

SPECIFY THE BUSINESS PROBLEM

Team Id	NM2023TMID04062
Project Name	PROJECT-ESTIMATION AND PREDICTION OF HOSPITALIZATION AND MEDICAL CARE COSTS

Hospital Problems Explained

Organization-related concerns involve management and structural issues such as mergers, acquisitions, partnerships with other organizations, as well as departmental or overall internal restructuring. This also covers doctor-related issues – particularly, physician-to-hospital relationships. Staffing concerns are also an organizational problem, since management needs to ensure that there is no shortage in staff – especially, for high traffic hospital areas or shifts with a higher volume of patients.

Population health management can be categorized under technological challenges, although the latter is more general. The former refers to the problem of making patient data accessible via various resources.

Government mandates (i.e. CMS including their HCAHPS or the Hospital Consumer Assessment of Healthcare Providers and Systems), and federal or state laws are also of primary concern, but are beneficial because compliance helps improve patient safety and quality care, patient satisfaction, and even solves some financial concerns – particularly, Medicaid and/or Medicare reimbursements.

Reducing readmission rates based on a patient's socioeconomic status is also quite discriminatory. While the hospital can be blamed for readmission due to illnesses acquired during admission, denying a patient's health care benefits due to demographics, is discrimination; the American Hospital Association and America's Essential Hospitals agrees.

Access to care is more of a patient's problem, but medical facilities still need to ensure that care is accessible to everyone in need of medical assistance. Contact information must be available for potential patients offline (phone) and online (email, social media, apps).

Financial Challenges

Hospitals deal with monetary problems, which include the following:

- Budget cuts from government funding
- Medicare reimbursement delays and/or denial
- Increase or the attempt to decrease operational costs (staff, supplies and more)
- Insufficient funds to improve the facility
- Competition from other healthcare facilities offering the same services
- Unpaid patient services (such as in the emergency department, as well as other uncollected bills)
- Overuse of the emergency department and its facilities
- Revenue cycle management
- Hospital initiatives, like transitions from quantity to quality, fee-for-service, price transparency, and commercial insurance payments, such as managed care

Revenue cycle management involves the entire process of billing patients from registration until discharge. A medical billing software is utilized for this purpose. Ineffective programming, as well as manual coding, may lead to errors in collection; bills may become lower in the process, resulting to a decrease in revenue.

Reduction or complete removal of federal government funding, including Hospital Engagement

Networks (HEN) and the Community-based Care Transitions Program (CCTP) contributes to hospitals' financial challenges.

Apart from reduced bills, failure to collect them is another challenge; particularly, the overused emergency department. Federal financial assistance budget cuts and issues with Medicare payments also affect a hospital's finances. This includes partnership programs like the Hospital Engagement Networks (HEN) and the Community-based Care Transitions Program (CCTP), which provided about \$800 million federal funds back in 2011. The budget was depleted in 2014. Medicaid budget reduction, on the other hand, not only impacts over 68 million patients, but the hospitals servicing them as well.

All these financial assistance cutbacks affect the facility as a whole due to budget deficiencies, which would have been spent for overall improvement, as well as for operational and manpower costs; making it more competitive against other healthcare facilities.

The attempt to improve quality versus quantity of patients and other hospital initiatives, like reducing fee-for-service instances, being transparent with pricing prior to and/or during patient admission, and commercial insurance payments are also a burden for a health organization's budget. **Patient Safety and Quality**

Efforts to improve patient safety and quality extend from the organization's executives, down to physicians, nurses, medical equipment specialists, and more. It also covers compliance with government mandates and accreditations, facility and process related improvements, and performance bonuses for the staff.

Misdiagnosis, as well as delayed diagnosis, affects hospital quality. Twelve million patients die every year due to delayed diagnosis or misdiagnosis.

Misdiagnosis

Physicians directly impact patient safety and the quality of services provided. Misdiagnosis or even delayed diagnosis can prevent proper treatment, delay recovery or extend hospitalization, and can even cause death. Hardeep Singh, M.D. and his colleagues report that about 12 million patients die every year due to delayed diagnosis or misdiagnosis.

Productivity and Efficiency

While productivity is expected for all work organizations, the extra traffic in hospitals may affect staff efficiency, leading to possible errors.

Other than the above, security is also an important challenge for hospitals. **Tine Health**

In relation to facility and process improvements, Tine Health helps by improving training – particularly, for nurses. We offer a just-in-time training program, which is accessible through smartphones and tablets, at the point of care.