ABSTRACT

The current lack of a central county database of patient hepatitis B statuses (naive, positive, and immune) results in inaccurate and inefficient allocation of resources and services for tackling hepatitis B. To address this issue, we propose a dynamic mapping model of hepatitis B prevalence and at-risk populations in the Bay Area. This model will require a Geographic Information System (GIS) with an easy-to-navigate interface to visualize the areas of greatest need for preventative and disease management services. Our proposal will utilize patients' non-sensitive information from our existing patient database to map different regions in Alameda County according to patient hepatitis B status. By pioneering an inexpensive, user-friendly system to consolidate hepatitis B patient data from all community hepatitis B organizations and the Alameda County Public Health Department, consequently, this will help public health officials and community organizations target risk and affected populations in a more efficient and cost-effective manner.

PROBLEM

Lack of Awareness of Hepatitis B

- 65% of those infected with HBV are unaware of their infection.
- Hepatitis receives a fraction of the funding devoted to HIV/AIDS by the Centers for Disease Control and Prevention although it affects three to five times as many Americans.

Lack of Access to Healthcare

- Disenfranchised populations, such as low-income immigrants who cannot speak English, have found it difficult to obtain healthcare.
- 5 - 15% of API immigrants have chronic hepatitis B.

Lack of Accurate Data For HBV by Geography

- The public health strategy to combat HBV currently relies on epidemiological models based on global and/or national burdens of hepatitis B.
- These general models are less accurate and effective when applied to a local level because they fail to account for geographical and cultural factors.
- The lack of specific data from counties hit hardest by HBV contributes to a waste of resources and inadequate outreach.
- The standardization of relevant data is currently missing in the context of Alameda County.

SOLUTIONS

OUR PROPOSAL

Create a dynamic mapping project that aims to address health resource allocation and data integration
- Utilize HBP's current regional database
- Build a web-based GIS model to allow multiple source patient data upload through a central portal
What will this allow us to do?
- Locate regions with high incidence of naive/positive patients
- Identify gaps in coverage
- Allow public health officials and local clinics to coordinate efforts
- Help the County track the disease by providing up-to-date, regional data
- Spread awareness of hepatitis B to the general public with the latest stats

SOLUTIONS (cont'd)

MAPPING MODEL

How does the Hep B Project help solve the problem?

Addressing Awareness

- One of the core missions of HBP is to provide hepatitis B education.
- HBP addresses specific ethnic communities where hepatitis B is more prevalent with 40+ active volunteers, many fluent in various Asian languages.

Addressing Health Access

- HBP offers 2 regular weekly clinics, providing free hepatitis B screenings and vaccinations.
- Targets are low-income, uninsured patients.
- Many patients are immigrants whose first language is not English.
- Aim is preventative care, more cost-effective than curative care.

Current Limitations

Data Integration into a Central Database

- HBP has an existing database of patients, but there is no central database in Alameda County.
- Each organization maintains its own patient data.

Issue of Resource Allocation

- Where are the areas of greatest need?
- What specific areas have the highest prevalence of hepatitis B?
- Who are at greatest risk for contracting the disease?

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