

# Loeb and McGeer Criteria

## A PRACTICAL GUIDE FOR USE IN LONG-TERM CARE

### Clinical and Surveillance Criteria—Why do we have both?

**Clinical criteria are meant to inform decisions on individual patients when care is needed.**

- When these criteria are used for clinical decision making (e.g., to start an antibiotic), clinical information (e.g., diagnostic test results, condition duration) is often unknown.
- Clinical criteria take into account patient factors, like indwelling devices.
- Clinical criteria are important because we treat patients, not case definitions.

**Surveillance criteria are used to count true case events (i.e., diagnosed infections) and to estimate the actual incidence/prevalence of disease conditions.**

- These criteria are applied retrospectively (after the fact), often with new information (e.g., diagnostic culture results, which can take days to receive) that was not available during initial clinical assessment.
- Surveillance criteria are designed to increase the likelihood that all patients counted truly have the infection of interest.
- Because infections in long-term care patients might not have typical symptoms, failure to meet surveillance definitions does not always mean there was no infection present.

### Loeb Criteria are Designed for Clinical Use

Loeb criteria are meant to be a minimum set of signs and symptoms which, when met, indicate that the resident likely has an infection and that an antibiotic might be indicated, even if the infection has not been confirmed by diagnostic testing.

- When criteria are met, there is reasonable expectation that the resident has an infection.
- Clinical criteria err on the side of caution, leading to treatment of some likely infections, not just confirmed infections. For this reason, these criteria are not used for retrospectively counting true infections.

Because they summarize information available to prescribers when making initial treatment decisions, Loeb criteria can be used retrospectively to assess antibiotic initiation and selection appropriateness.

## McGeer and NHSN Criteria are Designed for Surveillance

Revised McGeer criteria (Stone 2012) are used for retrospectively counting true infections.

- To meet the criteria for definitive infection, more diagnostic information (e.g., positive laboratory tests) is often necessary.
- Surveillance criteria are not intended for informing antibiotic initiation because they depend on information that might not be available when that decision must be made.

If, instead of Loeb criteria, these McGeer guidelines are used to retrospectively assess antibiotic initiation appropriateness, they should be applied without inclusion of diagnostic criteria (e.g., positive urine culture, chest x-ray) that were not available at the time of antibiotic initiation.

- If diagnostic information that was not available in real-time is included in an antibiotic appropriateness assessment, measures of inappropriate prescribing might be artificially increased. This is because the metric would incorporate information (e.g., negative urine culture) unavailable to the prescriber at the time of antibiotic initiation.

National Healthcare Safety Network (NHSN) criteria are used for active, resident-based, prospective surveillance of events.

- Criteria might be based on laboratory results alone (CDI LabID) or include specific signs and/or symptoms.
- Criteria are specifically designed to remove subjectivity and ensure accurate, reproducible, and comparable surveillance data for a facility over time and across facilities.
- Participation in NHSN reporting can provide a way for facilities to benchmark infection rates with other U.S. facilities.
- NHSN criteria are not intended for clinical decision making.

Find more information about these criteria and about implementing antibiotic stewardship in long-term care at [Antibiotic Resistance and Stewardship for Health Professionals \(https://www.health.state.mn.us/diseases/antibioticresistance/hcp/index.html\)](https://www.health.state.mn.us/diseases/antibioticresistance/hcp/index.html).

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06/05/19

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