the process used by MedStar in applying for external certification/accreditation for its programs

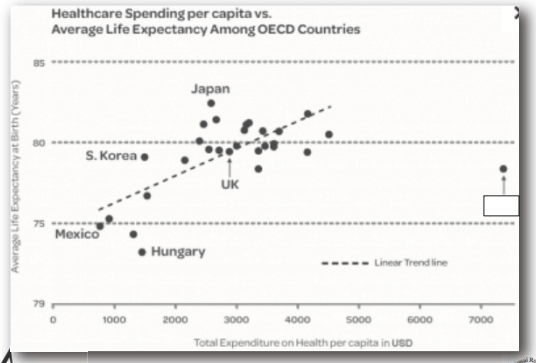
About MedStar…

- Governmental agency (PUM) serving Ft. Worth and 14 Cities
  - Self-Operated
  - 880,000 residents, 421 Sq. miles
  - Exclusive provider - emergency and non emergency
- 120,000 responses annually
- 405 employees
- $37.5 million budget
  - No tax subsidy
- Fully deployed system status management
- Medical Control from 14 member Emergency Physician's Advisory Board (EPAB)
  - Physician Medical Directors from all emergency departments in service area + 5 Tarrant County Medical Society reps

Why do the Stakeholder Care?

- $8,608 per capita health expenditures!!
  - Due in large part to **quantity-based** payments

http://data.worldbank.org/indicator/SH.XPD.PCAP



http://data.worldbank.org/indicator/SH.XPD.PCAP

Health survey ranks U.S. last among rich peers
Michael Winter, June 16, 2014

USA TODAY

For the fifth time in a decade, the United States is the sick man of the rich world. But recent health reforms and increased health technology spending may provide a cure in the coming years.

That's according to the latest Commonwealth Fund survey of 11 nations, which ranked the world's most expensive health care system dead last on measures of "efficiency, equity, and outcomes." So too in 2010, 2007, 2006 and 2004.

The U.S. ranking reflects poor scores on measures of healthy lives — "mortality amenable to medical care," infant mortality and healthy life expectancy at age 60.

The other eight countries surveyed were Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway and Sweden.

What do the healthier cousins have that the United States does not? Universal health care, the Commonwealth Fund points out.

http://www.usatoday.com/story/news/nation/2014/06/16/health-survey-us-last/10638811/

Why do the Stakeholders Care?

- Risk-sharing economic models
  - Bundled payments
  - Global payment
- Value Based Purchasing & Readmissions
  - Applied to every Medicare admission
    -
  - Based on quality measures
    -
    -
    -

Throw in another 1% ***effective 10/1/14*** for hospitals in the bottom quartile for **Hospital Acquired Conditions**

http://www.kaiserhealthnews.org/Stories/2014/June/23/patient-injuries-methodology.aspx

Health Insurers Are Trying New Payment Models, Study Shows
By Reed Abelson
July 9, 2014

The New York Times

The survey, released on Wednesday by the plans' trade association, estimates **that $1 out of every $5 in reimbursements is being paid under an arrangement in which providers are rewarded for improving care and lowering costs**.

The insurers say they are spending more than $65 billion a year in new "value-based" payment models, according to the Blue Cross Blue Shield Association, which looked at 350 programs in nearly every state.

Health insurers have long talked about changing the way they pay for care, but there have been few tangible signs of just how enthusiastically they are embracing alternatives.

But the Blue Cross executives say there is no choice but to move away from a system that rewarded high-cost care over high-quality and efficient treatments.

http://www.nytimes.com/2014/07/10/business/health-insurers-are-trying-new-payment-models-study-shows.html

Why do the Stakeholder Care?

- There are 4.6 million Medicare beneficiaries with CHF
  - 14% of beneficiaries have HF
  -
  - One CHF admission cost CMS $13,000
  - 30-day readmission rate for CHF = 24.7%
  - 52% of CHF patients readmitted within 30 days did not see their doc between discharge and readmit (NEJM)
- MedPAC = $12 billion CMS expenditures for ***Potentially Preventable Readmissions***

https://www.cms.gov/Medicare/Medicare-General-Information/CCIP/

http://healthaffairs.org/healthpolicybriefs/brief_pdfs/healthpolicybrief_102.pdf

April 2014

HCUP

AHRQ Agency for Healthcare Research and Quality

Table 2. Ten conditions with the most all-cause, 30-day readmissions for Medicare patients (aged 65 years and older), listed by total number of readmissions in descending order, 2011

Principal diagnosis for index hospital stay*	Number of readmissions		Cost of readmissions		
	Number of all-cause, 30-day readmissions	Readmissions as a percentage of total Medicare readmissions	Total cost of all-cause, 30-day readmissions (in millions), $	Readmission total cost as a percentage of total costs of Medicare readmissions	Readmission rate (per 100 admissions)
Congestive heart failure; nonhypertensive	134,500	7.3	1,747	7.3	24.5
Septicemia (except in labor)	92,900	5.1	1,410	5.9	21.3
Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	88,800	4.8	1,148	4.8	17.9
Chronic obstructive pulmonary disease and bronchiectasis	77,900	4.2	924	3.8	21.5
Cardiac dysrhythmias	69,400	3.8	835	3.5	16.2
Urinary tract infections	56,900	3.1	621	2.6	18.1
Acute and unspecified renal failure	53,600	2.9	683	2.8	21.8
Acute myocardial infarction	51,300	2.8	693	2.9	19.8
Complication of device; implant or graft	47,200	2.6	742	3.1	19.0
Acute cerebrovascular disease	45,800	2.5	568	2.4	14.5
Total	**718,100**	**39.1**	**9,371**	**39.0**	**19.6**

* Clinical Classifications Software (CCS) label

Note: Shaded conditions are currently targeted by the CMS Hospital Readmissions Reduction Program.

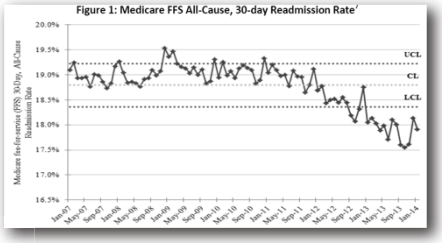
Source: Weighted national estimates from a readmissions analysis file derived from the Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID), 2011

Conditions With the Largest Number of Adult Hospital Readmissions by Payer, 2011

The all-cause 30-day hospital readmission rate among Medicare fee-for-service beneficiaries plummeted further to approximately 17.5 percent in 2013, translating into an estimated 150,000 fewer hospital readmissions between January 2012 and December 2013.

This represents an 8 percent reduction in the Medicare fee-for service all-cause 30-day readmissions rate.

Figure 1: Medicare FFS All-Cause, 30-day Readmission Rate



http://innovation.cms.gov/Files/reports/patient-safety-results.pdf

Return Visits to the Emergency Department: *The Patient Perspective*

Sep 2, 2014
Source: ACEP

Annals *of* Emergency Medicine
An International Journal

Conclusion

Post-discharge factors, including ***perceived inability to access timely follow-up care and uncertainty and fear about disease progression, are primary motivators for return to the ED***. Many patients prefer hospital-based care because of increased convenience and timely results. ***Further work is needed to develop alternative pathways for patients to ask questions and seek guidance when and where they want***.

http://www.annemergmed.com/article/S0196-0644(14)00622-2/fulltext

Nonprofit Hospitals' 2013 Revenue Lowest Since Recession, Report Says

By Reed Abelson
AUG. 27, 2014

The New York Times

Nonprofit hospitals last year had their worst financial performance since the Great Recession, according to a report released on Wednesday.

The poor operating performance of many hospitals underscored some of the changes in the health care system as ***the federal government and private health plans became less willing to pay for hospital care and changed the way they paid hospitals in an effort to reduce costs***.

Private insurers, for example, often gave hospitals little or no increase in payments for services compared with the double-digit increases they had typically been willing to pay. ***Hospitals also saw lower Medicare payments as a result of the across-the-board federal budget cuts enacted last year and other moves to cut costs***.

http://www.nytimes.com/2014/08/27/business/nonprofit-hospitals-2013-revenue-lowest-since-recession-report-says.html

Bundled payments could cut Medicare fraud, experts say

Kelly Kennedy
May 19, 2014

USA TODAY

WASHINGTON — Health and policy experts are pushing for a system that pays **doctors** a lump sum for medical care or allows them to share in savings, saying it will save millions of dollars over current fee-for-service payments that can lead to fraud and over-use of medications.

In the new system, doctors would not be entitled to extra pay should they prescribe costlier medication.

"**CBO projects that applying bundled payment models like Bay State's nationally could save Medicare about $46.6 billion over the next seven years**," Warren said.

Peter Ubel, professor of business administration and medicine at Duke University's Sanford School of Business, said **a third method may also work well: He suggested changing the payment structure so that a doctor receives the same payment no matter what he prescribes, rather than receiving a percentage**.

http://www.usatoday.com/story/news/nation/2014/05/19/experts-argue-bundled-payments-could-cut-medicare-costs/8820801/

Metric Foundation

Institute *for* Healthcare Improvement

IHI *Triple*Aim Initiative

- Improving the Patient Experience of Care
  - Including quality and satisfaction
- Improving the Health of Population
- Reduce Per Capita Cost of Healthcare

Outcome-Based Metrics

- Stakeholder Specific!
  - Utilization
    - EMS, ED, PCP, Admissions
  - Expenditure
    - Expenditure savings based on utilization change
  - Total Cost of Care
    - Expenditure Savings PLUS alternate setting expenses (PCP, CP, etc.)

Outcome-Based Metrics

- Stakeholder Specific
  - Health Status
    - EuroQol Self Assessment of Health Status
  - Patient Experience
    - Based on HCAHPS measures
    - Externally evaluated?
  - Provider Satisfaction
    - Referring agency
    - CP providers

Outcome-Based Metrics

Utilization & Expenditure Examples…

- High Utilizer ED Reduction
  - Program Goals & Funding
- CHF Readmission Avoidance
  - Program Goals & Funding
- 9-1-1 Nurse Triage
  - Program Goals & Funding
- Hospice Revocation Avoidance
  - Program Goals & Funding
- Observation Admit Avoidance
  - Program Goals & Funding

Mobile Integrated Healthcare Program
Utilization Report

Facility: THR
Progam: HUG
Services Through: 3/15/2014

			90 Day Pre Enrollment		Utilization During Enrollment					ED Visits		
Fname	Assigned Hospital	Enrolled	ED Visits	Admits	MHP Visits	Amb. Calls	Amb Trans.	0-30 days	31-60 days	61-90 days	Total	Change
Allen	THR	11/11/2013	10	5	21	8	8	2	6	3	11	10.0%
Tiffany	THR	12/14/2013	9	0	23	22	12	5	4	3	12	33.3%
Latricia	THR	11/18/2013	4	0	26	0	0	0	0	0	0	-100.0%
Janis	THR	12/13/2013	2	0	9	0	0	0	0	0	0	-100.0%
Laura	THR	1/22/2014	12	1	2	2	2	2	0	0	2	-83.3%
Antione	THR	11/20/2013	8	2	28	5	4	4	0	0	4	-50.0%
Anita	THR	10/22/2013	9	0	32	7	5	3	1	0	4	-55.6%
Angela	THR	12/13/2013	3	1	7	0	0	0	2	0	2	-33.3%
Desmond	THR	11/18/2013	16	2	14	4	3	0	0	0	0	-100.0%
	Totals		**9**	**73**	**11**	**162**	**48**	**34**	**16**	**13**	**6**	**35**	**-52.1%**

Expenditure Savings Analysis (1) **High Utilizer Program - All Referral Sources**

Based on Medicare Rates

Analysis Dates: **January 1, 2010 - July 31, 2014**

Number of Patients Enrolled (2): **95**

Category	9-1-1 Transports to ED Base	Avoided	Savings
Ambulance Charge	$1,668	1657	$2,763,876
Ambulance Payment (3)	$427	1657	$707,539
ED Charges	$904	1657	$1,497,928
ED Payment (4)	$774	1657	$1,282,518
ED Bed Hours (5)	6	1657	9,942

Total Charge Avoidance	**$4,261,804**
Total Payment Avoidance	**$1,990,057**

Per Patient Enrolled	**CHP**
Charge Avoidance	**$44,861**
Payment Avoidance	**$20,948**

The *Real* Benefits:

Antoine Hall, MIH/CHP Patient
Enrolled 11/20 – 12/29/13

"Before I started this program I was sick every day; I was going to the emergency room nearly every day."

"I have learned more in the last three months from John and you than I have ever learned from the doctors, the hospitals, or the emergency rooms."

"Since this program, I have not had any pain medicines and have not been to the emergency room. I am keeping up with my doctor's appointment and my MHMR appointments."

Used by special permission from Antoine Hall

ID	Program	Status	Referral Date	Graduation Date	Referral Source	Assigned Hospital	Primary Medical Complaint	MHP	Amb	Trans	ED Visits	Admits
1165	CHF	Graduated	1/7/2014	2/9/2014	JPS	JPS	Cardiac	11	0	0	0	0
1166	CHF	Graduated	1/9/2014	2/19/2014	JPS	JPS	Cardiac	8	0	0	0	0
1165	CHF	Graduated	2/10/2014	4/7/2014	Internal	JPS	Cardiac	11	0	0	0	1
1840	CHF	Graduated	2/14/2014	4/15/2014	JPS	JPS	Cardiac	6	0	0	0	0
1843	CHF	Graduated	2/14/2014	3/27/2014	JPS	JPS	Cardiac	7	0	0	0	0
1850	CHF	Graduated	2/19/2014	4/14/2014	JPS	JPS	Cardiac	13	2	2	4	0
1854	CHF	Graduated	2/20/2014	3/20/2014	JPS	JPS	Cardiac	11	1	1	1	1
1883	CHF	Graduated	2/26/2014	4/11/2014	JPS	JPS	Cardiac	6	0	0	0	0
1886	CHF	Graduated	2/26/2014	4/3/2014	JPS	JPS	Cardiac	7	1	1	0	2
1892	CHF	Graduated	3/5/2014	4/8/2014	JPS	JPS	Cardiac	6	0	0	0	0
1905	CHF	Graduated	3/12/2014	4/22/2014	JPS	JPS	Cardiac	8	0	0	0	0
1906	CHF	Graduated	3/12/2014	4/17/2014	JPS	JPS	Cardiac	7	1	1	1	0
1920	CHF	Graduated	3/19/2014	4/23/2014	JPS	JPS	Cardiac	5	0	0	0	0
							Totals	**106**	**5**	**5**	**6**	**4**
											Readmit	
13							**MHP Visits PP**	**8.2**			**Rate:**	**30.8%**

Expenditure Savings Analysis **CHF Program - All Partners**

Based on Medicare Rates

Analysis Dates: **October 2010 - July 2014**

Number of Patients (1): **61**

Category	All-Cause 30-day Hospital Utilization Base	Expected	Actual	Prevented	Outcome Analysis Rate	Reduction
ED Visits		61	25	36	**41.0%**	**59.0%**
ED Charge (2)	$ 904	$ 55,144	$ 22,600	$ 32,544		
ED Payment (2)	$ 774	$ 47,214	$ 19,350	$ 27,864		
Admissions		61	16	45	**26.2%**	**73.8%**
Admission Charge (3)	$ 35,293	$ 2,152,873	$ 564,688	$ 1,588,185		
Admission Payment (3)	$ 8,276	$ 504,836	$ 132,416	$ 372,420		

Total Charge Avoidance	**$ 1,620,729**
Total Payment Avoidance	**$ 400,284**

Per Patient Enrolled	**CHF**
Charge Avoidance	**$26,569**
Payment Avoidance	**$6,562**

Notes:

1. *Patient enrollment criteria **requires a prior 30-day readmission** and the referral source **expects the patient to have a 30-day readmission***
2. *Provided by John Peter Smith Health Network*
3. *2014 CMS Provider Charge Report DRG 189*
4. *Patients with data available for in-hospital utilization*

Expenditure Savings Analysis (1) **9-1-1 Nurse Triage Program**

Based on Medicare Rates

Analysis Dates: **June 1, 2012 - July 31, 2014**
Number of Calls Referred: **1746**
% of Calls Alternatively Disposed: **39.9%**

	9-1-1 Transports to ED		
Category	**Base**	**Avoided**	**Savings**
Ambulance Charge	$1,668	697	$1,162,596
Ambulance Payment (2)	$427	697	$297,619
ED Charges	$904	697	$630,088
ED Payment (3)	$774	697	$539,478
ED Bed Hours (4)	6	697	4,182
Total Charge Avoidance			**$1,792,684**
Total Payment Avoidance			**$837,097**

Per Patient Enrolled	**ECNS**
Charge Avoidance	**$2,572**
Payment Avoidance	**$1,201**

Expenditure Savings Analysis **Obs Admission Avoidance Program**

Analysis Dates: **August 1, 2012 - July 31, 2014**

Referred: 112
Enrolled: 94

	Obs Admits Avoided				
Category	**Base**	**Avoided**	**Gross Savings**	**Enrollment Fees**	**Net Savings**
Average Obs Admit Expense (1)	$ 8,046	94	$ 756,324	$ 18,800	**$ 737,524**
ED Bed Hours	23	94			**2,162**

Per Patient Enrolled **Obs Admit**
Payment Avoidance **$ 7,846**

Notes:
1. From North Texas Specialty Physician Records

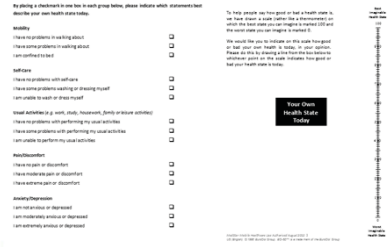
Hospice Program Summary

As of July 31, 2014

	#	%
Referrals	174	
Enrolled	144	
Deceased	88	61.1%
Active	42	29.2%
Improved	2	1.4%
Revoked	**12**	**8.3%**
Activity:		
911 calls	20	
911 transports	12	
ED visits	9	
Direct Admits	3	

Outcome-Based Metrics
Patient Health Status…

- High Utilizer Group
- CHF



Patient Self-Assessment of Health Status (1)
As of: 7/31/2014

	HUG		
	Pre	**Post**	**Change**
Mobility (2)	2.38	2.44	2.4%
Self-Care (2)	2.70	2.75	1.7%
Perform Usual Activities (2)	2.25	2.56	13.7%
Pain and Discomfort (2)	**1.86**	**2.44**	**31.1%**
Anxiety/Depression (2)	**2.04**	**2.50**	**22.4%**
Overall Health Status (3)	**5.23**	**6.75**	**29.2%**

Notes:
1. Average scores of pre and post enrollment data from EuroQol EQ-5D-3L Assessment Questionnaire
2. Score 1 - 3 with 3 most favorable
3. Score 1 - 10 with 10 most favorable

Patient Self-Assessment of Health Status (1)
As of: 7/31/2014

	CHF		
	Pre	**Post**	**Change**
Mobility (2)	2.24	2.71	20.9%
Self-Care (2)	2.57	2.82	9.8%
Perform Usual Activities (2)	2.10	2.71	**29.1%**
Pain and Discomfort (2)	2.24	2.65	18.3%
Axiety/Depression (2)	2.05	2.65	**29.3%**
Overall Health Status (3)	**3.90**	**6.00**	**53.7%**

Notes:
1. Average scores of pre and post enrollment data from EuroQol EQ-5D-3L Assessment Questionnaire
2. Score 1 - 3 with 3 most favorable
3. Score 1 - 10 with 10 most favorable

Mobile Healthcare Programs

Patient Experience Summary
As of July 31, 2014

	HUG	CHF	OBS	Overall Avg
Medic Listened?	4.93	4.87	4.72	**4.84**
Time to answer your questions?	5.00	4.89	4.79	**4.89**
Overall amount of time spent with you?	5.00	4.76	4.81	**4.86**
Explain things in a way you could understand?	5.00	4.84	4.72	**4.86**
Instructions regarding medication/follow-up care?	5.00	4.79	4.77	**4.85**
Thoroughness of the examination?	5.00	4.84	4.72	**4.86**
Advice to stay healthy?	5.00	4.82	4.53	**4.78**
Quality of the medical care/evaluation?	5.00	4.89	4.81	**4.90**
Level of Compassion	5.00	4.95	4.85	**4.93**
Overall satisfaction	4.93	4.92	4.85	**4.90**
Recommend the service to others?	100.0%	100%	97.9%	**99.3%**

Select Comments:

Client states ''You care more about my health than I do."

Keep the same compassionate, excellent people you have working for you now and your service will continue to be great! Everything was perfect, a 10!

"I love y'all" "wonderful" "Y'all 2 have been really big help and great with patience with me and even though I'm a hard headed lil ol lady." "perfect for me!" "I've

"y'all have been off the charts helpful" "no complaints" "glad the hospital got it going for me"

Thank you very much! We couldn't have done this without you!

The medics spent lots of time with me and provided very useful information. I really loved the program. They were very friendly and did an awesome job.

911 Nurse Triage Patient Experience Survey Results

Alternative Disposition Cases

Through:	**31-Aug-14**
Completed Surveys	**143**
Likert Scale 1-5 (5 = Highest Rating)	
911 Call Taking Process?	**4.81**
Satisfied with Nurse?	**4.78**
Do You Feel the Nurse Understood Your Medical Issue?	**4.80**
Were You Satisfied With Recommendation?	**4.61**
Did Speaking with the Nurse Help?	**91.6%**
Did Your Condition Get Better?	**88.8%**
Should Your Call Have Been Handled Differently = No	**80.4%**
Did Recommendation Save you Time and Money = Yes	**87.4%**
Would Knowing the Cost in Advance Make a Difference?	
Yes	**46.9%**
No/Unsure	**53.1%**

Notes:

Cases with completed Surveys ***AND*** result was a disposition other than an ambulance ***OR*** ED referral.

Selected Patient Comments:

"I just needed a calm voice to call me down and the nurse did that superbly."

"The nurse was very nice and understanding and it was very helpful. Tell the nurse "thank you" for taking the time to understand problem."

"It was handled excellent. The nurse was very knowledgable and professional.'

"No complaints. Love the way the call was handled."
"Really appreciate the call back the following day to check up on the patient."

Patient did not go to hospital after 911 call. She stayed home, the MedStar MHP came to the home to wrap her injury until her Doctors appt the next day. Patient was satisfied with care received and 911 call taker and triage nurse.

Issues in Data Tracking/Reporting

- Basis for utilization/expenditure change
  - Patient populations vs. control group
- Total cost of care impact
  - When we impact very little of the patient cost?
- Patient safety metrics?
  - Death, admissions, adverse outcomes

The Road to Accreditation

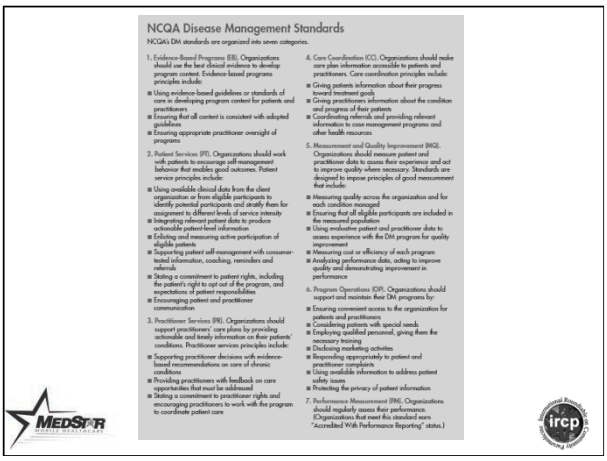
- Why accreditation is important?
- Agency?

NCQA Measuring quality. Improving health care.

The Joint Commission

urac

ACCREDITED



Standard Measures

- Evidence-Based Programs
- Patient Services
- Practitioner Services
- Care Coordination
- Measurement and Quality Improvement
- Program Operations
- Performance Measurement

Measurement and Quality Improvement

- Measuring ***quality*** across the organization and for ***each condition*** managed
- Ensuring that ***all eligible participants*** are included in the measured population
- Using ***evaluative patient and practitioner data*** to assess experience with the DM program for ***quality improvement***
- Measuring ***cost or efficiency*** of each program
- Analyzing ***performance data, acting to improve quality and demonstrating improvement in performance***

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Standards for Measurement and Quality Improvement

MQ 1: Clinical Quality—*Refer to Appendix 1 for points*

At least annually, the organization measures and analyzes two areas of clinical performance for each condition managed and takes action to improve the effectiveness of its programs.

Intent

Sound, quantitative measurement and analysis establish a basis for quality improvement and tracking results.

Element A: Track and Analyze a Performance Measure—*Refer to Appendix 1 for points*

At least annually, the organization monitors one clinical quality measure for each program. For the measure, the organization ensures the following:

1. **The measure captures a relevant process or outcome.**
2. **There is a quantitative result.**
3. **There is a benchmark or performance goal.**
4. **The data and methodology are valid for the process or outcome measured.**
5. **Measurement results are analyzed in comparison with the benchmark or goal.**
6. **The measure is population based.**

Scoring	100%	80%	50%	20%	0%
	The organization meets all 6 factors	The organization meets 4-5 factors	The organization meets 3 factors	No scoring option	The organization meets 0-2 factors

In Summary…

- U.S. MIH/CP entering toddlerhood
  - Next leap is scalability/replicability
  - Need much larger "N"
- Uniform outcome measures key to above
  - In keeping with Triple Aim principles
- Accreditation 2 leaps away
  - Start planning now
- Have fun while you're changing the world!

Questions – Sharing…

Thank you for this Privilege!

For a copy of this presentation,
or general questions,
scan the QR code