

Policy-Relevant National Research on Critical Access Hospitals

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Medicare Patient Transfers from Rural Emergency Departments

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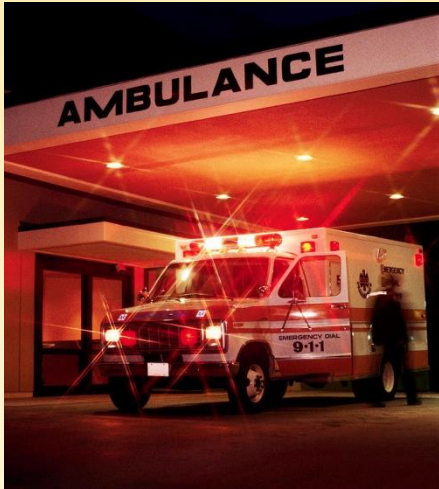
Study Background & Motivation

- Rural hospitals play an important role in triage, stabilizing, and transferring emergency patients.
- Previous research has analyzed patients “received in transfer” from rural hospitals using inpatient claims data.
- Little is known about patients who are transferred from rural Emergency Departments to other hospitals.



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Purpose of Study



- To analyze transfers of Medicare beneficiaries who received emergency care in a Critical Access Hospital (CAH) or a rural non-CAH and were transferred to another hospital for inpatient care.



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Initial Research Questions

- What are the primary diagnoses for rural Medicare patients transferred from CAH/rural hospital EDs to other hospitals?
- How does the percent of emergency encounters resulting in inpatient care in the same hospital vs. a different hospital compare across hospital types?
- How does the type of hospital to which rural Medicare patients are transferred vary by diagnosis?



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Data

- Flex Monitoring Team CAH database and 2010 CMS Provider of Service file
 - Hospital type & location
- Medicare 100% MedPAR file
 - Inpatient claims for all hospitals; includes emergency care resulting in inpatient admission to same PPS hospital
- Medicare 100% Hospital Outpatient Standard Analytical file
 - Hospital outpatient claims; includes emergency care not in the MedPAR file



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Data Challenges

- Significant number of outpatient records missing discharge status
- Emergency/inpatient encounters in same hospital are handled differently for CAHs and PPS hospitals
- Complexity of linking process
 - Determining appropriate dates for linking
 - Claims do not include time of service
 - Differences in emergency and inpatient diagnoses



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Methods

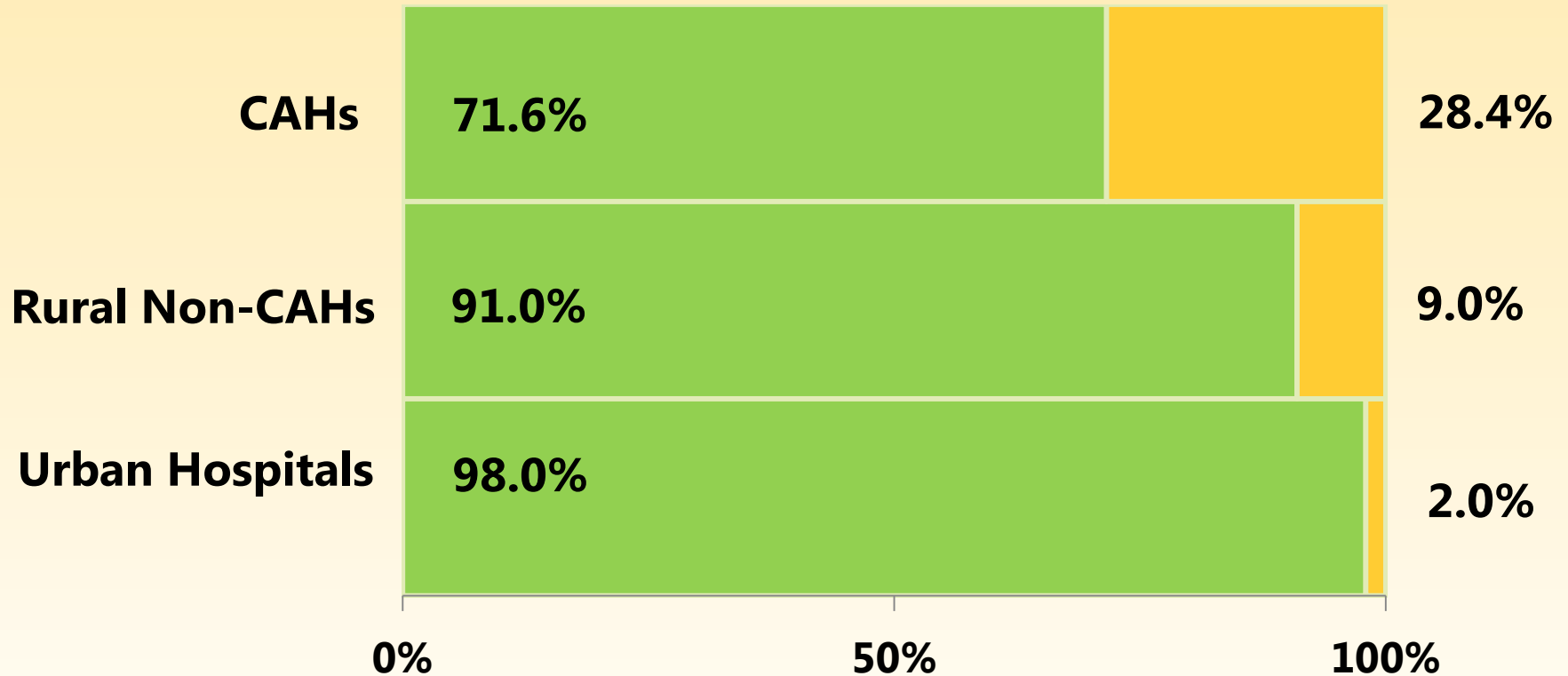
- Linked MedPAR and Hospital Outpatient files using encrypted patient identifiers, Medicare provider numbers, and dates of service.
 - Emergency care end date = inpatient admit date
- Grouped ICD-9 codes for emergency primary diagnoses using AHRQ Clinical Classifications Software.
- Categorized linked records by hospital type for emergency care and for inpatient care.



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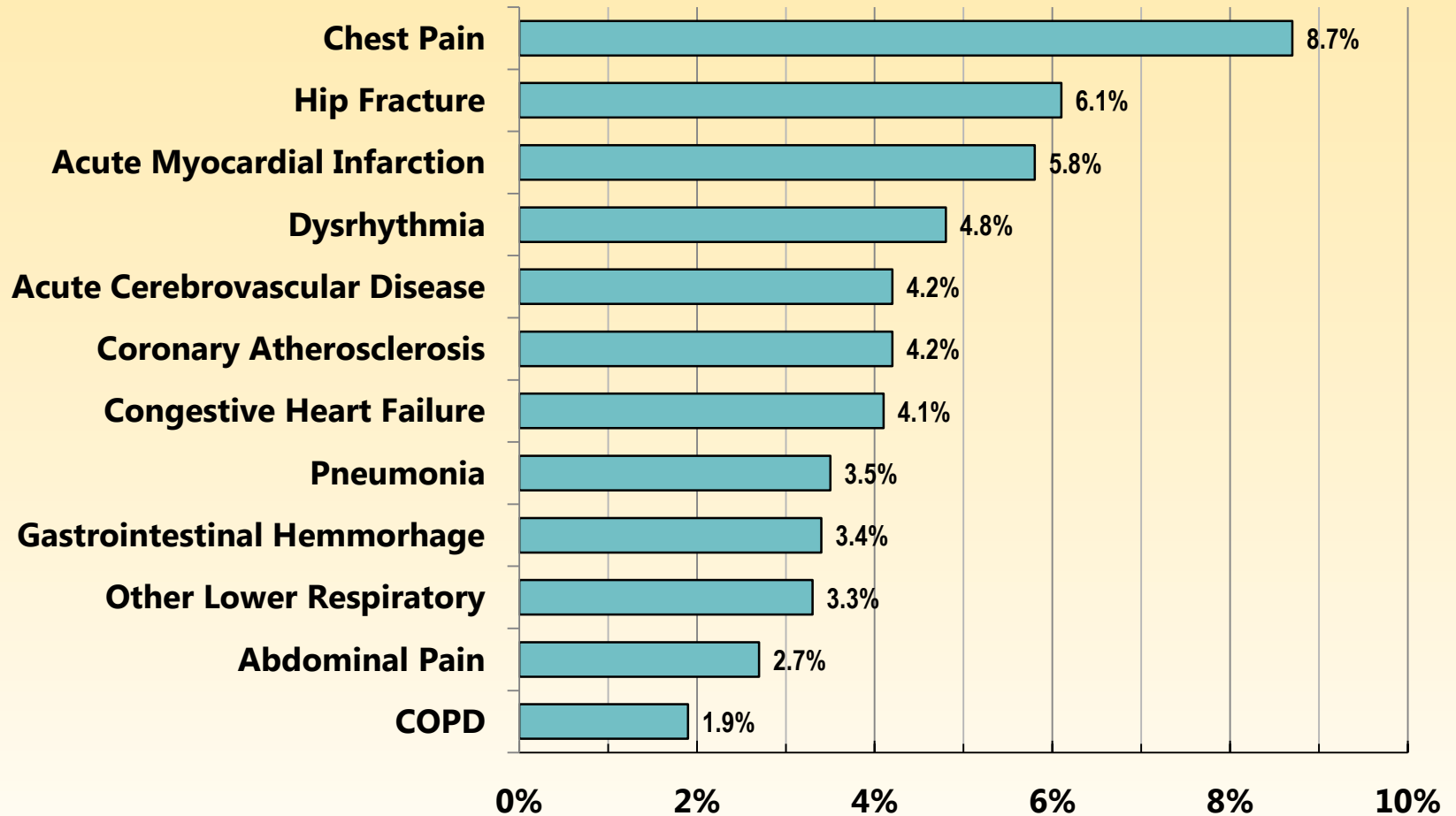
Overall: Inpatient Care at Same vs. Different Hospital

Same Hospital Different Hospital



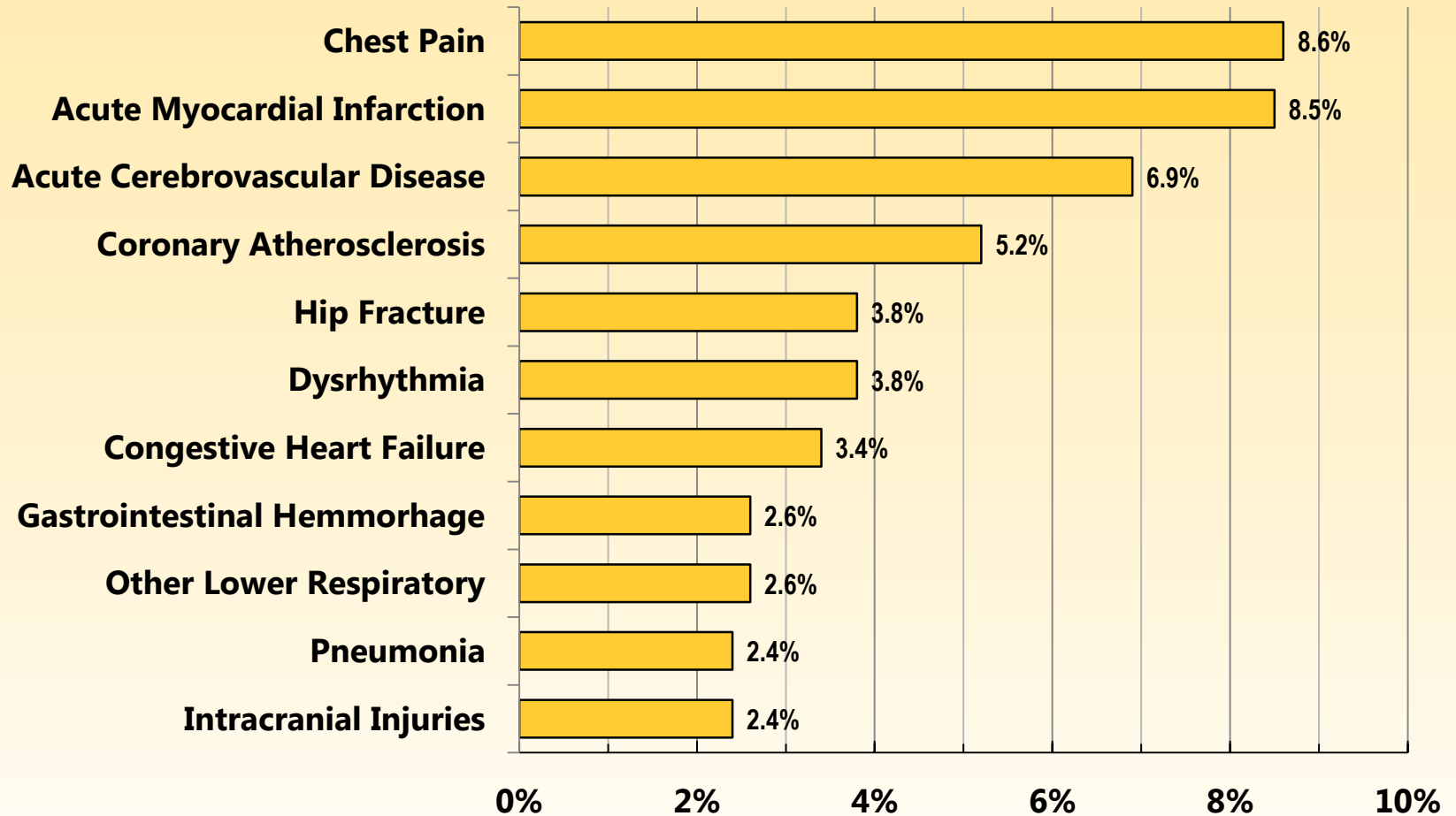
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Emergency & Inpatient Care in Different Hospitals: Top Diagnoses at CAHs



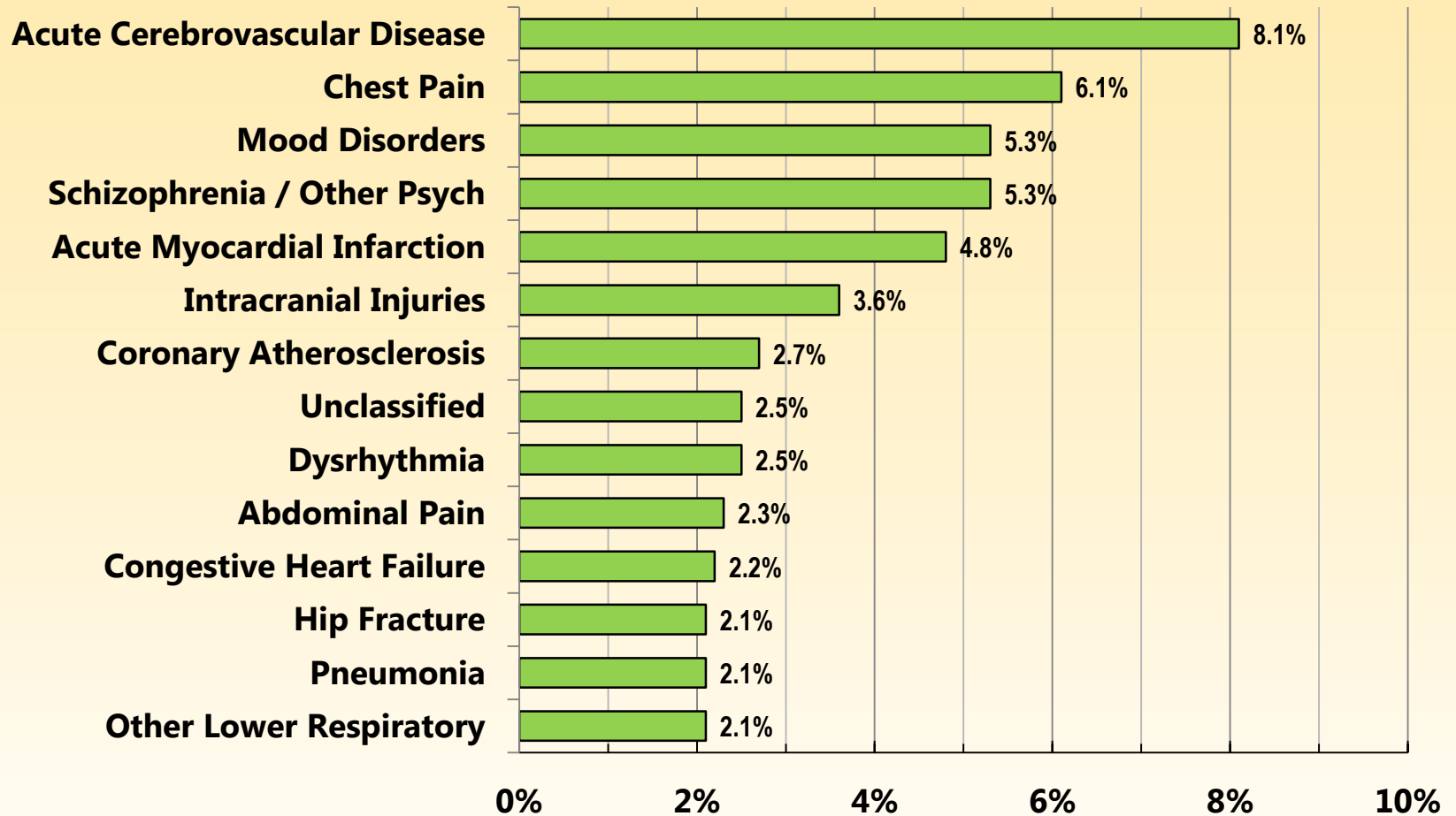
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Emergency & Inpatient Care in Different Hospitals: Top Diagnoses at Rural Non-CAHs



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Emergency & Inpatient Care in Different Hospitals: Top Diagnoses at Urban Hospitals



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Diagnosis Rankings by Hospital Type

- The top emergency diagnoses resulting in a transfer are fairly similar, especially for CAHs and rural non-CAHs.
 - Cardiac-related diagnoses are among the top diagnoses for transferred patients in all three types of hospitals.
 - Chest pain is #1 in CAHs and rural non-CAHs, and #2 in urban hospitals.
 - AMI is #2 in rural hospitals, #3 in CAHs, #5 in urban hospitals.



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Diagnosis Rankings by Hospital Type

- Acute cerebrovascular disease is #1 in urban hospitals, #3 in rural non-CAHs and #5 in CAHs.



- Hip fracture is #2 in CAHs, #5 in rural non-CAHs, and #14 in urban hospitals.
- The top 10 diagnoses by type are 50% of encounters in CAHs vs. 44% in rural non-CAHs and 38% in urban.



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Location of Inpatient Care for CAH and Rural Non-CAH Transfers



- Majority of CAH and rural non-CAH transfers for top 25 diagnoses go to urban hospitals.
- Overall, 78.5% of CAH transfers and 83.5% of rural non-CAH transfers go to urban hospitals
- By diagnosis, 62.3% to 92% of CAH transfers and 55% to 92% of rural non-CAH transfers go to urban hospitals
- Diagnoses with highest percentages of transfers to urban hospitals include intracranial injuries, stroke, coronary atherosclerosis, and AMI



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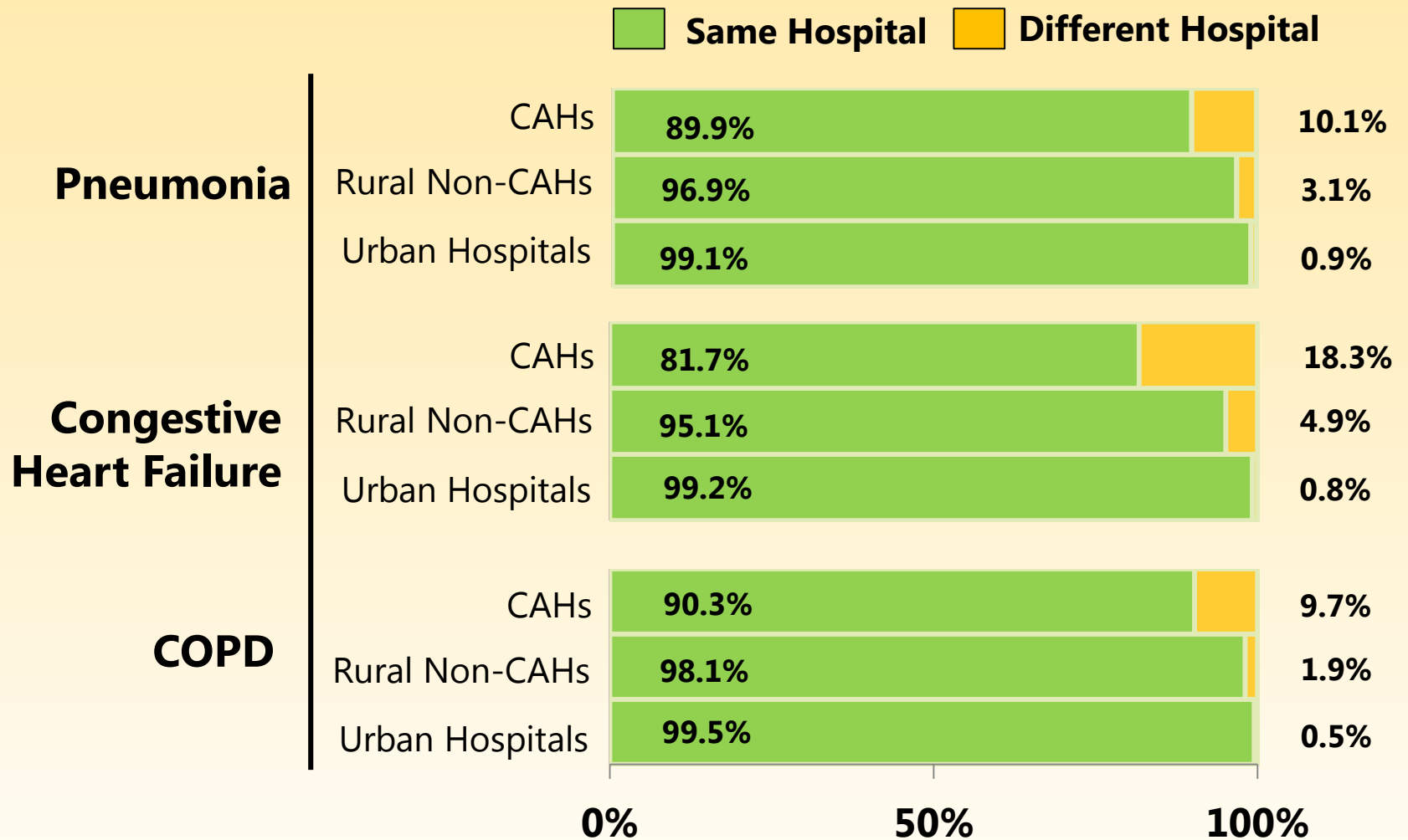
Location of Inpatient Care for CAH and Rural Non-CAH Transfers

- For some diagnoses, a significant number of transfers also go to rural non-CAHs
 - Overall, 20.3% of CAH transfers and 15.7% of rural non-CAH transfers go to rural non-CAHs
 - By diagnosis, 8% to 34.4% of CAH transfers and 8.4% to 40% of rural non-CAH transfers
 - For both CAHs and rural non-CAHs, the diagnoses with highest percentages of transfers going to rural non-CAHs are mood disorders, schizophrenia, and hip fracture



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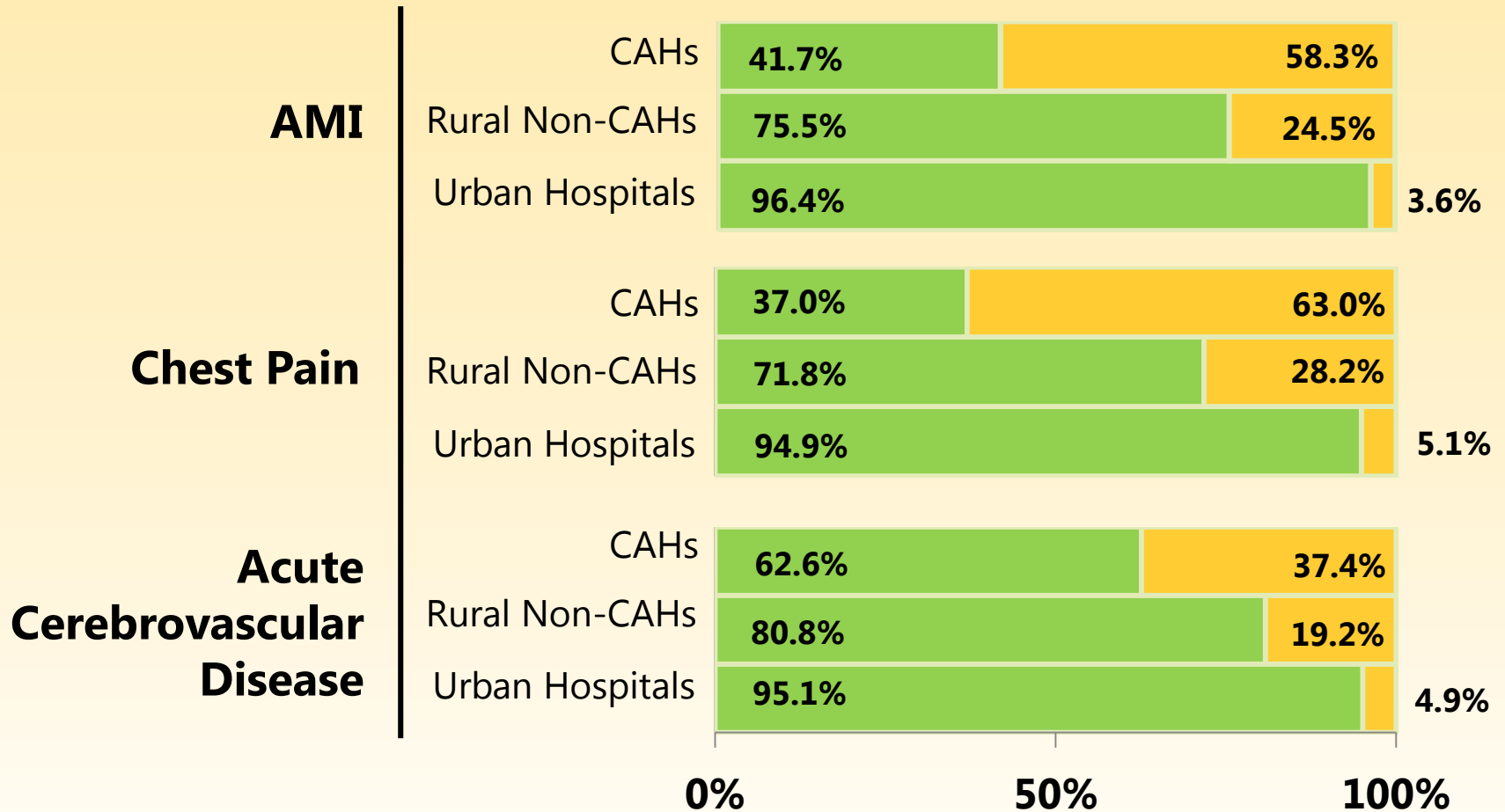
Inpatient Care at Same vs. Different Hospital



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Inpatient Care at Same vs. Different Hospital

Same Hospital Different Hospital



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Current Research

- What is the likelihood that a Medicare ED patient with a serious high-frequency condition will be admitted to the same hospital, be transferred, be discharged, or die?
 - Controlling for patient demographics and severity
 - Conditions of interest: pneumonia, congestive heart failure, chest pain, AMI, COPD, stroke



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Conclusions

- Health care reform has intensified importance of ensuring that rural hospital quality is measured appropriately.
- Quality measures that address care coordination are challenging when emergency care is involved, especially in CAHs.
- Study results are an important first step in understanding which Medicare patients are treated in rural emergency departments and transferred to other hospitals.



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Do We Really Want to Harm High-Performing CAHs Near Other Hospitals?

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Minnesota Rural Health Conference
June 23, 2014

Supported by HRSA:
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**Flex
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**University of Minnesota
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Background

- Initial distance requirements for CAHs:
 - More than 35 miles from nearest hospital / 15 miles on secondary (difficult) roads
 - “Necessary provider” designation waived distance requirements for many CAHs
 - Beginning in 2006, all new CAHs must meet distance requirements – existing “necessary provider” CAHs allowed to remain in program

CAHs Under Siege

- Numerous proposed changes to CAH program:
 - End CAH program entirely (CBO, 2011)
 - Eliminate enhanced payments for CAHs (MedPAC, 2012)
 - Remove “necessary provider” permanent exemption from CAH distance requirement (OIG, 2013)
 - Prohibit CAH designation for facilities that are less than 10 miles from the nearest hospital (OMB, 2014)

Effects of Proposals?

- Reduced number of hospitals eligible for CAH program
- Hospitals losing CAH status forced back on PPS reimbursement, reducing Medicare revenue
- Reduced access to care for rural populations

FMT Analysis

- Comparing hospitals that could lose CAH status due to a minimum distance requirement in terms of:
 - Organizational characteristics
 - Quality and financial performance
- Estimating potential financial consequences of reversion to PPS for these CAHs

Examining CAH Performance

- Every CAH in nation assigned to one of three categories based on distance to next hospital:
 - Less than 15 miles ("nearest distance")
 - Between 15 and 35 miles ("middle distance")
 - More than 35 miles ("farthest distance")
- Compared quality in terms of Hospital Compare reporting rates and performance on measures
- Used FMT financial distress model to compare finance

National Results: Location

- Of 1,332 CAHs nationwide:
 - 257 (19%) are <15 miles from the nearest hospital
 - 874 (66%) are 15-35 miles
 - 201 (15%) are >35 miles
- CAHs in nearest distance group vs. farthest-distance group:
 - More likely to be private, non-profit hospitals (62.7% vs. 53.2%)
 - Significantly more beds (23.1 vs. 20.7) & inpatient days (4,115 vs. 3,368)

Spotlight on Minnesota

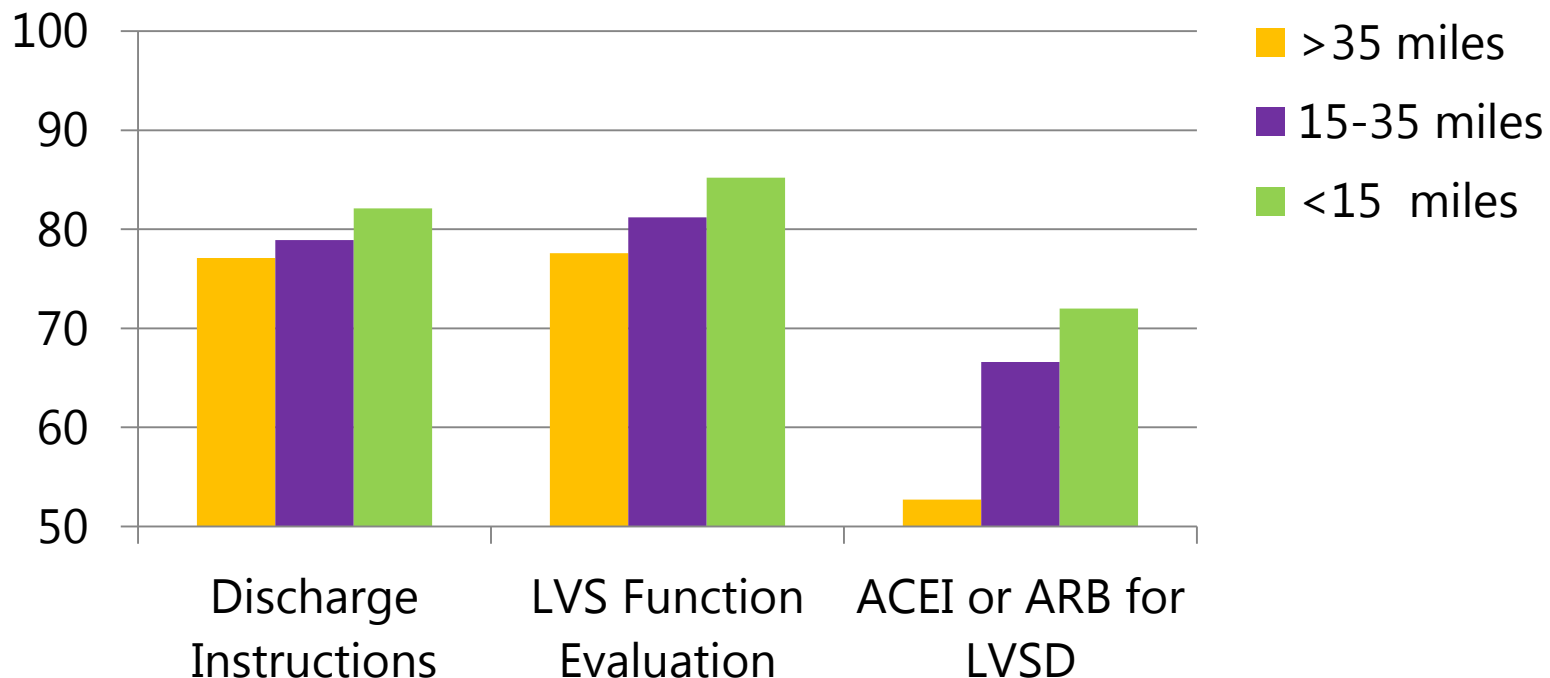
- Of the 79 CAHs in Minnesota:
 - 22 (27.8%) are <15 miles from the nearest hospital
 - 51 (64.6%) are 15-35 miles away
 - 6 (7.6%) are >35 miles away
- Only one other state (Ohio) has this many CAHs in the <15-mile group.

National Results: Quality

- For 19 inpatient and outpatient Hospital Compare quality measures:
 - Nearest distance (<15 miles) group was significantly more likely than the other two groups of CAHs to report data for 12 measures.
 - Nearest distance group performed significantly better than the middle-distance group for 13 quality measures, and significantly better than the farthest-distance group for 11 measures.

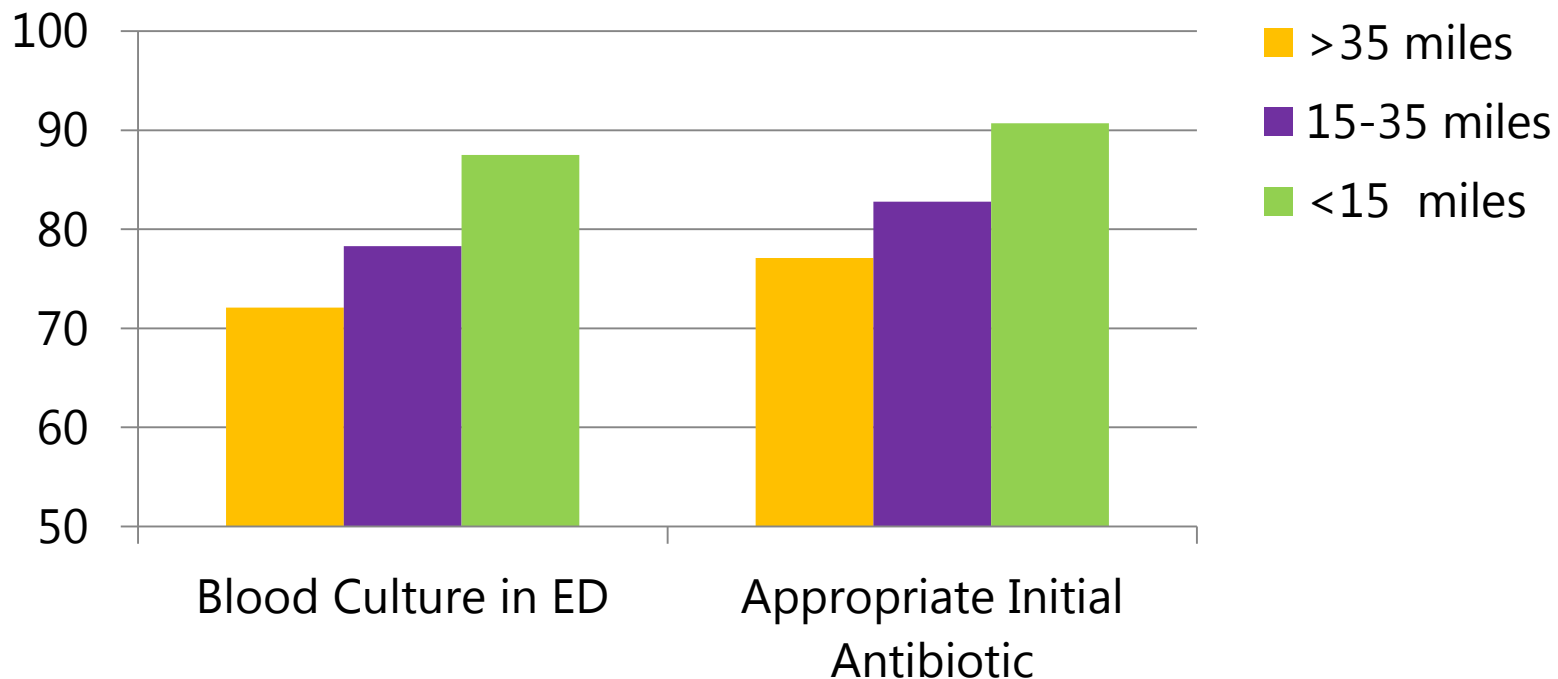
Results: National Quality Reporting

Percent of CAHs in Each Distance Group Reporting Data to Hospital Compare for **Heart Failure** Quality Measures



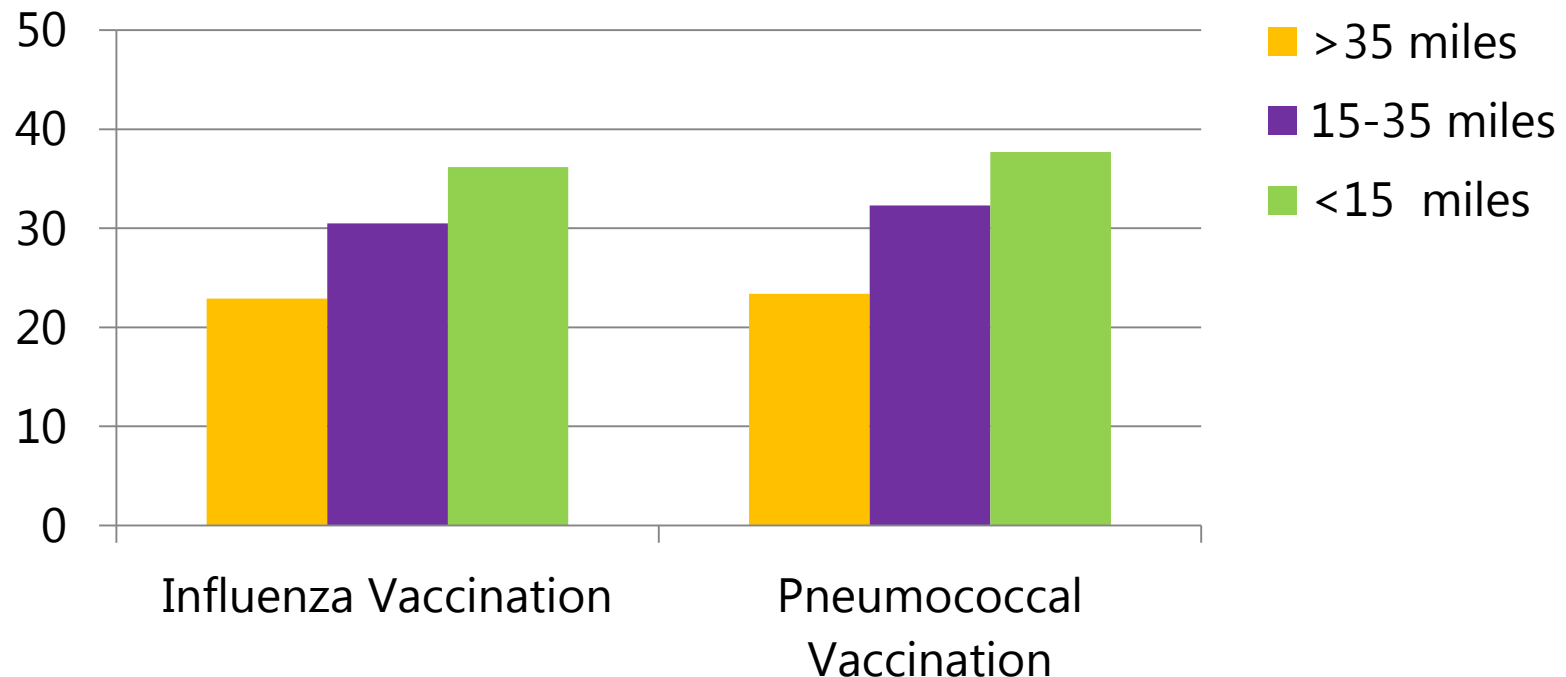
Results: National Quality Reporting

Percent of CAHs in Each Distance Group Reporting Data to Hospital Compare for **Pneumonia** Quality Measures



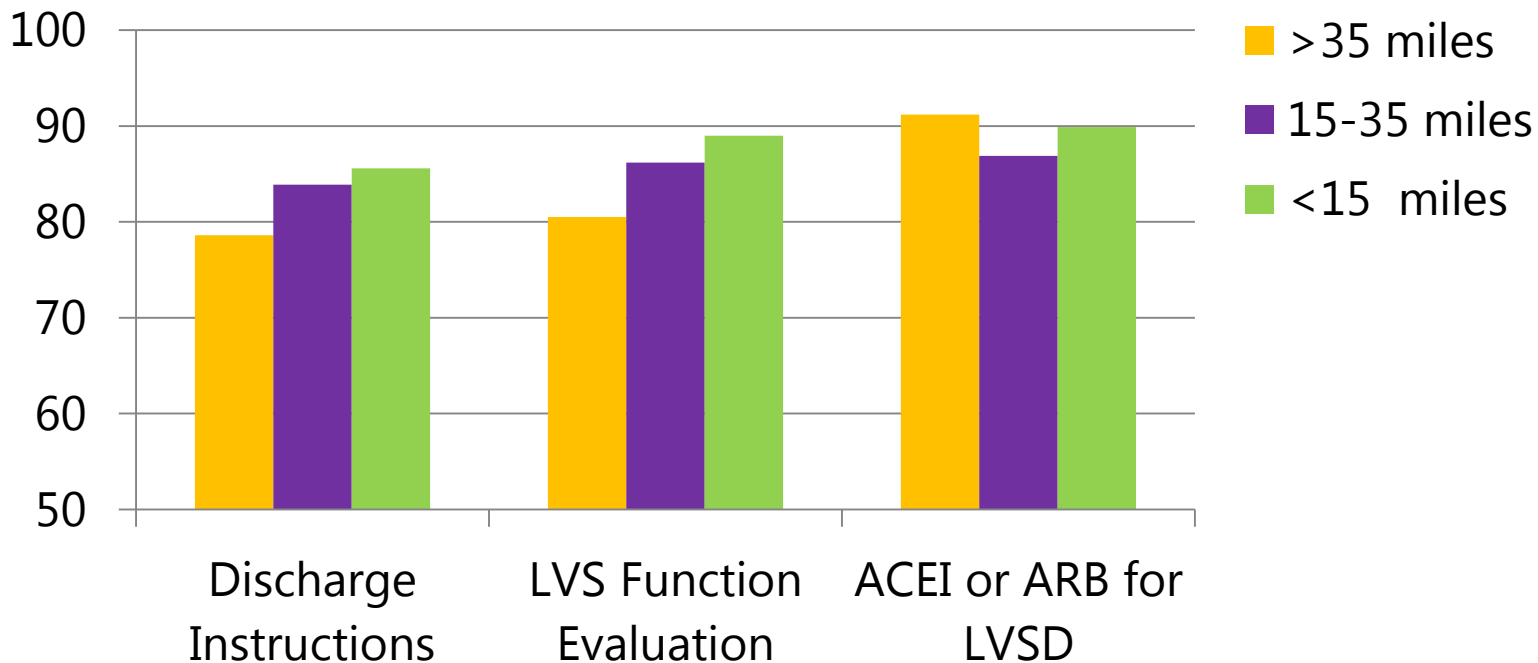
Results: National Quality Reporting

Percent of CAHs in Each Distance Group Reporting Data to Hospital Compare for **Immunization** Quality Measures



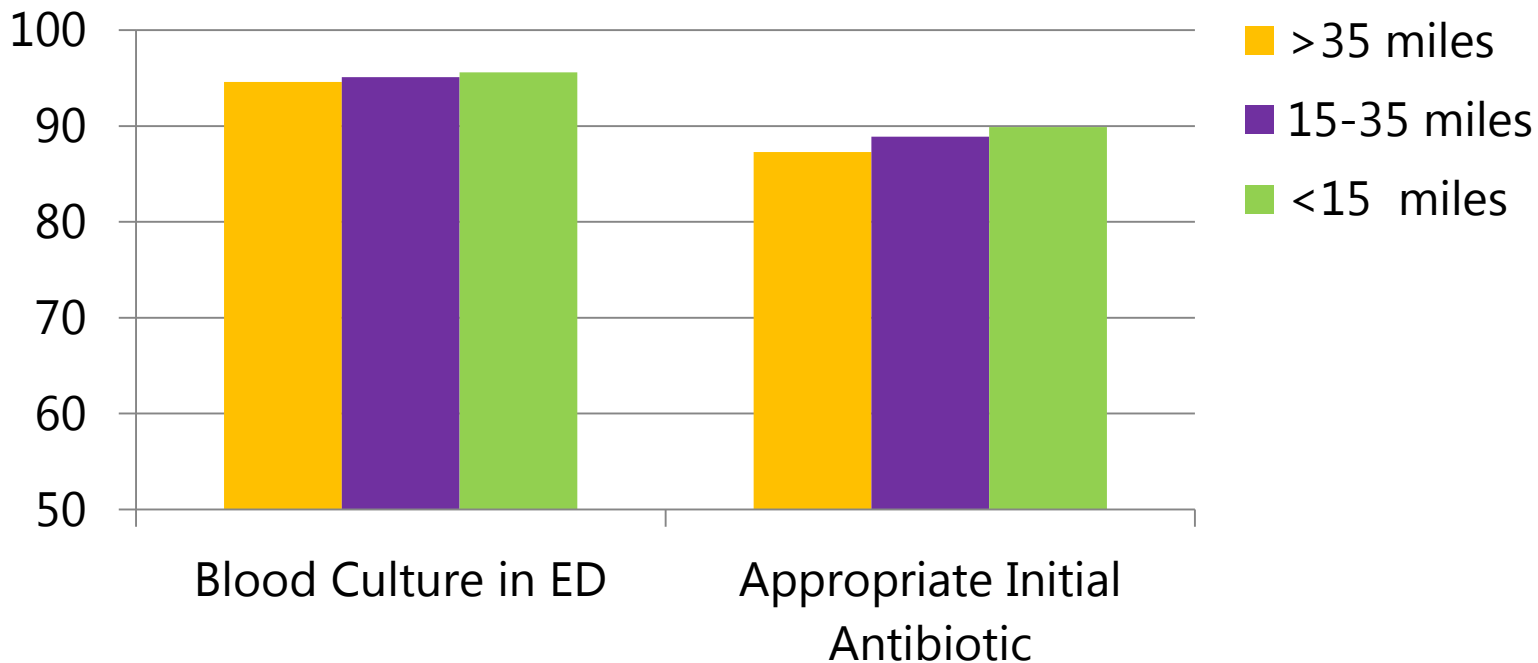
Results: National Quality Performance

Of CAHs Reporting Data, Percent in Each Distance Group
Providing Recommended Care for **Heart Failure** Quality
Measures



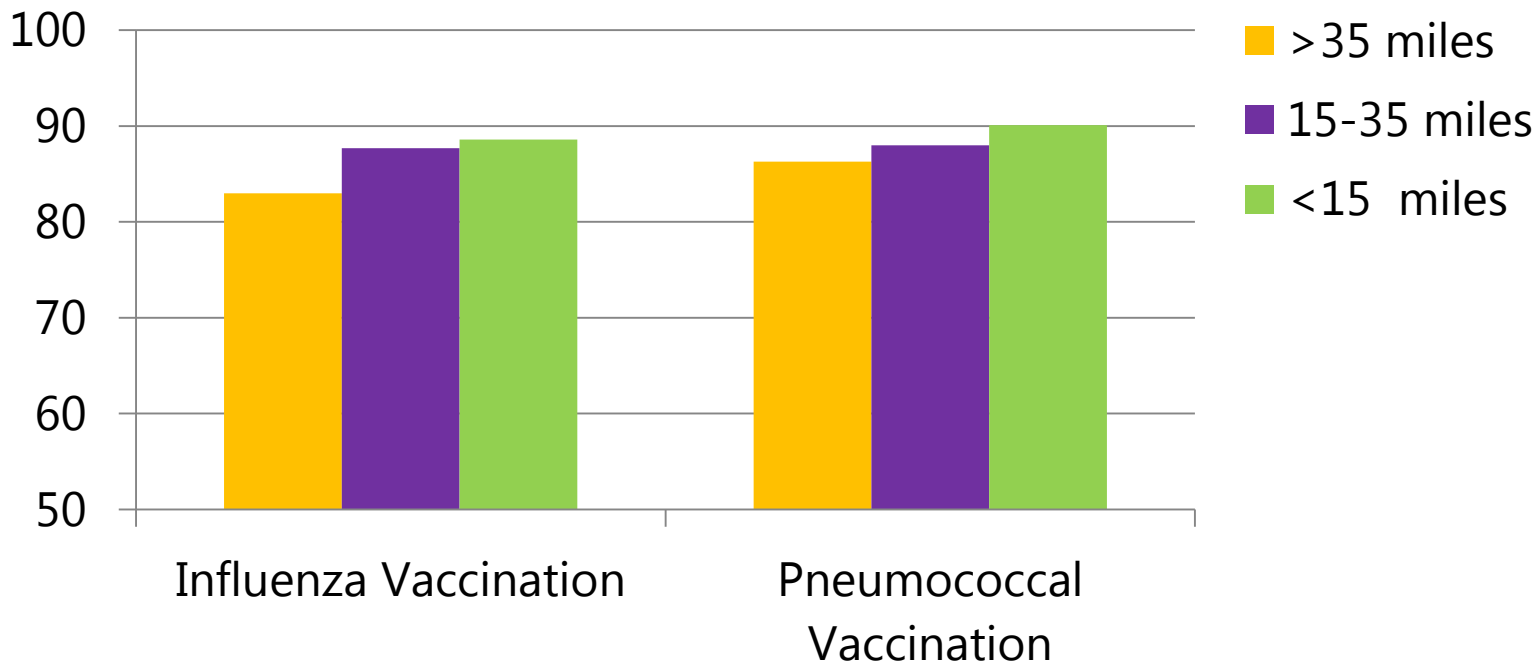
Results: National Quality Performance

Of CAHs Reporting Data, Percent in Each Distance Group
Providing Recommended Care for **Pneumonia** Quality
Measures



Results: National Quality Performance

Of CAHs Reporting Data, Percent in Each Distance Group
Providing Recommended Care for **Immunization** Quality
Measures



National Results: Finance

What would CAH revenue look like under PPS?

- FMT's CAH Financial Distress Model predicts the likelihood that a CAH will be in financial distress within two years.
 1. Used FY2011 Medicare cost reports to calculate inpatient and outpatient revenue \$ for all CAHs.
 2. Reduced these \$ amounts by the amount CAH payments exceed PPS by 20% and 30%.
 3. Re-computed financial distress using reduced Medicare amounts.

National Results: Finance

- A 20% reduction in Medicare reimbursements would result in a savings of about \$308 million, based on 2011 financial data.
 - This is 0.056% of the total 2011 Medicare expenditures of \$549.1 billion (CMS data).
 - Put another way: the total savings of this proposal would be equivalent to about **4.9 hours** of Medicare's annual spending.

National Results: Finance

- In 2011, 62% of nearest-distance CAHs had a positive operating margin, compared to 53% of middle-distance and 49% of farthest-distance CAHs.
 - Nationwide, 71.6% of all US hospitals had a positive operating margin in 2011.
- CAH status removal would dramatically affect these hospitals' financial stability.

National Results: Finance

Distribution of Risk Across Region for CAHs within 15 Miles of Another Hospital: **Status Quo Scenario**

Distress Risk	Midwest	Northeast	South	West	Total
Low	113 (68%)	8 (5%)	26 (16%)	19 (11%)	166
Mid-Low	14 (47%)	2 (7%)	9 (30%)	5 (17%)	30
Mid-High	14 (58%)	0 (0%)	9 (38%)	1 (4%)	24
High	6 (27%)	3 (14%)	10 (45%)	3 (14%)	22
Total	147 (61%)	13 (5%)	54 (22%)	28 (12%)	242

- Currently, 22 CAHs within 15 miles of another hospital are at high risk of financial distress; 24 are at a mid-high risk.

National Results: Finance

Distribution of Risk Across Region for CAHs within
15 Miles of Another Hospital: **20% Medicare Reduction**

Distress Risk	Midwest	Northeast	South	West	Total
Low	87 (69%)	6 (5%)	15 (12%)	18 (14%)	126
Mid-Low	27 (60%)	2 (4%)	12 (27%)	4 (9%)	45
Mid-High	16 (59%)	2 (7%)	9 (31%)	2 (7%)	29
High	17 (40%)	3 (7%)	18 (43%)	4 (10%)	42
Total	147 (61%)	13 (5%)	54 (22%)	28 (12%)	242

- Under PPS, 42 CAHs within 15 miles of another hospital would be at high risk of financial distress; 29 would be at a mid-high risk.

Conclusions

- Compared to CAHs located farther away, hospitals that could lose CAH status because of a minimum distance requirement:
 - Have a higher volume of patients
 - Are more financially stable
 - Are more likely to publicly-report quality data
 - Perform better on quality measures

Conclusions

- Distance from another hospital is a narrow criterion to determine a hospital's fate.
 - Others to consider: clinical expertise, availability of key services, use of technology
- Loss of CAH status and cost-based reimbursement could affect many CAHs, with:
 - Substantial financial consequences
 - Possible CAH closures
 - Reduced access to care & overall care quality

Conclusions

- None of the proposals to change the CAH program recognize the potential harm on the rural health system and access to care for rural residents.
 - Even with close proximity to another hospital, many CAHs could be considered safety net facilities if they provide certain services, have a large proportion of Medicaid patients, etc.

Thank You!

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