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**Prevention of
Nosocomial
Infections &
Cost
Effectiveness**

The P-NICE Study

"Prevention of Nosocomial Infections and Cost-Effectiveness Analysis (P-NICE)"

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Background & Significance

**Prevention of
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Effectiveness**

The P-NICE Study

- Why study healthcare-associated infections (HAI)?
 - Major source of morbidity and mortality
 - Often associated with use of an invasive device during hospitalization
 - Disproportionately occur in elderly ICU patients
 - Estimated to cost \$6.5 billion annually
- Estimates come from the seminal Study on the Efficacy on Nosocomial Infection Control (SENIC) conducted in the mid 1970's
- Need for a multi-site study to describe current infection control processes, their relationship to HAI, and their cost effectiveness



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Specific Aims

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The P-NICE Study

1. Describe the level of infection control staffing and intensity of IPSC interventions currently in place in ICUs across the nation
 - We will survey NHSN infection control departments.
2. Determine associations between current infection control staffing and intensity of IPSC interventions, and probability HAI and short term survival in elderly ICUs patients
 - In a stratified random sample of respondents from Aim 1, we will enroll 83 ICUs. Site coordinators will provide lists of all Medicare patients in the ICU for months of device-associated surveillance. The Medicare lists will be cross-referenced with their NHSN infection data.



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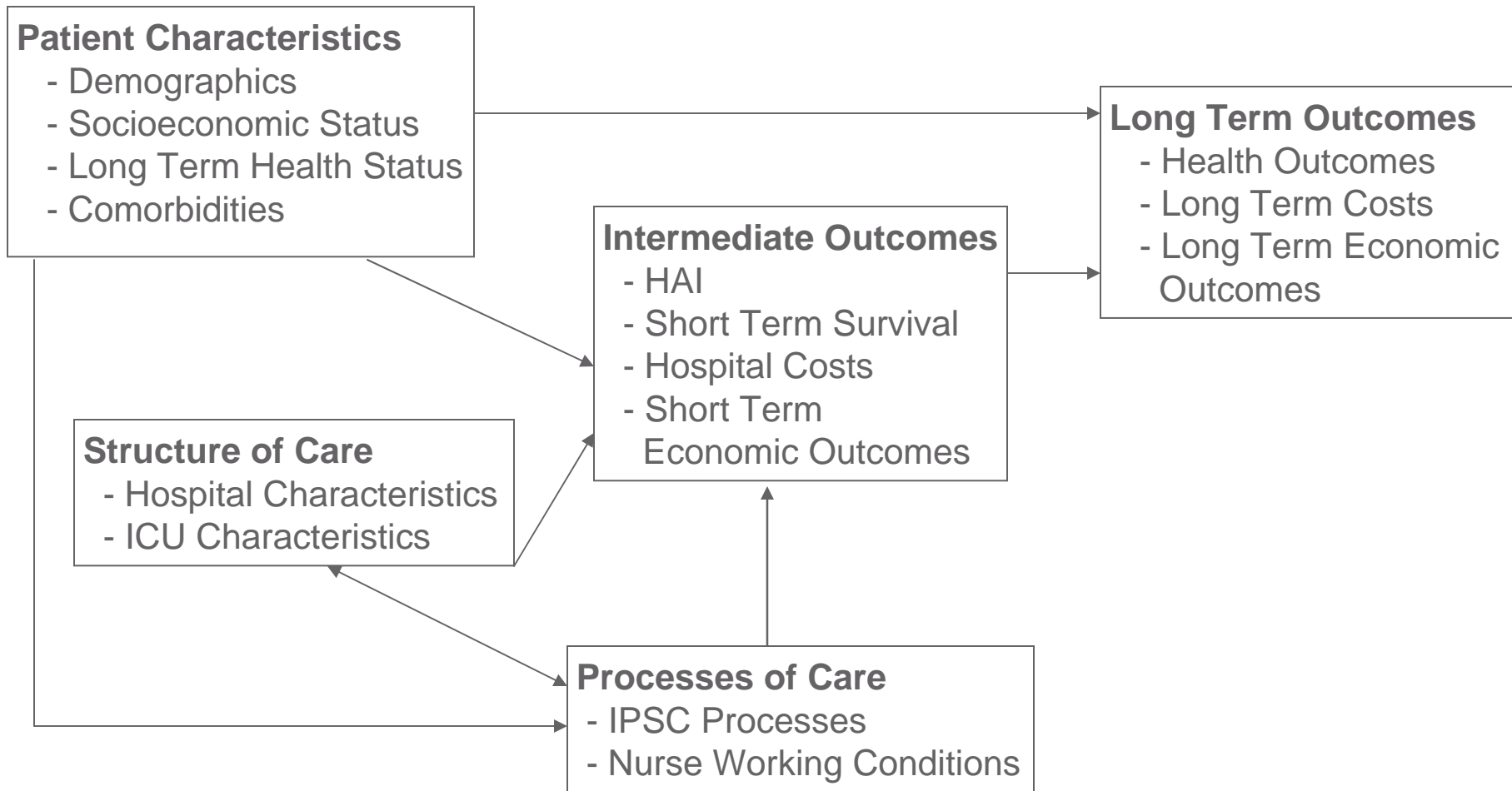
3. Estimate the long term outcomes attributable to HAI in elderly patients
 - In a previous study we identified a cohort of 39,314 Medicare patients admitted to 41 ICUs in 2002. Device associated HAI were identified in this cohort using the same CDC protocols. We will follow the patients by obtaining 5 more years of Medicare data.

4. Determine the cost-effectiveness of effective infection control staffing and IPSC interventions in ICUs
 - We will combine all data sources and develop cost-effectiveness models for IPSC variables (i.e., staffing and infection control processes) that we found to significantly related to decreased probability of acquiring infections in Aim 2.



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Data Sources

Patient Characteristics

Medicare Files

Structures of Care

AHA Survey

Processes of Care

Web-based Survey IPCS Processes (Phase I data collection)

ICU nurse staffing (Phase II data collection)

Outcomes

Medicare files cross-referenced with NSHN data (Phase II data collection)



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Home
Background
Research Team
Expert Consultants
Advisory Board
Study Aims
Scientific Abstract
Study Participation
Brochure
Survey
Announcements
Timeline & Events
Publications
Links
Contact Us

Prevention of Nosocomial Infections & Cost Effectiveness

The P-NICE Study

“To address the clinical effectiveness and cost-effectiveness of infection control staffing levels and intensity of infection control interventions and to examine the long term outcomes attributable to healthcare associated infections (HAI)”

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