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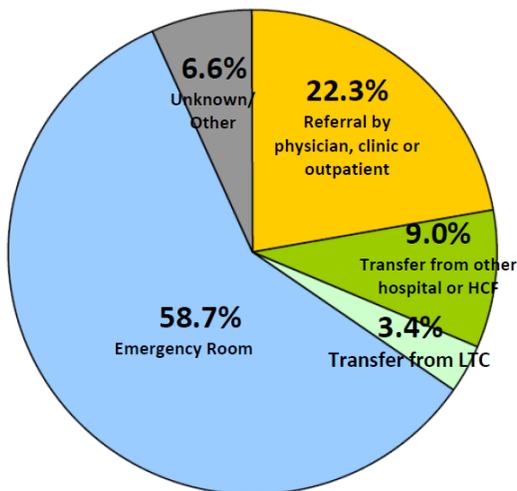
MRSA, which stands for methicillin-resistant *Staphylococcus aureus*, are bacteria with resistance to the beta-lactam class of antibiotics. The prevalence and incidence of MRSA infections are growing among all types of healthcare facilities and the community. Age is an important risk factor for MRSA infection. As such, a particular area of interest is the rate of MRSA infection in long term care facilities (LTC). This summary uses discharge data from acute care facilities to assess incidence of MRSA infections among cases admitted from or discharged to LTC.

Methods for Tracking MRSA in MI

Data from all discharges of Michigan residents from acute care facilities were purchased from the Michigan Health and Hospital Association by the Michigan Department of Community Health. Discharge data from 2002 through 2008 were analyzed for MRSA infection, selecting cases using ICD-9 diagnoses for *Staphylococcus aureus* infection along with the ICD-9 code for resistance to penicillins (which fall under the beta-lactam antibiotic class). These infections include MRSA pneumonia, bloodstream, and other (skin/soft tissue etc.) infections.

Admissions to Acute Care Facilities

Sources of Admission to Acute Care
N = 70,557

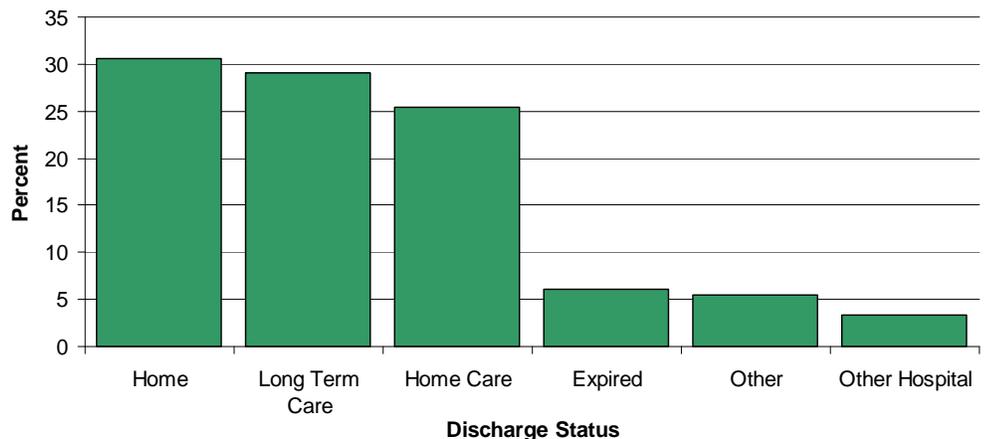


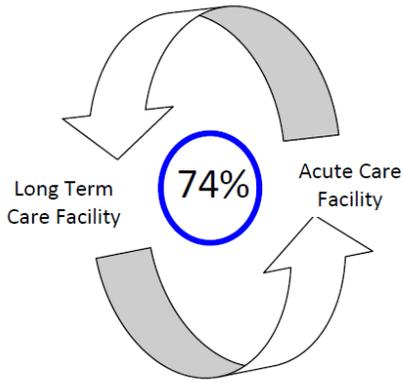
We evaluated the “admission status” codes of each patient discharged with MRSA to determine how they arrived at the hospital. The graph is shown to the left. There were 2,426 (3.4%) cases who were admitted from a skilled nursing facility. The majority of cases came through the Emergency Room (58%) and may include individuals coming from various locations (including LTC). Due to the limited recording of admitting diagnoses, it was not possible to determine what percent of patients were admitted and discharged with MRSA had infection present on admission.

Discharge Status

We evaluated the proportion of MRSA cases that were discharged to various locations. Thirty-one percent of MRSA cases were discharged home, and 29% were discharged to LTC including: skilled nursing facilities, intermediate facilities, inpatient rehabilitation, or long term care hospitals. Overall, the mortality of patients with MRSA was 6.1% (N=4,337)

Discharge Status of Patients Discharged with MRSA Infection Diagnosis
N=70,557



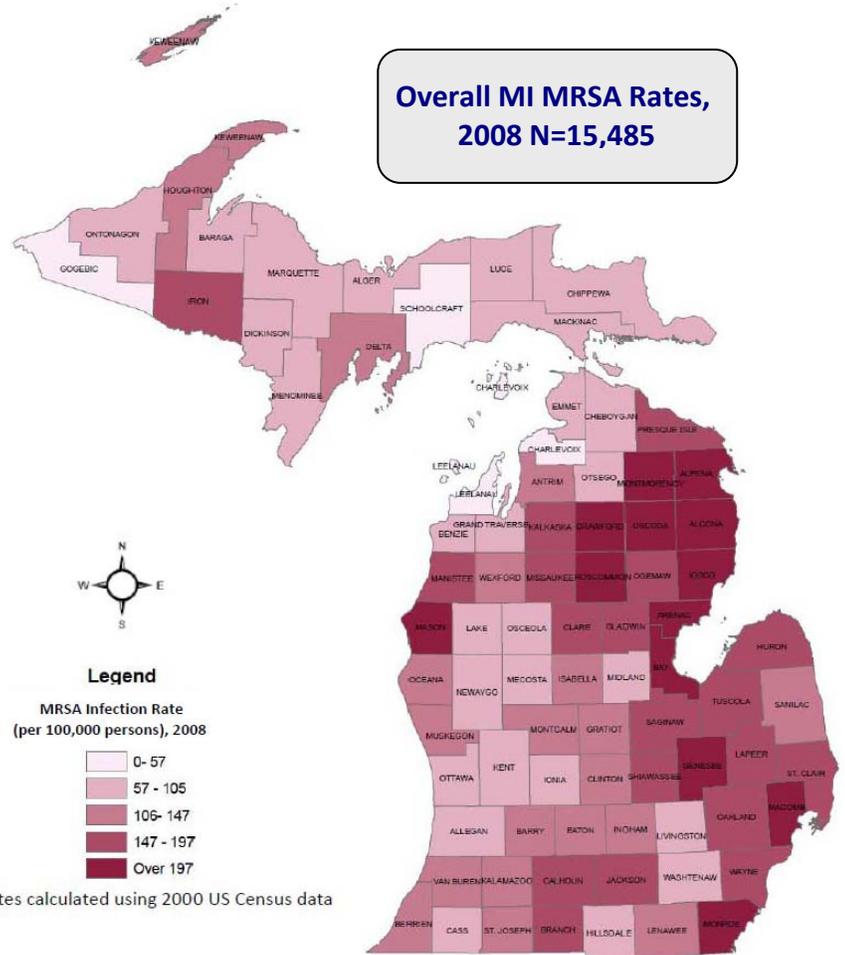


Not unexpectedly, there is overlap between acute and long term care facilities; so much that it has even been referred to as a revolving door. During 2002 through 2008, 74% of MRSA patients admitted to an acute care facility from a LTC facility were discharged back to a LTC facility. These cases were classified based on a discharge diagnosis of a MRSA infection from acute care. Without laboratory, LTC, or more thorough acute care data (including dates and symptomatology) to complement the discharge data, we are unable to determine where MRSA acquisition took place.

Patient Characteristics

When comparing the characteristics of MRSA cases discharged to LTC facilities (denoted 'LTC' below) compared to MRSA cases discharged to other locations (denoted as 'other locations'), there are some notable differences:

- Average age for LTC discharges were older by an average of 17 years: 71.4 years for LTC discharges compared to 54.5 years for patients discharged to other locations.
- LTC discharged MRSA cases also had a longer length of stay in the acute care facility: 15.1 days for LTC discharged compared to 10.6 days for patients discharged to other locations.
- With the additional length of stay at the acute care facility for LTC cases, there were also higher total charges reported by the acute facility. The total average charges for the acute care facility were \$63,430 for LTC compared to \$42,590 for other locations.



Where can I find more info?

For more information, please visit: www.cdc.gov/mrsa.
 For Michigan specific MRSA information, please visit: www.michigan.gov/hai or the [Michigan MRSA Report](#).
 For questions about MRSA, please contact your [local health department](#), and the Michigan Antibiotic Resistance Reduction coalition [MARR website](#).
 For specific medical advice, please contact your physician.
 For questions regarding this study, please contact the author listed below.