

Analytics to Answers

PointRight

Dashboards and Data: Practical Strategies for Understanding and Using Data

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VP Healthcare Privacy Officer

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Understand the various types of available SNF centric data and recognize the inherent value and limitations

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Types of Available Data

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## Metrics to Examine Today

1. Survey/Regulatory
2. Staffing (RN)
3. ALOS
4. Rehospitalization

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## Health Inspection



Measure based on outcomes of state health inspections

- Number, scope and severity of deficiencies identified during the three most recent annual surveys; and
- Substantiated findings from the most recent 36 months of complaint investigations
- The number of revisits required to clear deficiencies

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## Health Inspection Score:

### Weights for Different Types of Deficiencies

Severity	Scope		
	Isolated	Pattern	Widespread
Immediate jeopardy to resident health or safety	J 50 points* (75 points)	K 100 points* (125 points)	L 150 points* (175 points)
Actual harm that is not immediate jeopardy	G 20 points	H 35 points (40 points)	I 45 points (50 points)
No actual harm with potential for more than minimal harm that is not immediate jeopardy	D 4 points	E 8 points	F 16 points (20 points)
No actual harm with potential for minimal harm	A 0 points	B 0 points	C 0 points

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## Calculating a Health Inspection Score

**Step 1: Identify all possible deficiencies for inclusion**

- From standard surveys: most recent and two prior standard surveys (last three surveys)
- From complaint surveys: most recent three years

**Step 2: Assign each deficiency a point value**

- Individual health deficiencies are assigned points based upon scope and severity
- Deficiencies from Federal Oversight and Life Safety surveys are not included in calculations for the Five-Star rating

**Step 3: Add additional points for revisits**

- If more than one revisit is required, additional points are added
- Points are proportional to the health inspection score

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## Calculating a Health Inspection Score

Star Cut Points for Health Inspection Scores – by State (July/2014)

State	Number of facilities	Health Inspection Score								
		1 Star		2 Stars		3 Stars		4 Stars		5 Stars
		Upper	Lower	Upper	Lower	Upper	Lower	Upper	Lower	
Florida	683	> 51.000	≤ 51.000	> 31.333	≤ 31.333	> 21.333	≤ 21.333	> 11.333	≤ 11.333	

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## Calculating a Five-Star Distribution

- CMS' Five-Star quality ratings on the health inspection domain are based on the relative performance of facilities within a State
- Facility ratings are determined using these criteria:
  - The top 10% (facilities with lowest 10% of health inspection deficiency score) in each State receive a Five-Star rating
  - The middle 70% of facilities receive a rating of two, three, or four stars, with an equal number (approximately 23.33%) in each rating category
  - The bottom 20% of facilities receive a one-star rating

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### Who are you using as a benchmark?

- Sample Care from Florida
  - Their total Survey/SFF Score was 40
  - Their current Survey Rating is a 2

State	Survey Composite Score	Five-Star Rating
NC	40	1
FL	40	2
CA	40	3
MI	40	4
PR	40	5

- “Good” is relative

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### Two Measures Comprise the Staffing Domain

- The Five-Star Rating for staffing is based on two case-mix adjusted measures:
  - Total nursing hours per resident day
    - RN + LPN + Nurse Aide hours
  - RN hours per resident day



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### Source Data for Staffing

- CMS-671
  - Completed during the standard survey process
  - RN (F39+F40+F41)
  - LPN (F42)
  - CNA (F43+F44+F45)
- CMS-672 – Resident Census and Condition
  - Total residents (F78)
    - Total residents in the facility for whom a bed is being maintained on the day the survey begins

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## Staff/Resident Ratios are Adjusted

- Case-mix adjusted measures of “hours per resident day” are calculated for each facility for each staff type using this formula:



Hours Adjusted = (Hours Reported / Hours Expected) x Hours National Average

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## Staff/Resident Ratios are Adjusted

- Hours<sub>National Average</sub> is the mean across all facilities for a given staff type.
- Hours<sub>Expected</sub> are based on the distribution of residents by RUG-III group in the quarter closest to the date of the most recent standard survey.
  - How does CMS know about your residents' case-mix?

The distribution of residents by RUG-III group is determined using the most recent MDS assessment for current residents of the nursing home on the last day of the quarter.

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## Hours Expected

- Sum the nursing times (from the CMS Time Study) connected to each RUG category across all residents in the category and across all categories.
- The hours are then divided by the number of residents reported through your MDS data for that time period.
- The result is the “expected” number of hours for the nursing home.

Hours<sub>Adjusted</sub> = (Hours<sub>Reported</sub> / Hours<sub>Expected</sub>) \* Hours<sub>National Average</sub>

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### National Average

- “National average” hours represent the unadjusted national mean of the reported hours across all facilities for July 2012.
- These national averages will be held constant for an initial two-year period, after which CMS will review this decision.

$$\text{Hours}_{\text{Adjusted}} = (\text{Hours}_{\text{Reported}} / \text{Hours}_{\text{Expected}}) * \text{Hours}_{\text{National Average}}$$

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### National Average (July 2012)

#### National average hours per resident per day

Total nursing staff	4.0309
Registered Nurses	0.7472

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### Scoring Method & Thresholds for Staffing Measures

Table 4  
National Star Cut points for Staffing Measures (updated April 2012)

Staff type	1 Star	2 Stars Lower	2 Stars Upper	3 Stars Lower	3 Stars Upper	4 Stars Lower	4 Stars Upper	5 Stars
RN	< 0.283	≥ 0.283	< 0.379	≥ 0.379	< 0.513	≥ 0.513	< 0.710	≥ 0.710
Total	< 3.262	≥ 3.262	< 3.661	≥ 3.661	< 4.173	≥ 4.173	< 4.418	≥ 4.418

Note: Adjusted staffing values are rounded to three decimal places before the cut points are applied

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## Scoring Method and Thresholds for Staffing Measures

	1 – Total Rating	2 – Total Rating	3 – Total Rating	4 – Total Rating	5 – Total Rating
1 – RN Rating	1-Star	1-Star	2-Stars	2-Stars	3-Stars
2 – RN Rating	1-Star	2-Stars	3-Stars	3-Stars	4-Stars
3 – RN Rating	2-Stars	3-Stars	4-Stars	4-Stars	4-Stars
4 – RN Rating	2-Stars	3-Stars	4-Stars	4-Stars	4-Stars
5 – RN Rating	3-Stars	4-Stars	4-Stars	4-Stars	5-Stars

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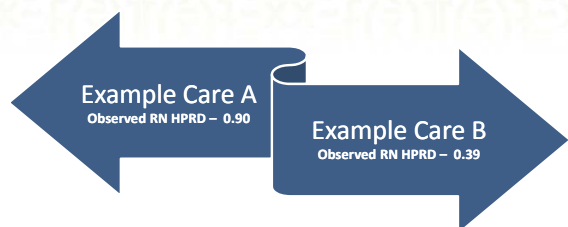
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## What is Observed?

- Which SNF has better RN Staffing?



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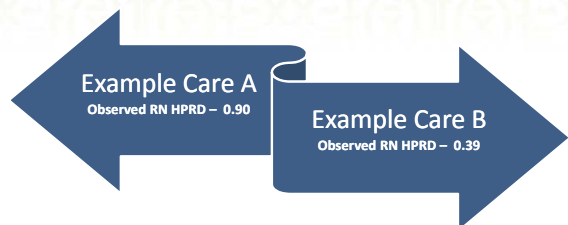
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## What do we Expect?

- Which SNF has better RN Staffing?



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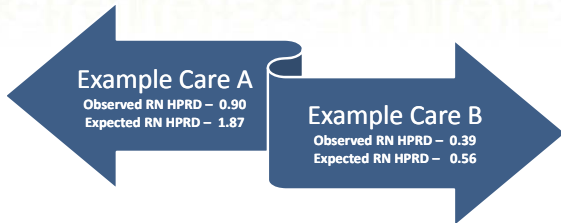
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## What do we Expect?

- Which SNF has better RN Staffing?



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## But It's Not Just About Five-Star Staffing

### Quality Indicators

- 30-Day Readmission Rates
- Facility Acquired Rates (infection/Pressure Ulcers/Falls)
- 30 Day Unexpected Death Rates
- Patient Satisfaction
- % of Follow up visits within 24 hours of SNF discharge
- % of Patients Educated on Discharge Materials
- Improvement measures
- Medical Error Rates
- Staff Turnover
- Pain Management Scores
- Medical Director Status
- Agency Usage (RN's/Therapist)
- ALOS by Diagnosis Group
- Five Star Rating

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## What Impacts Length of Stay?

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### What Impacts Length of Stay?

1. Co-morbidities
2. Finances
3. Functional abilities
4. Families
5. Referral source expectations
6. Satisfaction and outcomes
7. Age
8. Home environment
9. Engagement/participation
10. Cognition
11. Facility location

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### Average Length of Stay (ALOS) Discharge Disposition

Year of Entry	Location	N	Mean	Median
2013	Nation	150382	29.6	24
2012	Nation	151538	30	24
2011	Nation	146747	30.4	24

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### Average Length of Stay (ALOS)

Year of Entry	Location	N	Mean	Median
2013	Nation	150382	29.6	24
2013	FL	12034	28.6	23

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## SNF 30-Day Rehospitalization

Readmissions

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All patients admitted to a SNF from a hospital for SNF Part A services who are sent back to any hospital for any reasons within the next 30 days for either inpatient admission or observation status

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Rehospitalization

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## PointRight® Pro 30™ Rehospitalization

Numerator	Denominator	Risk adjustment	Data Source
# of individuals sent back to any hospital (excluding ER-only visits) for any reason from your facility within 30 days of admission based on info from the MDS discharge assessment	All residents admitted from an acute hospital to your facility who have an MDS admission assessment during the prior 12 months	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 5px;">Adjusts for 33 different clinical variables (see next slide)</div> <div style="border: 1px solid #ccc; padding: 5px;">Compares your observed rate to your expected rate</div>	MDS 3.0 admission assessments & MDS discharge assessments

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## Risk Adjustment Variables Used

<b>Demographic</b> <ul style="list-style-type: none"> <li>Age &gt;65</li> <li>Male</li> <li>Medicare as Primary Payer</li> </ul>	<b>Functional Status</b> <ul style="list-style-type: none"> <li>Total Bowel Incontinence</li> <li>Eating dependent</li> <li>Needs 2 person assistance in ADLs</li> <li>Cognitive Impairment (Dementia)</li> </ul>	<b>Prognosis</b> <ul style="list-style-type: none"> <li>End Stage prognosis poor</li> <li>Recently rehospitalized</li> <li>Hx of Respiratory Failure</li> <li>Receiving Hospice Care</li> </ul>
<b>Clinical Conditions</b> <ul style="list-style-type: none"> <li>Daily pain</li> <li>Pressure Ulcer Stage &gt;2 (split into 4 variables)</li> <li>Venous Arterial Ulcer</li> <li>Diabetic Foot Ulcer</li> </ul>	<b>Diagnoses</b> <ul style="list-style-type: none"> <li>Anemia</li> <li>Asthma</li> <li>Diabetes Mellitus</li> <li>Hx of Viral Hepatitis</li> <li>Hx of Septicemia</li> <li>Hx of Heart Failure</li> <li>Hx of Internal bleeding</li> </ul>	<b>Services &amp; treatments</b> <ul style="list-style-type: none"> <li>Dialysis</li> <li>Insulin prescribed</li> <li>Diwomy care</li> <li>Cancer Chemotherapy</li> <li>Receiving Radiation Therapy</li> <li>Continue to receive IV Medication</li> <li>Continue to receive oxygen</li> <li>Continued tracheostomy care</li> </ul>

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Rehospitalization

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### Risk Adjustment Method

$$\left( \frac{\text{Actual Rehospitalization}}{\text{Expected Rehospitalization}} \right) \times \text{National Average} = \text{Risk Adjusted Rate}$$

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### National Average = 18%

**Example 1: Actual > Expected**  
 $(\text{actual } 20.0) \div (\text{expected } 15.0) = 1.33 \times 18.0 = 24.0$

**Example 2: Actual < Expected**  
 $(\text{actual } 20.0) \div (\text{expected } 30.0) = 0.66 \times 18.0 = 12.0$

### Where Do You Want to Stay?

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### What is Observed?

- Which SNF is better at preventing Rehospitalization?

**Sample Care Home A**  
 Observed Rate – 29.9%  
 Expected Rate – 35.4%  
 Adjusted Rate – 16.5%

**Sample Care Home B**  
 Observed Rate – 13.8%  
 Expected Rate – 8.4%  
 Adjusted Rate – 32.2%

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## Don't Compare Apples to Bananas

- The reason for consistent adjustment methodology is to create a system for comparison
- Adjusted Rates can now be compared to adjusted rates all across the county
- Observed Rates should NEVER be Compared to Adjusted Rates

Building	Observed Rate	Expected Rate	Adjusted Rate	Conclusion
SNF A	25%	26%	19.9	Better than Average
SNF B	25%	25%	20.7	Average
SNF C	25%	24%	21.6	Worse than Average

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Export To Excel

Facility Rehospitalization Rates

Measure	Numerator	Denominator	Observed			Expected			Adjusted		
			Rate	National Average	Percentile	Rate	Rate	National Average	Percentile		
Medicare 30-Day Rehospitalization	51	440	11.6	20.5	8	19.5	12.3	15.7	11		
All-Payer 30-Day Rehospitalization	51	403	11.3	18.7	10	19.3	12.1	18.8	10		

Facility Rehospitalization Rates By Diagnosis and Risk Level

Measure	Numerator	Denominator	Observed			Expected			Adjusted		
			Rate	National Average	Percentile	Rate	Rate	National Average	Percentile		
CHF	18	118	15.3	25	15	24.9	12.7	19.2	17		
COPD	7	54	13	23.5	12	21.6	12.4	19.4	16		
CVA	6	26	23.1	21.2	58	25.6	18.8	18	55		
Diabetes	50	139	11.5	23.6	7	22.8	10.5	19.2	68		
Hip Surgery	0	4	0	11.5	18	12.5	0	14	18		
Knee Surgery	0	12	0	7.9	22	14.2	0	10.9	22		
Pneumonia	4	43	9.3	24.8	8	24.6	7.9	19.7	9		
Stent Surgery	15	123	12.2	18.4	21	16.5	15.4	18.8	55		
High Risk	23	87	26.4	31.1	31	32.2	17	19.4	33		
Medium Risk	16	214	7.5	18.3	5	19.1	8.1	19.3	5		
Low Risk	43	139	8.6	10	45	12.1	14.8	15.6	73		

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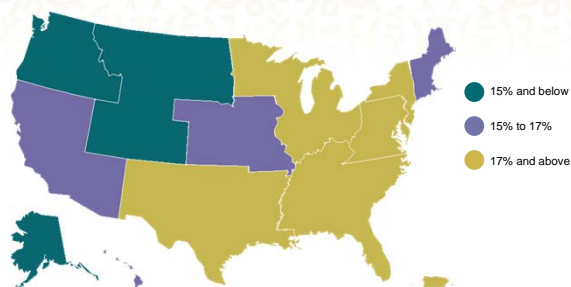
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## CMS Regional Breakdown Showing Adjusted Rehospitalization Rates



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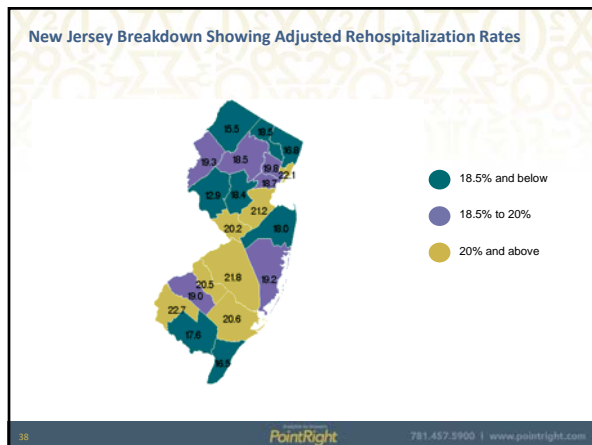
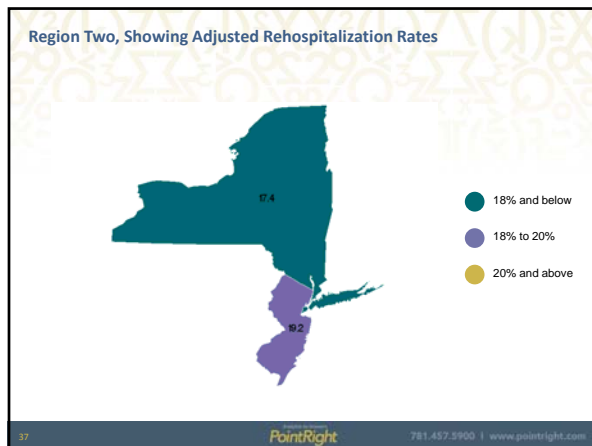
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## Dashboards

- Everyone wants the same thing
  - One login – one view- all the warnings- no noise
  - If only it could be that simple....
- Do you have a dashboard?
- Whose Dashboard could you be using?
- Dashboards for every budget!

## AHCA LTC Trend Tracker “Free” with Membership



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## Trend Tracker Features

PointRight Pro 30™

LTCtrendtracker™

The MDS 3.0 Rehospitalization Measure (PointRight) Pro 30™ provided to AHCA by PointRight is found on the LTC Trend Tracker report builder screen "AHCA Rehospitalization" report.

The summary below describes how the 30-day skilled nursing facility (SNF) risk-adjusted rehospitalization measure is calculated for each nursing center and how you can interpret your results. Note that all numbers and values used in this document are hypothetical and are for illustrative purposes only.

30-Day Risk-Adjusted SNF Rehospitalization Measure

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## Dashboards as Added Value

- Ask your Vendors about adding to your dashboard
  - Web API technology
  - Integration of multiple data sets into whatever one dashboard you want to use
- Ask about EHR and vendor options
  - **EXAMPLE**
    - OCTOBER 8, 2014 POINTRIGHT AND PRIME CARE TECHNOLOGIES ANNOUNCE A STRATEGIC ALLIANCE
      - Partnership Combines Industry-Standard Rehospitalization Metrics with

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Cost and Satisfaction Dashboard in One Dashboard

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## Dashboards for Business Intelligence

- More robust budget
- "BEST" BI platforms are IBM Cognos and Tableau
- Customize views by role
- Flexibility to integrate different types of data
- Cost may prohibit PAC expansion in the absence of Federal Funding
  - PAC overlooked in EHR funding ☹

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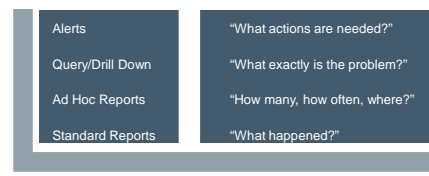
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## What Can Data Offer?



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## What Can Analytics Offer?



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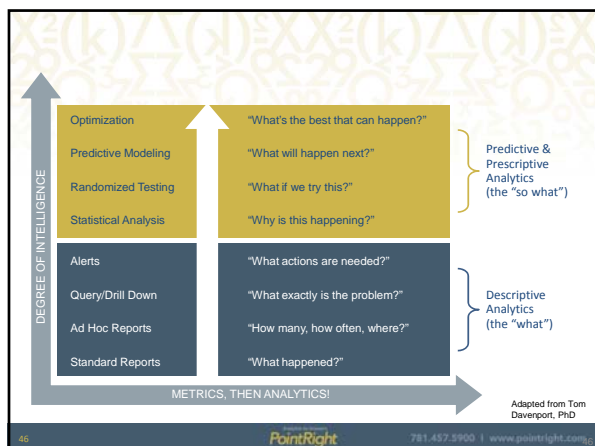
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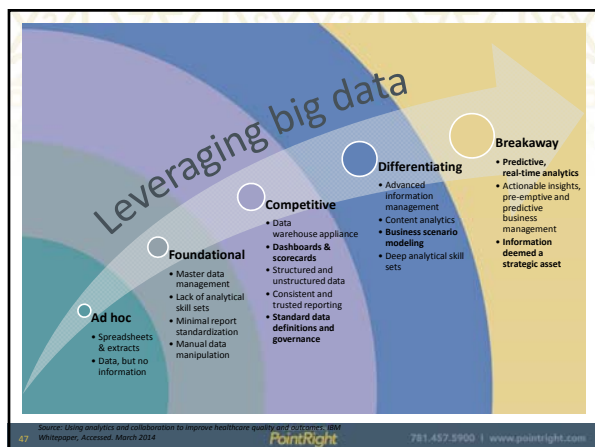
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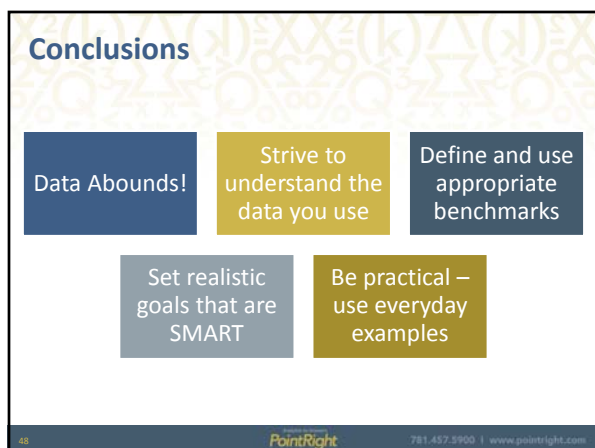
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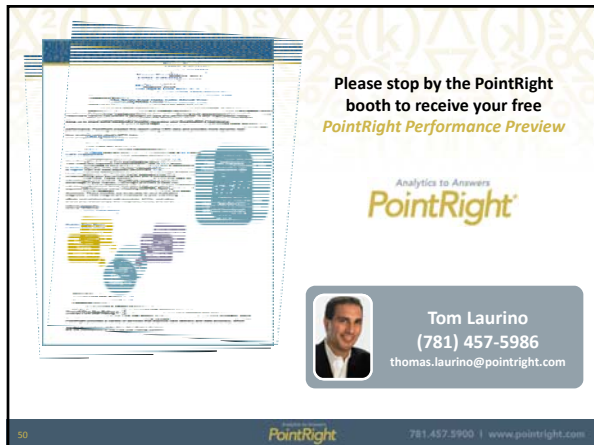
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