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Centers for Medicare & Medicaid Services
Hubert H. Humphrey Building, Room 445-G
200 Independence Avenue SW
Washington, DC 20201

Submitted electronically via regulations.gov

Re: CMS-1655-P: Medicare Programs; Potential Inclusion of National Healthcare Safety Network Antimicrobial Use Measure (NQF #2720)

Thank you for the opportunity to comment on the proposed changes to the Centers for Medicare & Medicaid Service's (CMS) quality reporting program for hospitals.

The Pew Charitable Trusts is an independent, non-profit research and public policy organization with a number of initiatives focused on improving the quality of care as well as reducing the inappropriate use of antibiotics in both humans and agricultural animals. These comments will focus on provisions of the proposed regulations to include the National Healthcare Safety Network (NHSN) Antimicrobial Use (AU) measure as part of the Hospital Inpatient Quality Reporting (IQR) Program. These data will enable facilities to monitor antibiotic use and guide stewardship efforts in hospitals.

Thank you for considering our comments. Should you have any questions, please contact Sarah Despres at sdespres@pewtrusts.org or (202) 540-6601.

Sincerely,

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Improving Measurement of Appropriate Antibiotic Use

Antibiotic overuse is a major public health threat because it contributes to antibiotic resistance. Up to 50 percent of all antibiotics prescribed in the United States are estimated to be inappropriate by indication, agent, or duration of therapy.¹ The Pew Charitable Trusts is an independent, non-profit research and policy organization working to address the growing issue of antibiotic resistance in the United States by advancing policies that will encourage the appropriate stewardship of antibiotics in health care settings, eliminate the overuse of antibiotics in animal agriculture, and spur innovation of new antibiotics.

We support the Centers for Medicare & Medicaid Services (CMS') proposal to include the National Healthcare Safety Network (NHSN) Antimicrobial Use measure in the Hospital Inpatient Quality Reporting (IQR) Program, but recommend further validation and testing to ensure accurate and meaningful application of the measure prior to its inclusion.

Antibiotic stewardship programs in hospitals optimize clinical outcomes while minimizing the unintended consequences of antibiotic use, such as the emergence of antibiotic resistance.² Effective stewardship programs should include tracking antibiotic use data within facilities.³ Hospitals can strengthen their antibiotic surveillance by reporting data to NHSN and utilizing the NHSN Antimicrobial Use measure to guide their stewardship efforts. The measure is derived from data submitted electronically to NHSN and is composed of a set of summary ratios known as Standardized Antimicrobial Administration Ratios (SAARs). Each SAAR is a ratio that compares observed antibiotic use to expected use, risk-adjusted to account for facility characteristics. The SAAR can be stratified by categories of antibiotics and by patient-care locations within a facility. A SAAR that deviates from 1.0 indicates lower or higher than expected antibiotic use, but does not provide definitive indication of appropriate use.

The NHSN Antimicrobial Use measure would encourage facilities to:

- *Benchmark antibiotic use:* documentation of antibiotic use data will enable facilities to conduct a baseline evaluation of antibiotic use and track changes in drug use over time.⁴
- *Assess appropriateness of antibiotic prescribing:* the SAAR measure serves as a high-level indicator for potentially inappropriate antibiotic use. When a facility has an outlier SAAR value, the stewardship team can investigate the deviation and determine if

¹ Centers for Disease Control and Prevention, "Antibiotic Resistance Threats in the United States, 2013," (Accessed May 11, 2016, <http://www.cdc.gov/drugresistance/pdf/ar-threats-2013-508.pdf>).

² Timothy H. Dellit et al, "Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America Guidelines for Developing an Institutional Program to Enhance Antimicrobial Stewardship," *Clinical Infectious Diseases* 44, no. 2 (2007):159-77, doi:http://dx.doi.org/ 10.1086/510393

³ Centers for Disease Control and Prevention, "Core Elements of Hospital Antibiotic Stewardship Programs," (Accessed May 11, 2016), <http://www.cdc.gov/getsmart/healthcare/pdfs/core-elements.pdf>; Tamar F. Barlam et al, "Implementing an Antibiotic Stewardship Program: Guidelines by the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America," *Clinical Infectious Diseases* 62, no. 10 (2016):51-77, doi:http://dx.doi.org/10.1086/510393.

⁴ Dellit et al, "Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America Guidelines for Developing an Institutional Program to Enhance Antimicrobial Stewardship," 2007.

inappropriate prescribing is the cause.⁵ To facilitate this evaluation Pew partnered with the Centers for Disease Control and Prevention (CDC) to create a SAAR assessment guide, which outlines steps facilities and stewardship programs can take to investigate, and, if necessary, correct outlier SAAR values.

- *Target stewardship interventions and gauge their impact:* exploration of abnormal SAAR values can uncover areas of antibiotic prescribing that require improvement through the development of new stewardship interventions, or modification of existing ones. In addition, facilities can determine the impact of their stewardship interventions by comparing the values of their SAAR measures before and after implementation.

The inclusion of the NHSN Antimicrobial Use measure in the Hospital IQR Program would aid national efforts to slow the spread of antibiotic resistance by reducing unnecessary antibiotic exposure in healthcare facilities.⁶ Furthermore, as the number of facilities that report antibiotic use to NHSN grows, this national surveillance system can help public health agencies develop and target effective stewardship policies.

While we support the Antimicrobial Use measure, we agree with CMS and CDC that the measure must be further tested and refined prior to being included in the Hospital IQR Program for public reporting. Specifically, we recommend addressing two issues: (1) improving risk-adjustments and (2) validating the relationship between the measures and appropriate use of antibiotics. Current risk-adjustments for the SAAR measures include only a limited number of facility characteristics; in order for this measure to be a meaningful benchmark, we recommend integrating more patient-level risk adjustments, such as patient age and type of infection. Additionally, the Antimicrobial Use measure must accurately reflect appropriateness of antibiotic prescribing in order for it to be used as an effective quality measure within the Hospital IQR Program. We recommend that CMS and CDC collaborate further with facilities that report antibiotic use data to NHSN to demonstrate that outlier measure values are truly indicative of inappropriate antibiotic use.

CMS' proposed adoption of this measure has the potential to improve detection of inappropriate antibiotic use at both the facility and national level, allow facilities to monitor progress of stewardship interventions aimed at improving antibiotic prescribing, and prevent the spread of antibiotic resistance.

Thank you for your consideration of our comments on the inclusion of the NHSN Antimicrobial Use measure as part of CMS' Hospital IQR Program.

⁵ Katharina van Santen, "The Standardized Antimicrobial Administration Ratio (SAAR)," <http://www.cdc.gov/nhsn/pdfs/training/2016/au-saar-vansanten.pdf>.

⁶ Centers for Disease Control and Prevention, "Antimicrobial Use and Resistance (AUR) Module," (Accessed May 11, 2016), <http://www.cdc.gov/nhsn/PDFs/pscManual/11pscAURcurrent.pdf>.