Indiana Patient Safety Center
of the Indiana Hospital Association

Indiana HRET HIIN Improvement Calculator Demo Webinar

January 4, 2018

3 – 4 p.m. ET

HIIN Improvement Calculator

Indiana Patient Safety Center
of the Indiana Hospital Association

- A tool to assist with data analysis
  - Individual measure
  - Harm Across the Board: method of looking at the number of Harms/Discharge
  - Utilizes data from HRET's Comprehensive Data System (CDS)

HIIN Improvement Calculator

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- Instructions for the improvement calculator are embedded in the tool and on HRET's website
- It is recommended to use Excel 2010 and above for best results
- Currently, we are using version 4.2

HIIN Improvement Calculator

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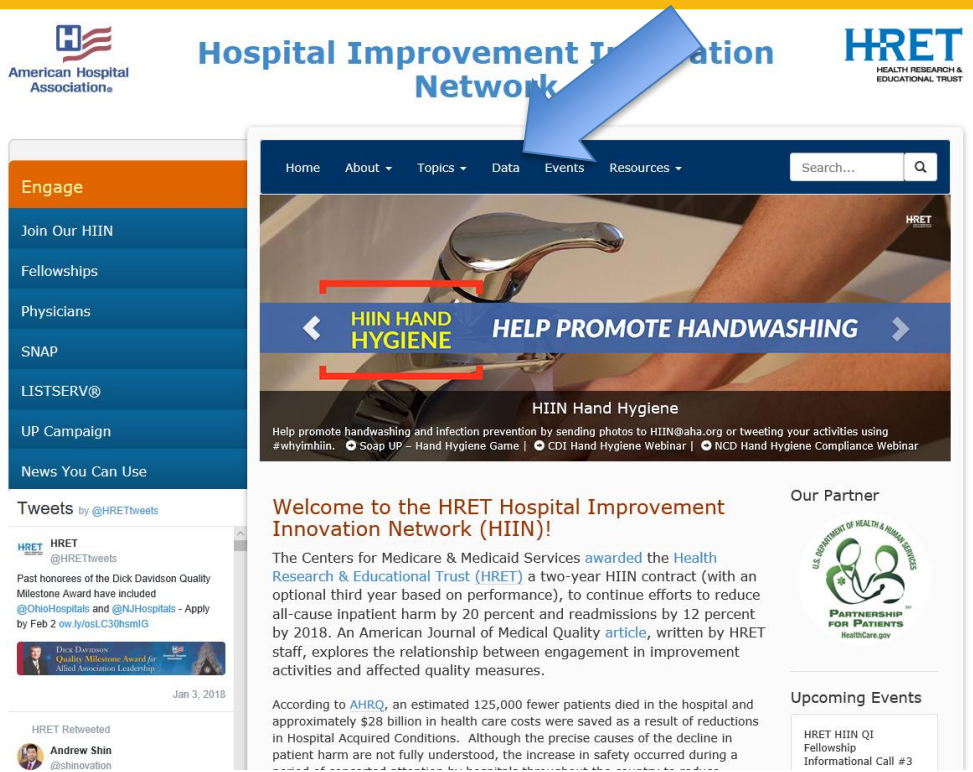

Go to HRET's home page at www.hret-hiin.org and select Data

HIIN Improvement Calculator

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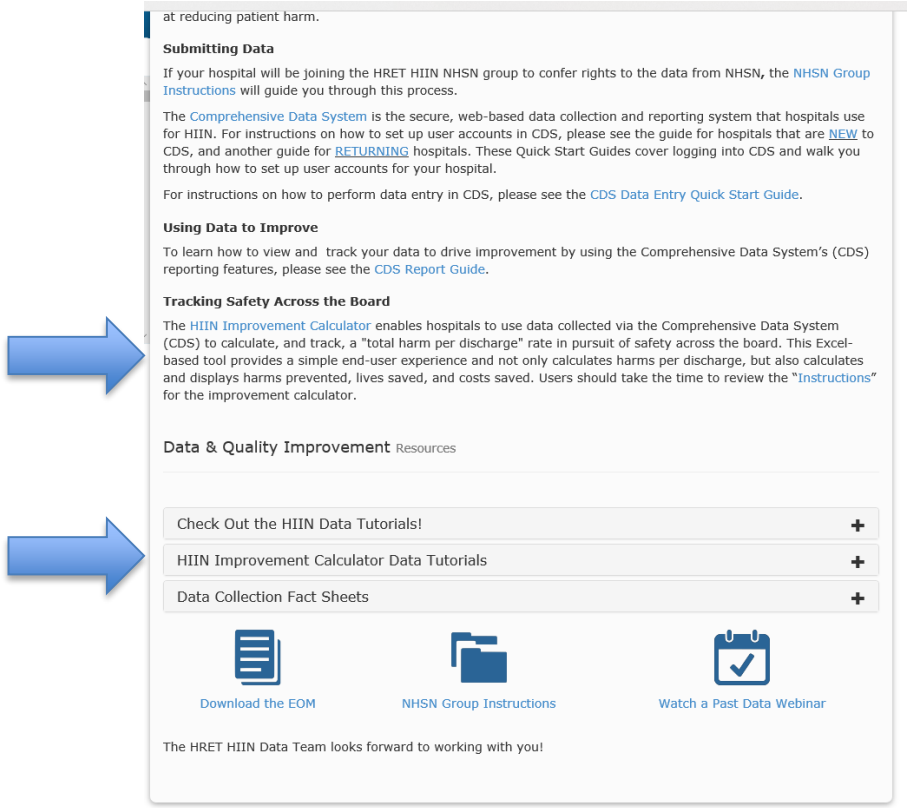

at reducing patient harm.

Submitting Data

If your hospital will be joining the HRET HIIN NHSN group to confer rights to the data from NHSN, the NHSN Group Instructions will guide you through this process.

The Comprehensive Data System is the secure, web-based data collection and reporting system that hospitals use for HIIN. For instructions on how to set up user accounts in CDS, please see the guide for hospitals that are NEW to CDS, and another guide for RETURNING hospitals. These Quick Start Guides cover logging into CDS and walk you through how to set up user accounts for your hospital.

For instructions on how to perform data entry in CDS, please see the CDS Data Entry Quick Start Guide.

Using Data to Improve

To learn how to view and track your data to drive improvement by using the Comprehensive Data System's (CDS) reporting features, please see the CDS Report Guide.

Tracking Safety Across the Board

The HIIN Improvement Calculator enables hospitals to use data collected via the Comprehensive Data System (CDS) to calculate, and track, a "total harm per discharge" rate in pursuit of safety across the board. This Excel-based tool provides a simple end-user experience and not only calculates harms per discharge, but also calculates and displays harms prevented, lives saved, and costs saved. Users should take the time to review the "Instructions" for the improvement calculator.

Data & Quality Improvement Resources

Check Out the HIIN Data Tutorials! +

HIIN Improvement Calculator Data Tutorials +

Data Collection Fact Sheets +

Download the EOM

NHSN Group Instructions

Watch a Past Data Webinar

The HRET HIIN Data Team looks forward to working with you!

Instructions and HIIN Improvement Calculator data tutorials are available

IHAconnect.org/Quality-Patient-Safety

Step 1

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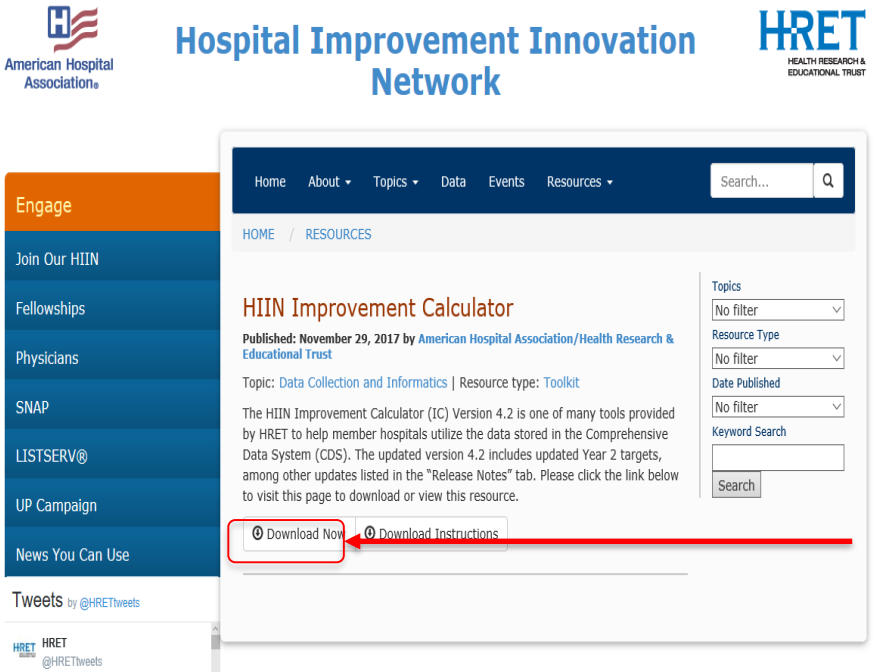

- Download Improvement Calculator from: (http://www.hret-hiin.org/resources/display/hiin-improvement-calculator)
- Click on "Download Now" to download Improvement Calculator tool

Step 2

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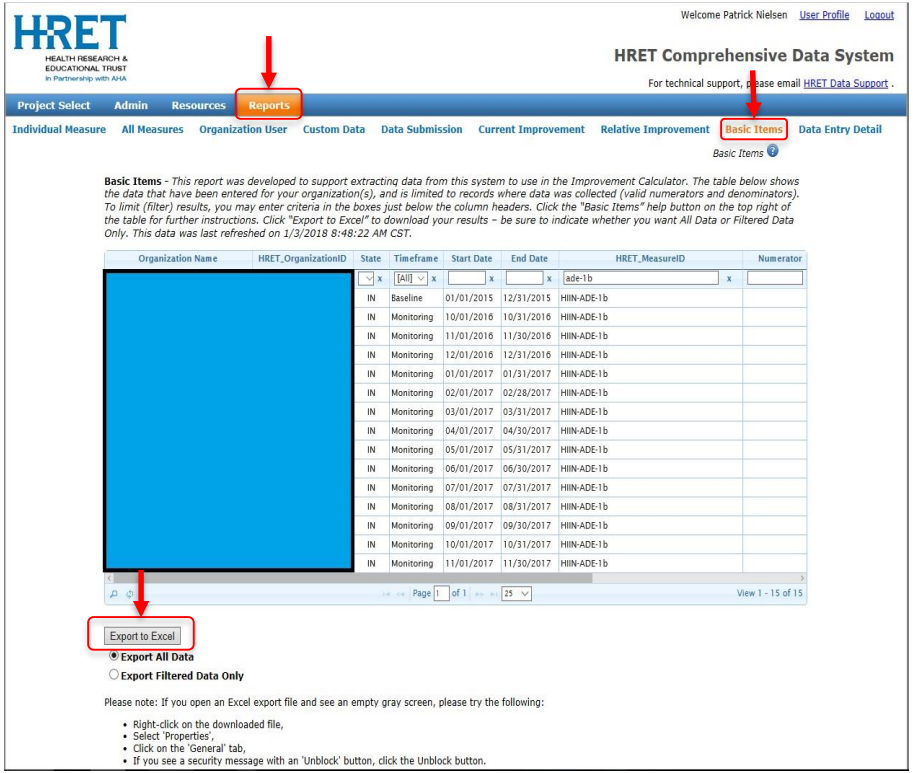

- Go to (https://www.hretcds.org/) and login
- Click on “Reports” then “Basic Items”
  - See image for assistance identifying
- Your hospital’s information should appear at this point
- Make sure “Export All Data” is highlighted on the bottom left, then click “Export to Excel” to gather all of your hospital’s data

Step 3

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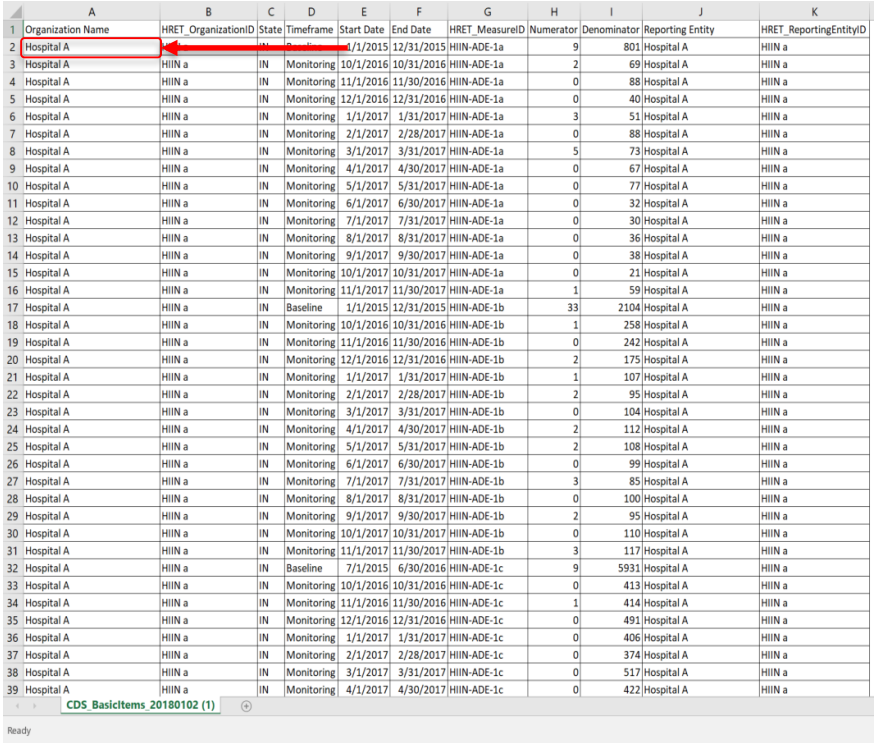

	A	B	C	D	E	F	G	H	I	J	K
1	Organization Name	HRET_OrganizationID	State	Timeframe	Start Date	End Date	HRET_MeasureID	Numerator	Denominator	Reporting Entity	HRET_ReportingEntityID
2	Hospital A	[illegible]	IN	[illegible]	1/1/2015	12/31/2015	HIIN-ADE-1a	9	801	Hospital A	HIIN a
3	Hospital A	HIIN a	IN	Monitoring	10/1/2016	10/31/2016	HIIN-ADE-1a	2	69	Hospital A	HIIN a
4	Hospital A	HIIN a	IN	Monitoring	11/1/2016	11/30/2016	HIIN-ADE-1a	0	88	Hospital A	HIIN a
5	Hospital A	HIIN a	IN	Monitoring	12/1/2016	12/31/2016	HIIN-ADE-1a	0	40	Hospital A	HIIN a
6	Hospital A	HIIN a	IN	Monitoring	1/1/2017	1/31/2017	HIIN-ADE-1a	3	51	Hospital A	HIIN a
7	Hospital A	HIIN a	IN	Monitoring	2/1/2017	2/28/2017	HIIN-ADE-1a	0	88	Hospital A	HIIN a
8	Hospital A	HIIN a	IN	Monitoring	3/1/2017	3/31/2017	HIIN-ADE-1a	5	73	Hospital A	HIIN a
9	Hospital A	HIIN a	IN	Monitoring	4/1/2017	4/30/2017	HIIN-ADE-1a	0	67	Hospital A	HIIN a
10	Hospital A	HIIN a	IN	Monitoring	5/1/2017	5/31/2017	HIIN-ADE-1a	0	77	Hospital A	HIIN a
11	Hospital A	HIIN a	IN	Monitoring	6/1/2017	6/30/2017	HIIN-ADE-1a	0	32	Hospital A	HIIN a
12	Hospital A	HIIN a	IN	Monitoring	7/1/2017	7/31/2017	HIIN-ADE-1a	0	30	Hospital A	HIIN a
13	Hospital A	HIIN a	IN	Monitoring	8/1/2017	8/31/2017	HIIN-ADE-1a	0	36	Hospital A	HIIN a
14	Hospital A	HIIN a	IN	Monitoring	9/1/2017	9/30/2017	HIIN-ADE-1a	0	38	Hospital A	HIIN a
15	Hospital A	HIIN a	IN	Monitoring	10/1/2017	10/31/2017	HIIN-ADE-1a	0	21	Hospital A	HIIN a
16	Hospital A	HIIN a	IN	Monitoring	11/1/2017	11/30/2017	HIIN-ADE-1a	1	59	Hospital A	HIIN a
17	Hospital A	HIIN a	IN	Baseline	1/1/2015	12/31/2015	HIIN-ADE-1b	33	2104	Hospital A	HIIN a
18	Hospital A	HIIN a	IN	Monitoring	10/1/2016	10/31/2016	HIIN-ADE-1b	1	258	Hospital A	HIIN a
19	Hospital A	HIIN a	IN	Monitoring	11/1/2016	11/30/2016	HIIN-ADE-1b	0	242	Hospital A	HIIN a
20	Hospital A	HIIN a	IN	Monitoring	12/1/2016	12/31/2016	HIIN-ADE-1b	2	175	Hospital A	HIIN a
21	Hospital A	HIIN a	IN	Monitoring	1/1/2017	1/31/2017	HIIN-ADE-1b	1	107	Hospital A	HIIN a
22	Hospital A	HIIN a	IN	Monitoring	2/1/2017	2/28/2017	HIIN-ADE-1b	2	95	Hospital A	HIIN a
23	Hospital A	HIIN a	IN	Monitoring	3/1/2017	3/31/2017	HIIN-ADE-1b	0	104	Hospital A	HIIN a
24	Hospital A	HIIN a	IN	Monitoring	4/1/2017	4/30/2017	HIIN-ADE-1b	2	112	Hospital A	HIIN a
25	Hospital A	HIIN a	IN	Monitoring	5/1/2017	5/31/2017	HIIN-ADE-1b	2	108	Hospital A	HIIN a
26	Hospital A	HIIN a	IN	Monitoring	6/1/2017	6/30/2017	HIIN-ADE-1b	0	99	Hospital A	HIIN a
27	Hospital A	HIIN a	IN	Monitoring	7/1/2017	7/31/2017	HIIN-ADE-1b	3	85	Hospital A	HIIN a
28	Hospital A	HIIN a	IN	Monitoring	8/1/2017	8/31/2017	HIIN-ADE-1b	0	100	Hospital A	HIIN a
29	Hospital A	HIIN a	IN	Monitoring	9/1/2017	9/30/2017	HIIN-ADE-1b	2	95	Hospital A	HIIN a
30	Hospital A	HIIN a	IN	Monitoring	10/1/2017	10/31/2017	HIIN-ADE-1b	0	110	Hospital A	HIIN a
31	Hospital A	HIIN a	IN	Monitoring	11/1/2017	11/30/2017	HIIN-ADE-1b	3	117	Hospital A	HIIN a
32	Hospital A	HIIN a	IN	Baseline	7/1/2015	6/30/2016	HIIN-ADE-1c	9	5931	Hospital A	HIIN a
33	Hospital A	HIIN a	IN	Monitoring	10/1/2016	10/31/2016	HIIN-ADE-1c	0	413	Hospital A	HIIN a
34	Hospital A	HIIN a	IN	Monitoring	11/1/2016	11/30/2016	HIIN-ADE-1c	1	414	Hospital A	HIIN a
35	Hospital A	HIIN a	IN	Monitoring	12/1/2016	12/31/2016	HIIN-ADE-1c	0	491	Hospital A	HIIN a
36	Hospital A	HIIN a	IN	Monitoring	1/1/2017	1/31/2017	HIIN-ADE-1c	0	406	Hospital A	HIIN a
37	Hospital A	HIIN a	IN	Monitoring	2/1/2017	2/28/2017	HIIN-ADE-1c	0	374	Hospital A	HIIN a
38	Hospital A	HIIN a	IN	Monitoring	3/1/2017	3/31/2017	HIIN-ADE-1c	0	517	Hospital A	HIIN a
39	Hospital A	HIIN a	IN	Monitoring	4/1/2017	4/30/2017	HIIN-ADE-1c	0	422	Hospital A	HIIN a

CDS_BasicItems_20180102 (1)

Ready

- Click on Cell A2 (Row: 2 Column: A)
- Select all data from this cell (Can do this by holding down Ctrl + Shift + End)
- After all of the information is highlighted, copy this data (can do by Ctrl + C or right click copy) (make sure the headers aren't included in the copied information)

Step 4

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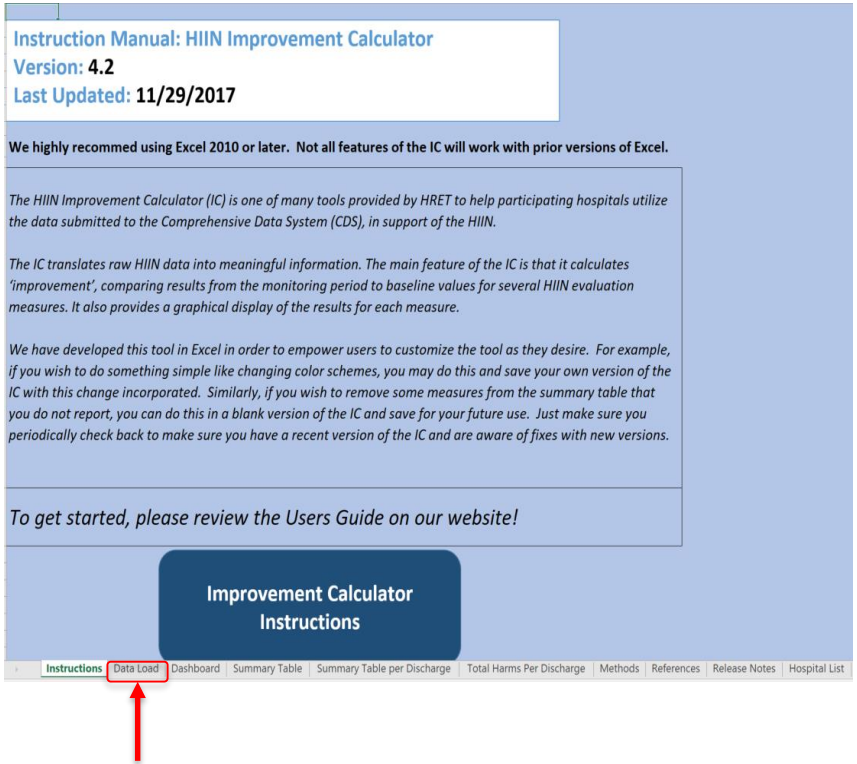

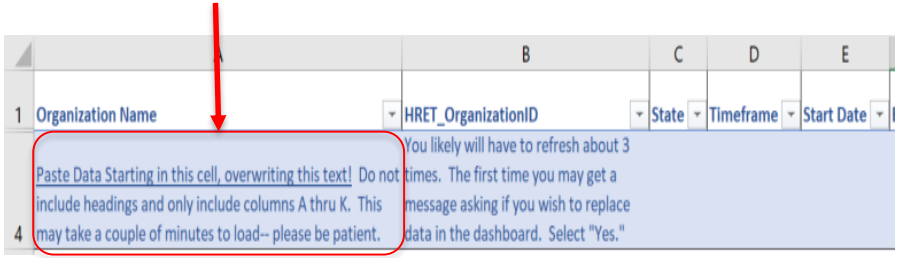

- After copying data from your hospital, open the Improvement Calculator and click on the Data Load tab on the bottom
- Click on the cell where it says “Paste Data Starting in this cell” and paste the copied data

Step 5

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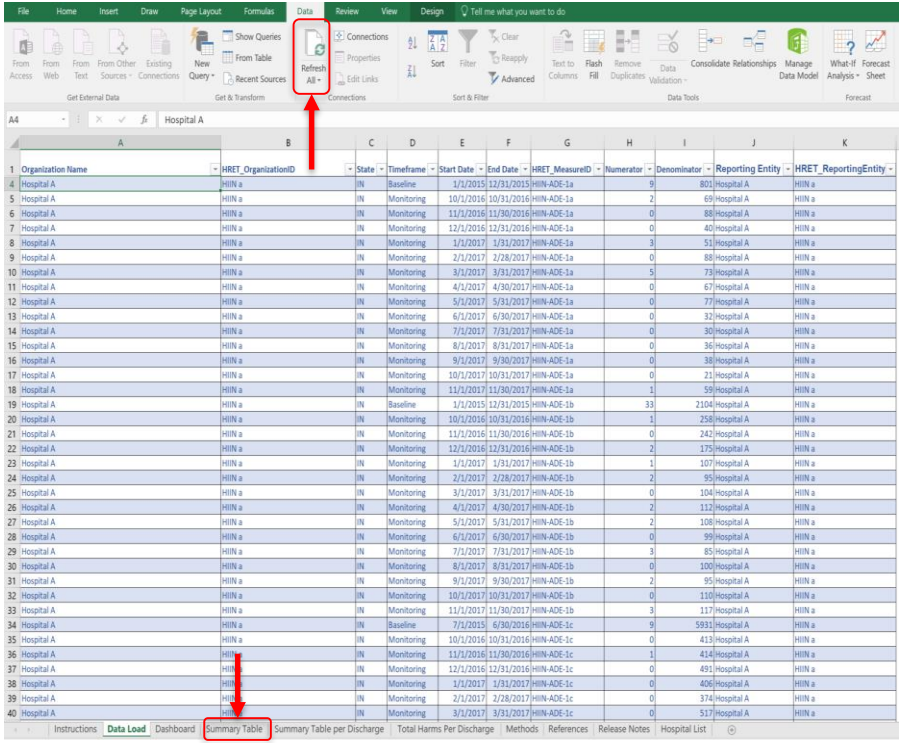

- Your hospital's data should appear in the table following step 4
- From here, click the "Refresh All" button on the top of the screen
- This process may take up to 5 minutes for completion depending on the amount of data being submitted
- Once the data points appear, click on the "Summary Table" tab on the bottom of the screen

Final- Summary Table

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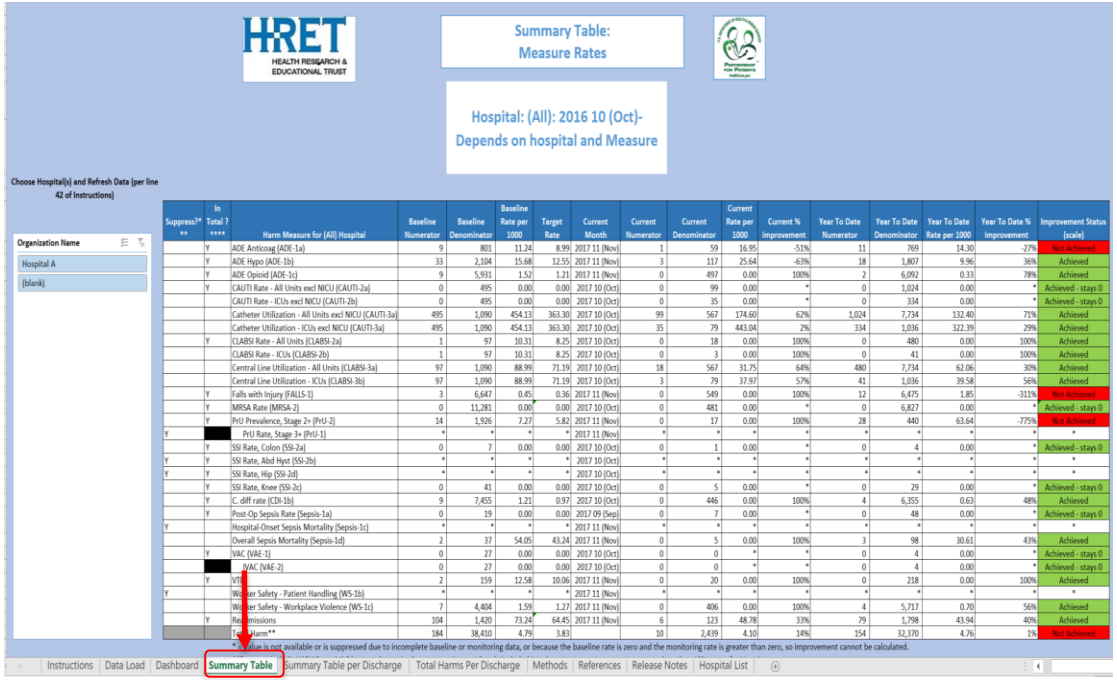

- This tab shows the goal progressions of the quality measures within the HIIN Project
- If data doesn't appear, refresh the data at the same location as the previous slide

Additional Tabs - Dashboard

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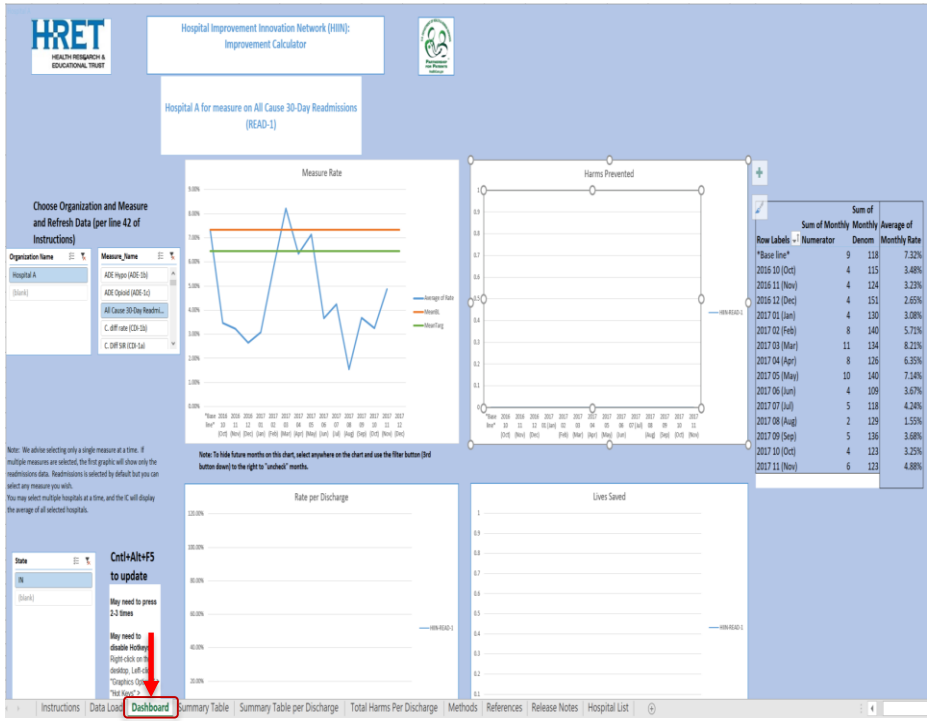

- This tab allows the user to visualize the trends of measures and how hospitals are doing
- It breaks down Measure rate, Harms Prevented, Rate per Discharge, and Lives Saved
- Filters allow the user to select specific measures, or incorporate multiple measures to visualize

Summary Table per Discharge

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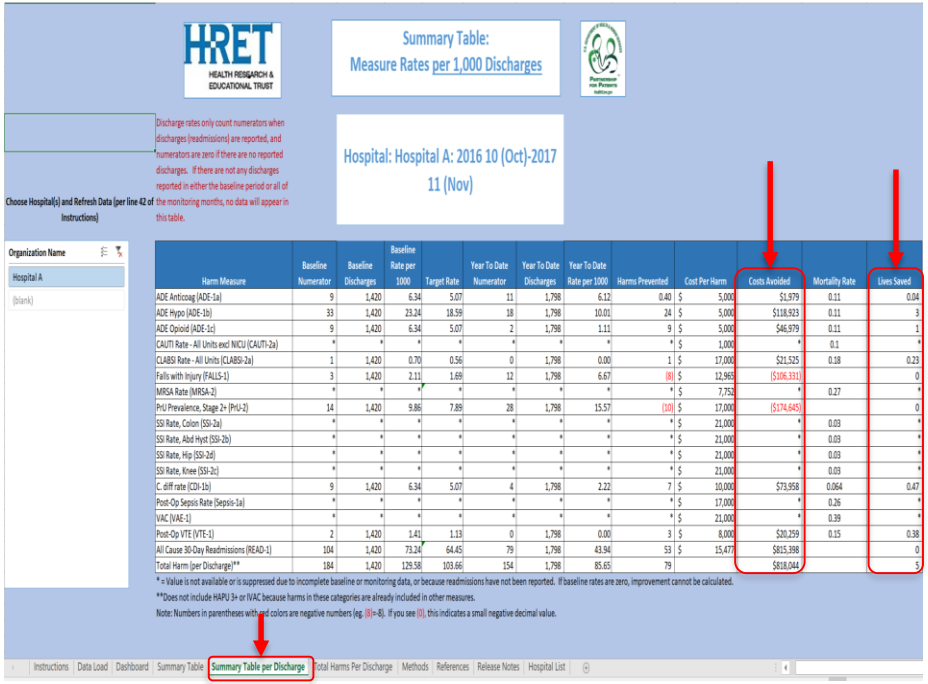

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Summary Table:
Measure Rates per 1,000 Discharges

Discharge rates only count numerators when discharges (readmissions) are reported, and numerators are zero if there are no reported discharges. If there are not any discharges reported in either the baseline period or all of the monitoring months, no data will appear in this table.

Hospital: Hospital A: 2016 10 (Oct)-2017 11 (Nov)

Choose Hospital(s) and Refresh Data (per line 42 of Instructions)

Organization Name
Hospital A
(blank)

Harm Measure	Baseline Numerator	Baseline Discharges	Baseline Rate per 1000	Target Rate	Year To Date Numerator	Year To Date Discharges	Year To Date Rate per 1000	Harms Prevented	Cost Per Harm	Costs Avoided	Mortality Rate	Lives Saved
ADE Anticoag (ADE-1a)	9	1,420	6.34	5.07	11	1,798	6.12	0.40	$ 5,000	$1,979	0.11	0.04
ADE Hypo (ADE-1b)	33	1,420	23.24	18.59	18	1,798	10.01	24	$ 5,000	$118,923	0.11	3
ADE Opioid (ADE-1c)	9	1,420	6.34	5.07	2	1,798	1.11	9	$ 5,000	$46,979	0.11	1
CAUTI Rate - All Units excl NICU (CAUTI-2a)	*	*	*	*	*	*	*	*	$ 1,000	*	0.1	*
CLABSI Rate - All Units (CLABSI-2a)	1	1,420	0.70	0.56	0	1,798	0.00	1	$ 17,000	$21,525	0.18	0.23
Falls with Injury (FALLS-1)	3	1,420	2.11	1.69	12	1,798	6.67	(8)	$ 12,965	($106,331)		0
MRSA Rate (MRSA-2)	*	*	*	*	*	*	*	*	$ 7,752	*	0.27	*
PrU Prevalence, Stage 2+ (PrU-2)	14	1,420	9.86	7.89	28	1,798	15.57	(10)	$ 17,000	($174,645)		0
SSI Rate, Colon (SSI-2a)	*	*	*	*	*	*	*	*	$ 21,000	*	0.03	*
SSI Rate, Abd Hyst (SSI-2b)	*	*	*	*	*	*	*	*	$ 21,000	*	0.03	*
SSI Rate, Hip (SSI-2d)	*	*	*	*	*	*	*	*	$ 21,000	*	0.03	*
SSI Rate, Knee (SSI-2c)	*	*	*	*	*	*	*	*	$ 21,000	*	0.03	*
C. diff rate (CDI-1b)	9	1,420	6.34	5.07	4	1,798	2.22	7	$ 10,000	$73,958	0.064	0.47
Post-Op Sepsis Rate (Sepsis-1a)	*	*	*	*	*	*	*	*	$ 17,000	*	0.26	*
VAC (VAE-1)	*	*	*	*	*	*	*	*	$ 21,000	*	0.39	*
Post-Op VTE (VTE-1)	2	1,420	1.41	1.13	0	1,798	0.00	3	$ 8,000	$20,259	0.15	0.38
All Cause 30-Day Readmissions (READ-1)	104	1,420	73.24	64.45	79	1,798	43.94	53	$ 15,477	$815,398		0
Total Harm (per Discharge)**	184	1,420	129.58	103.66	154	1,798	85.65	79		$818,044		5

* = Value is not available or is suppressed due to incomplete baseline or monitoring data, or because readmissions have not been reported. If baseline rates are zero, improvement cannot be calculated.
**Does not include HAPU 3+ or IVAC because harms in these categories are already included in other measures.
Note: Numbers in parentheses with red colors are negative numbers (eg. (8)=-8). If you see (0), this indicates a small negative decimal value.

Instructions | Data Load | Dashboard | Summary Table | Summary Table per Discharge | Total Harms Per Discharge | Methods | References | Release Notes | Hospital List

- This table shows information such as “lives saved” and “costs avoided”
- Helps show the immediate impact made by hospitals by their work with reducing harms
- These numbers are defined on the next “References” tab

References

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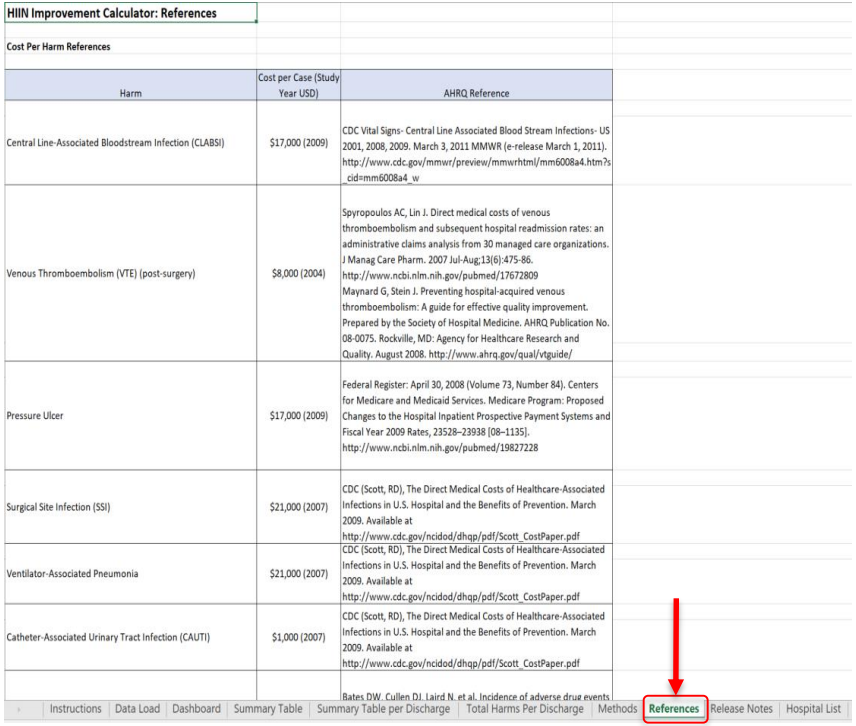

HIIN Improvement Calculator: References

Cost Per Harm References

Harm	Cost per Case (Study Year USD)	AHRQ Reference
Central Line-Associated Bloodstream Infection (CLABSI)	$17,000 (2009)	CDC Vital Signs- Central Line Associated Blood Stream Infections- US 2001, 2008, 2009. March 3, 2011 MMWR (e-release March 1, 2011). http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6008a4.htm?s_cid=mm6008a4_w
Venous Thromboembolism (VTE) (post-surgery)	$8,000 (2004)	Spyropoulos AC, Lin J. Direct medical costs of venous thromboembolism and subsequent hospital readmission rates: an administrative claims analysis from 30 managed care organizations. J Manag Care Pharm. 2007 Jul-Aug;13(6):475-86. http://www.ncbi.nlm.nih.gov/pubmed/17672809 Maynard G, Stein J. Preventing hospital-acquired venous thromboembolism: A guide for effective quality improvement. Prepared by the Society of Hospital Medicine. AHRQ Publication No. 08-0075. Rockville, MD: Agency for Healthcare Research and Quality. August 2008. http://www.ahrq.gov/qual/vtguide/
Pressure Ulcer	$17,000 (2009)	Federal Register: April 30, 2008 (Volume 73, Number 84). Centers for Medicare and Medicaid Services. Medicare Program: Proposed Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates, 23528–23938 [08–1135]. http://www.ncbi.nlm.nih.gov/pubmed/19827228
Surgical Site Infection (SSI)	$21,000 (2007)	CDC (Scott, RD), The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospital and the Benefits of Prevention. March 2009. Available at http://www.cdc.gov/ncidod/dhqp/pdf/Scott_CostPaper.pdf
Ventilator-Associated Pneumonia	$21,000 (2007)	CDC (Scott, RD), The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospital and the Benefits of Prevention. March 2009. Available at http://www.cdc.gov/ncidod/dhqp/pdf/Scott_CostPaper.pdf
Catheter-Associated Urinary Tract Infection (CAUTI)	$1,000 (2007)	CDC (Scott, RD), The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospital and the Benefits of Prevention. March 2009. Available at http://www.cdc.gov/ncidod/dhqp/pdf/Scott_CostPaper.pdf
		Bates DW, Cullen DJ, Laird N, et al. Incidence of adverse drug events

Instructions | Data Load | Dashboard | Summary Table | Summary Table per Discharge | Total Harms Per Discharge | Methods | References | Release Notes | Hospital List

- Describes in more detail the dollar amounts for each harm and mortality rates for each measure
- Shows where each number was derived and refers to articles that contributed to each measures' harm dollar amount and mortality rate

Total Harms per Discharge

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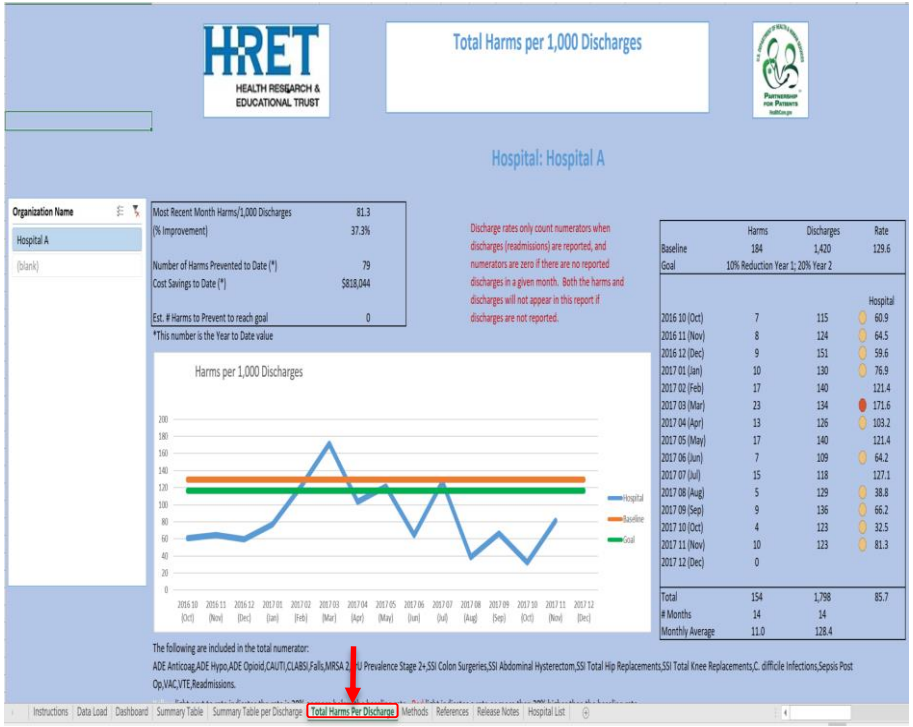

- Summarizes the number of Harms prevented per 1000 discharges
- Table on the top shows the costs avoided and % improvement
- Table on the right shows harms and discharges broken down by month
- Graph shows hospital line in blue, baseline of HIIN project for the hospital in orange, and the goal improvement rate in green line

Methods

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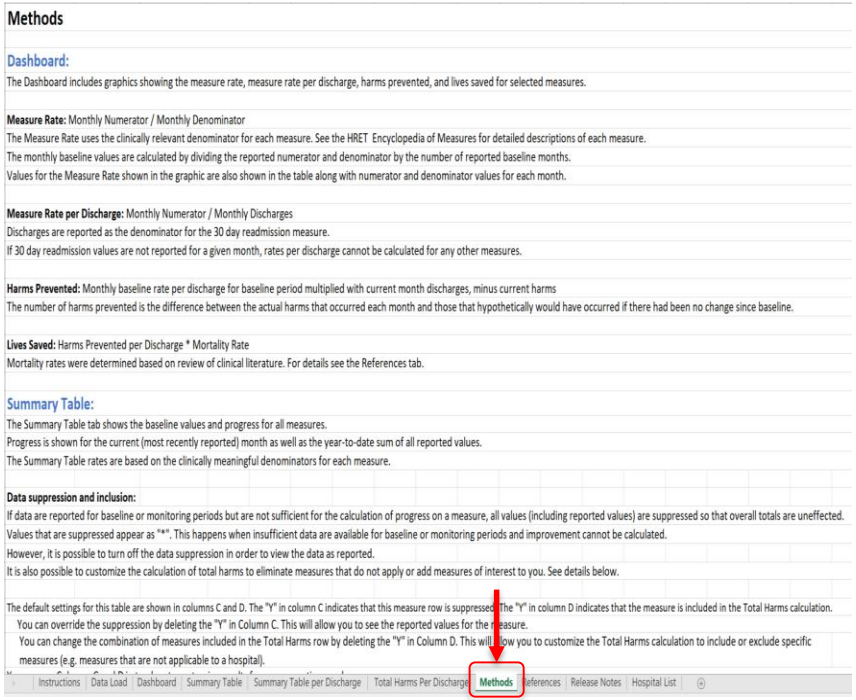

Methods

Dashboard:

The Dashboard includes graphics showing the measure rate, measure rate per discharge, harms prevented, and lives saved for selected measures.

Measure Rate: Monthly Numerator / Monthly Denominator
The Measure Rate uses the clinically relevant denominator for each measure. See the HRET Encyclopedia of Measures for detailed descriptions of each measure.
The monthly baseline values are calculated by dividing the reported numerator and denominator by the number of reported baseline months.
Values for the Measure Rate shown in the graphic are also shown in the table along with numerator and denominator values for each month.

Measure Rate per Discharge: Monthly Numerator / Monthly Discharges
Discharges are reported as the denominator for the 30 day readmission measure.
If 30 day readmission values are not reported for a given month, rates per discharge cannot be calculated for any other measures.

Harms Prevented: Monthly baseline rate per discharge for baseline period multiplied with current month discharges, minus current harms
The number of harms prevented is the difference between the actual harms that occurred each month and those that hypothetically would have occurred if there had been no change since baseline.

Lives Saved: Harms Prevented per Discharge * Mortality Rate
Mortality rates were determined based on review of clinical literature. For details see the References tab.

Summary Table:

The Summary Table tab shows the baseline values and progress for all measures.
Progress is shown for the current (most recently reported) month as well as the year-to-date sum of all reported values.
The Summary Table rates are based on the clinically meaningful denominators for each measure.

Data suppression and inclusion:
If data are reported for baseline or monitoring periods but are not sufficient for the calculation of progress on a measure, all values (including reported values) are suppressed so that overall totals are uneffected.
Values that are suppressed appear as "*". This happens when insufficient data are available for baseline or monitoring periods and improvement cannot be calculated.
However, it is possible to turn off the data suppression in order to view the data as reported.
It is also possible to customize the calculation of total harms to eliminate measures that do not apply or add measures of interest to you. See details below.

The default settings for this table are shown in columns C and D. The "Y" in column C indicates that this measure row is suppressed. The "Y" in column D indicates that the measure is included in the Total Harms calculation.
You can override the suppression by deleting the "Y" in Column C. This will allow you to see the reported values for the measure.
You can change the combination of measures included in the Total Harms row by deleting the "Y" in Column D. This will allow you to customize the Total Harms calculation to include or exclude specific measures (e.g. measures that are not applicable to a hospital).

Instructions | Data Load | Dashboard | Summary Table | Summary Table per Discharge | Total Harms Per Discharge | Methods | References | Release Notes | Hospital List

- Describes methodology of each column in the tabs show in the Improvement Calculator
- Explains definition of graphs in tabs
- Many different nuances in tables but contain useful information for presentations or visualizations

Questions?

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- Specific or general, let us know your HIIN Calculator questions so we can help
- View our updated 2018 Data Submission Calendar *https://www.ihaconnect.org/Resources/Public/PatientSafety/HIIN/2018 Data Submission Calendar.pdf*

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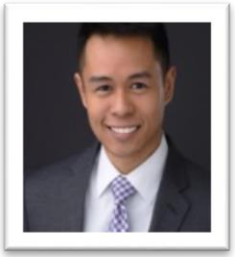

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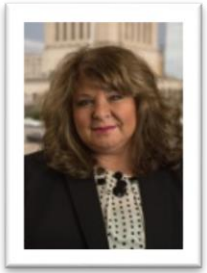

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