

Notes From the Field: Antibiotic Resistance Patient Safety Atlas

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Purpose of the Presentation

- ❑ **Discuss PSA timeline and current milestones**
- ❑ **Discuss PSA supplementary documents**
 - 9 Step Guidance Document
- ❑ **Highlight application updates**
 - Reports
- ❑ **Allow state partners to discuss experience using the application during the State Preview Period**
 - Technical Concerns
 - Methodology/Data Concerns
 - Other Feedback

Patient Safety Atlas - Summary

- ❑ **NHSN HAI AR data: 2011-2013 (2014)**
 - Updated annually
 - Main metric: % Resistance (or in some cases, non-susceptible)
- ❑ **Interactive webpage, showing national, state, and regional summarized data**
- ❑ **Data from Patient Safety Component**
 - Facilities: ACH, LTAC, and IRF
 - HAI types: CLABSI, CAUTI, SSI
- ❑ **31 Phenotypes**
 - MRSA, CRE, MDROs, etc.
- ❑ **Still in development**

Milestones/Timeline

- ❑ **We have currently completed two preview periods:**
- ❑ **Beta-Testing Preview Period**
 - Sept 24th – Oct 7th
 - 5 team cohort of CDC staff; external partners
 - Beta testers participated in a webinar; 2 week preview period to review Atlas for functionality and design
- ❑ **State Partners Preview Period**
 - Nov 3rd – Nov 16th (*can continue to review your data after this time*)
 - State HAI coordinators
 - HAI coordinators participated in a webinar; 2 week preview period to review Atlas for functionality and data review
- ❑ **Anticipated Release for V1: Summer 2016**

LIVE DEMO: PATIENT SAFETY ATLAS DASHBOARD

Supplementary Documents

❑ Health department guidance document

- Suggested steps for systematic preview of the data
- Steer health department staff to pursue investigations to explain the antibiotic resistance metrics
- Facilitate preparation for inquiries

❑ Methodology document

- Will be posted on the Atlas and updated yearly

❑ Summary of results

- Will be posted on Atlas at time 2014 data included
- Will focus mostly on national metrics

Application Updates: Customizable Reports of Antimicrobial Resistance Data

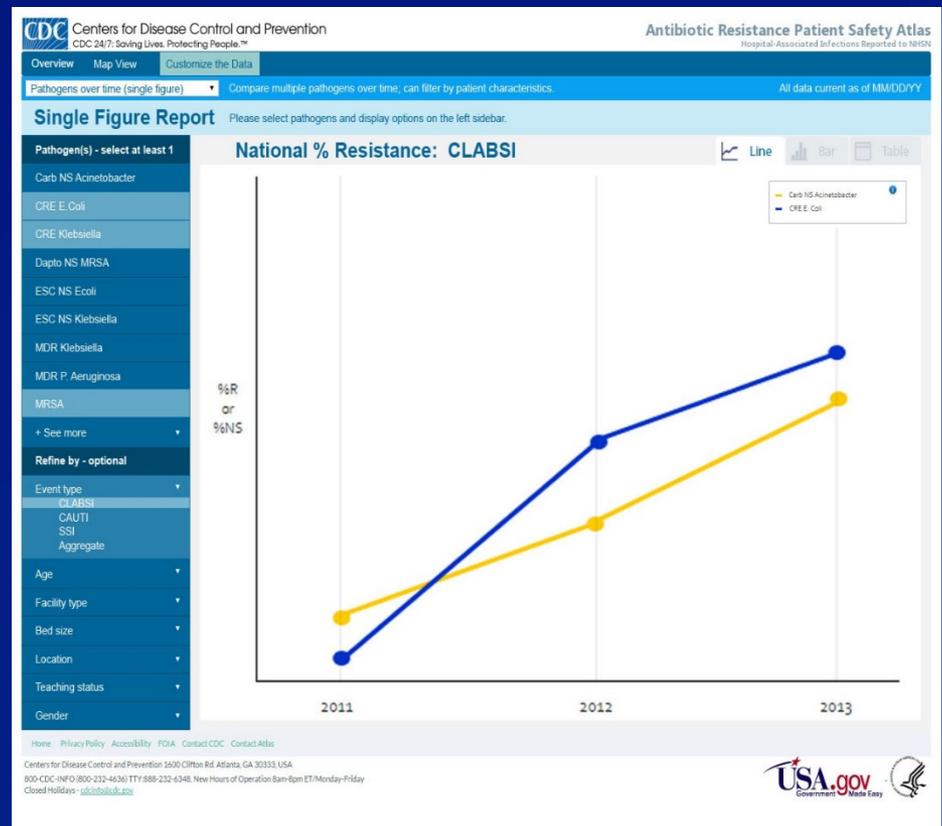
More customized queries of national data

- Stratification of Data
- Filtering of Data

No manipulation of state data

Additional Variables

- Location, gender, bed size, procedure code, etc.



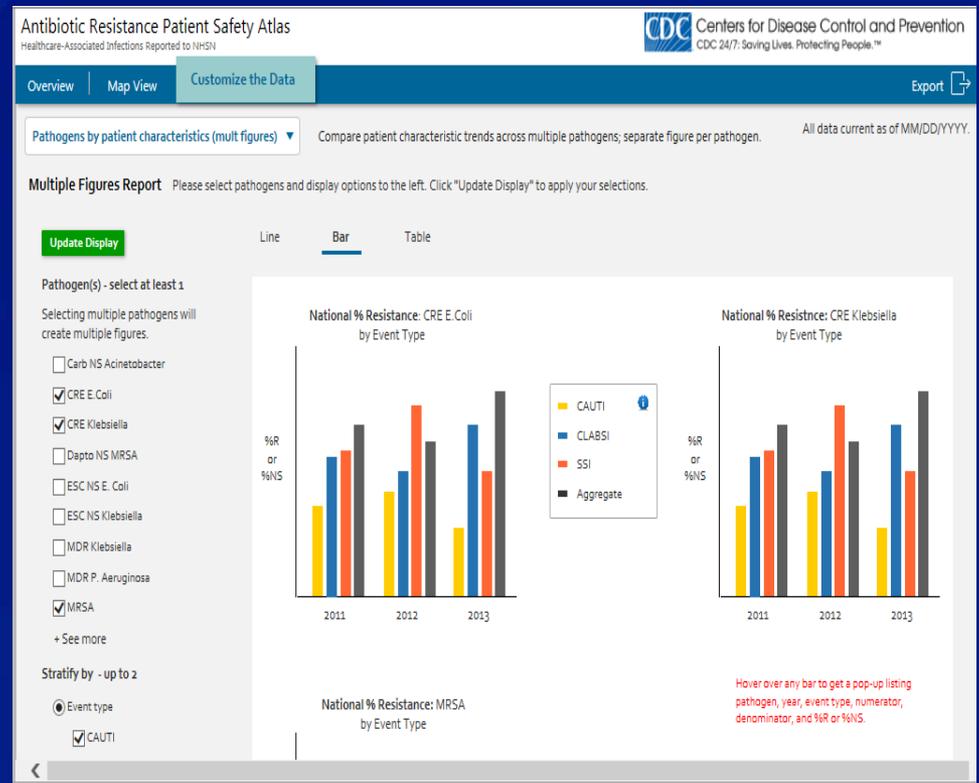
Application Updates: Customizable Reports of Antimicrobial Resistance Data

Additional Variables

- Location, gender, bed size, procedure code, etc.

Stratification of Variables

- Stratifying allows user to examine differences between strata.
- Example: If user selects event type, user will see resistance data for CLASBI, CAUTI, and SSI displayed by varying colored bars on the graph
- One phenotype per graph; can select as many phenotypes as desired



Application Updates: Customizable Reports of Antimicrobial Resistance Data

Filtering Output

- Filtering allows user to see subset of resistance data.
- Example: If user wants to see single event type or single bed size category, etc.
- Output is subsetting
- User has the option to select as many phenotypes as desired.

Additional Variables

- Location, gender, bed size, procedure code, etc.



Potential Steps to Investigate AR Data

- ❑ **Review state-specific %R on the PSA**
 - Define population with higher resistance: certain age group, HAI type, or time period?
- ❑ **Take steps to gain access to HAI data reported from hospitals in your state**
- ❑ **Use NHSN reports to review facility-level line lists and %R**
 - Outreach to hospitals to explore possible reasons for outliers/high resistance

Group Users in NHSN

- ❑ **Analytic output is available in NHSN to review events with common AR phenotypes**
 - Line List
 - Frequency Table
 - Rate Table (hospital-level %R)

The screenshot displays a web-based interface for navigating through data modules. At the top, there are two buttons: "Expand All" and "Collapse All". Below these are several folder icons representing different modules: "Device-Associated (DA) Module", "Procedure-Associated (PA) Module", "HAI Antimicrobial Resistance (DA+PA Modules)", "Unusual Susceptibility Profile Alerts", "Antimicrobial Resistant HAIs", and "CDC Defined Output". The "HAI Antimicrobial Resistance (DA+PA Modules)" folder is highlighted in yellow. A blue arrow points to the "Antimicrobial Resistant HAIs" folder. A red rounded rectangle highlights a section containing three analytic output options, each with a "Run" and "Modify" button:

| | | |
|--|-----|--------|
| Line Listing- Antimicrobial Resistant Organisms | Run | Modify |
| Frequency Table- Antimicrobial Resistant Organisms | Run | Modify |
| Rate Table- Antimicrobial Resistance Percentages | Run | Modify |

Supporting documentation: <http://www.cdc.gov/nhsn/ps-analysis-resources/reference-guides.html>

7 AR Phenotypes Currently Available in NHSN Reports

- ❑ **MRSA, CRE, VRE**
- ❑ *Pseudomonas aeruginosa*
 - Carbapenem-NS
 - MDR
- ❑ *Acinetobacter spp*
 - Carbapenem-NS
 - MDR

| orgID | phenotype | summaryYQ | numIsolated | numTested | numResistant | pctResistant | pctResistant_CI |
|-------|-------------------|-----------|-------------|-----------|--------------|--------------|-----------------|
| 10401 | CREklebsiella_HAI | 2014Q3 | 10 | 6 | 0 | . | |

Feedback/Questions?

- ❑ **Technical issues (access, hang-ups, user interface, timeliness)**
- ❑ **Functionality issues (what else do you need it to do)**
- ❑ **Methodological issues (what other data needs to be included, or what data should not be included)**

FAQs

- ❑ **Will you be displaying resistance data at the county-level?**
- ❑ **Will states have a second preview of the final version?**
- ❑ **%R does not account for various factors – not risk adjusted**

Thank you

For more information please contact Centers for Disease Control and Prevention

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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