In the 1960’s, growing concern over hospital acquired infections stimulated considerable investment by US hospitals in a variety of activities aimed at infection surveillance and control to prevent these nosocomial infections. However, there was no comprehensive description of the types of programs in existence. In 1970 an International Conference on Nosocomial Infections was held at the Center for Disease Control in Atlanta.

Infection Control experts at the conference spoke on the difficulty in carrying out scientifically valid evaluations of the different approaches in infection control. Published data was needed to decide what combination of control methods were the most effective in reducing infection risks for the least cost. Early in 1974, the Center for Disease Control (CDC) undertook the planning of a nationwide study to fill this void called the SENIC Project (Study on the Efficacy of Nosocomial Infection Control) created to evaluate the approaches to infection control and surveillance.

**Project Aims**

Infection control is one of the most important aspects of contemporary hospital management. Yet very little history has been written about the modern infection control movement.

This research project tells the story of the creation of SENIC and its repercussions on the infection control movement, through the interactions of the researchers, the procedures of the projects, and the results which explain the status of hospital infection control programs in the United States in the 1970’s.

**METHODS**

Resources used to research this project include, but are not limited to, oral interviews, scientific journal articles, conference proceedings, hospital recommendations and accreditation guidelines. Secondary sources provided relevant background information.

- **Oral Interviews**
  - Robert W. Haley, MD: Head project designer, director, and coordinator
  - T. Grace Emori, RN, MS: CDC Nurse Epidemiologist, project designer and data collector
  - Ferdian D. Tedesco: Head manager and logistical coordinator
  - Elliot Churchill: Retrospective Chart Reviewer
  - David H. Culver, PhD: Head statistician

- **Conference Proceedings**
  - Proceedings of the International Conference on Nosocomial Infections, 1970

- **Scientific Journal Articles**
  - Articles that published the procedure, results, and conclusions of the SENIC project. Articles referencing the SENIC project.

**RESULTS**

**SENIC PROJECT DESIGN**

**Phase I: Preliminary Screening Questionnaire**
- To assess the current state of hospitals’ infection surveillance and control programs (ISCPs) nationwide and to provide a sampling frame for selecting hospitals for later phases of the SENIC Project
- Mailed survey of ISCPs in all 6,500 Us hospitals – 86% response rate
- Stratified 5,600 U.S. hospitals by Surveillance and Control Indexes
- Selected a stratified random sample of 335 hospitals

**Phase II: The Hospital Interview Survey**
- Trained interviewers who conducted structured interviews in the 335 hospitals.
- Confirmed the ISCP characteristics in U.S. hospitals in 1976
- Collaborated with UCLA Institute for Social Science Research to define the personal/psychological characteristics of IC personnel who successfully reduced NI rates.

**Phase III: Medical Records Survey**
- Trained CDC medical records analysts used Retrospective Chart Review to call nosocomial infections in 500 medical records selected randomly from 1970 and 500 from 1976, spanning the implementation of ISCPs.
- Reviewers extracted clinical diagnostic information, and nosocomial infections were “diagnosed” by a computerized algorithm of SENIC diagnostic algorithms, validated in pilot studies.

**THE SOCIAL DYNAMICS**

"SENIC was an impossible dream, and you helped me through it.”

~Dr. Haley to Ferdinad Tedesco

- Dr. Haley was praised in all of the oral interviews for his creativity, imagination, and consistent energy, which were all essential in making the project a success.
- Seemingly insurmountable hurdles at almost every stage of the project.
- Cost more than $12 million

**INFECTION CONTROL**

**Study Results:**
- To be effective in reducing infection rates, a different surveillance and control program must be designed for each infection site. (Surgical Site Infections, Urinary Tract Infections, Blood Stream Infections, Pneumonia)
- Hospital overall infection rate is not useful.
- U.S. Hospitals
  - 2% of hospitals had different programs that reduced all sites of infection.

**Impact of SENIC**
- CDC recommendations
- NNIS and surveillance methods
- Other gov. agencies (JCAHO, CMS, State HDs)
- Professional groups (SHEA, APIC, SIS, AHA)
- Training needs

**LIMITATIONS**

Most of the resources used are affiliated with the CDC which limits the perspective on the topic

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