GenIC Clearance for CDC/ATSDR

Formative Research and Tool Development

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Supporting Statement B

Core Elements of Antimicrobial Stewardship in Nursing Homes

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B.   Collections of Information Employing Statistical Methods

1.   Respondent Universe and Sampling Methods

The goal of the formative research is to assess the knowledge, attitudes, practices and perceived provider-level barriers to appropriate antibiotic prescribing in a sample of health care providers in nursing homes. This collection does not involve statistical methods. The purpose is not to make statistical generalizations beyond the participating respondents.

The study sample will be comprised of the 992 prescribing medical providers, including registered nurses, medical doctors, physicians assistants, and other health professionals affiliated with the participating nursing homes (n=47) operated by the collaborating corporations.

The respondents will represent a convenience sample of prescribers primarily located in the Central US region: Kansas. The sample does extend into other states.

Recruitment will be facilitated by leaders of nursing corporations, e.g. the Vice President of Clinical Services & Director of Clinical Services and Vice President, Chief Clinical Officer. The survey will be created in Qualtrics and deployed across both mobile device and computer-assisted completion in efforts to access all targeted prescribers accounting for any instances of non-equivalent access.

All responses will be voluntary and respondents are permitted to refrain from answering any question. The corporations will be provided a link to the survey to distribute among their staff. By using the corporation as the vehicle for distribution of the survey we expect a higher level of successful delivery (spam, blocked emails, auto trash) as well as an increased completion rate. The survey link will accompany an email with a brief description of the project as well as the

general purpose of the survey with information regarding privacy, the voluntary nature of their responses, and how to contact the research team.

Responses will return to Brown University directly into a secure environment and responses will only be accessible to the research team. All results will be analyzed in aggregate.

2. Procedures for the Collection of Information

The survey will be created in Qualtrics and deployed across both mobile device and computer-assisted completion in efforts to access all targeted prescribers accounting for any instances of non-equivalent access. Researchers will provide the corporations a link to the survey to distribute among their staff via email. This link will be included in the invitation email to the staff originating from the corporations and the survey will be accessible online via a fixed-computer or compatible mobile device. The survey link will accompany an email with a brief description of the project as well as the general purpose of the survey with information regarding privacy, the voluntary nature of their responses, and how to contact the research team. Responses will return directly into a secure environment and responses will only be accessible to the research team. All results will be analyzed in aggregate.

3. Methods to Maximize Response Rates and Deal with No Response

The following procedures will be used to maximize cooperation and achieve the desired participation rates:

- Researchers will provide a link to the survey for each corporation. Each corporate leader will send out an initial invitation email to their respective prescribers (attachment B). This initial email will be sent to all prescribers. A second e-mail (1st reminder) will be sent to all prescribers who have yet to complete the survey after one week of enrollment in the study, and a third and final email (2nd reminder) will be sent after two weeks post-enrollment if responses are not submitted within that timeframe.
- Any responses received more than three weeks following the first email will be separated and not included as a baseline for comparison purposes, but will be included in the initial descriptive narrative.
- As the project is descriptive in design and seeks to characterize the population, missing responses do not pose a substantial analytic problem.

- For the prescribers included in the intervention as well as the control prescribers, study staff will follow the above mentioned procedures for collecting survey responses, namely: study staff provide corporations a link that they include in their targeted email. A first reminder will only be sent to those who have not responded to the initial invitation. A second/final reminder will only be sent to prescribers who have not completed the survey.

4. Test of Procedures or Methods to Be Undertaken

This survey was developed under the guidance of industry experts who sit on the project's advisory committee:

- Christopher Crnich, MD. who has experience leading integrated teams of researchers focused on the design, implementation, and evaluation of interventions to improve prescribing behaviors in nursing homes.
- Ed Davidson, PharmD, MPH, who specializes in geriatrics research, clinical research, and medication use in long-term care settings.
- David Gifford, MD, MPH, Clinical Associate Professor of Medicine and Health Services, Policy & Practice and Senior Vice President of Quality and Regulatory Affairs at AHCA/NCAL, who brings nursing home SME and access to AHCA's members.
- Robin Jump, MD. who has developed evidence-based antimicrobial stewardship initiatives to identify innovative means to mitigate the unintended adverse consequences of antimicrobial use.
- Kerry LaPlante, PharmD, FCCP, FIDSA, with expertise in pharmacological interventions among long-term care settings focusing on antimicrobial stewardship, medical education, and health outcomes and safety.

These members were strategically selected based on their expertise and familiarity of the current practices within the long-term care setting.

The questions were piloted among a select group (n=9) of prescribers recruited from the participating corporations to both obtain responses, as well as performing cognitive assessment to ensure clarity and robustness of content. The group of respondents were comprised of a semi-

convenience sample, with efforts to target key administrative and practicing roles (describe/list) within the healthcare setting to obtain a diverse and inclusive perspective.

5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

The individuals consulted on technical and statistical issues related to data collection are listed in section B.4.

Due to the descriptive nature of the analysis, no additional consultation is required to perform the analysis. Quantitative analysis will be performed by the project lead analyst, Tingting Zhang, PhD., and project coordinator, David Manning, ScM. Qualitative data analysis was performed by David Manning, who will also perform qualitative analysis as needed.