TITLE – Birth to Death – Need of eHR for Population Health Surveillance System

INTRODUCTION:

Health care in developing countries should commit to use innovative, data driven methods to improve the health of population. eHR are an emerging technology for managing patient care, in fact it has become one of the new buzz words in today's healthcare. Need of Population based health surveillance system from Birth to Death is potential to enhance general health surveillance by providing information on the prevalence, treatment, and control of health conditions that are typically managed in a patient care setting.

OBJECTIVE:

Overall objective of the eHR for population Health Surveillance System is integration & modernisation of the Information Technology infrastructure for health system for collecting, compiling & analysing information of individuals from birth to death data from clinical aspect. Purpose of eHR for population Health surveillance is to create and upgrade the content & accessibility of basis public services in health care system to elaborate several new e – health services.

METHODOLOGY:

Developing eHR for population Health surveillance system should be incorporated and developed based on the following -

STANDARDS:

Different health care practices often use different proprietary electronic health record application platforms and each application platform has its own standards and conventions. One of the key challenges to combining data from multiple electronic health record into one surveillance system is semantic equivalency across platforms and even across contributors using the same platform. That is a data element must have the same meaning for each health care practice entering that element.

DATA QUALITY:

The usefulness of eHR population Health surveillance system is depends on the timeliness, accuracy, completeness and comprehensiveness of the data. Ensuring uniformly high quality is particularly challenging, data entry will be decentralized and dependent on the care and effort of individual providers. To maximize completeness and comprehensiveness developers should focus on indicators of population health that are found in structured rather than free text fields and that are consistent with areas targeted by meaningful use.

DATA STRUCTURE & SYSTEM DESIGN:

The first considerations in developing effective eHR is the structure of the dataset. If eHR developers can choose between aggregate and line level data they must consider the benefits

and costs of each approach. Using aggregate data may alleviate some of these resource and confidentiality concerns.

CONFIDENTIALITY:

Concern for patient confidentiality is paramount in all surveillance systems, and incorporation of established secure technology through the data sharing process is critical. By using a distributed model and exchanging only aggregate data health departments obtain population health information and health care providers retain control of individual patient information in accordance with the accepted standards worldwide in healthcare.

SELECTION OF POPULATION HEALTH INDICATORS:

The selection of indicators depends upon the purposes of the system. Indicator domains could include estimates of disease incidence, disease or risk factor prevalence, disease control, receipt of recommended services or care seeking behaviour.

SELECTION BIAS & NORMALISATION OF OUTPUT:

Selection bias presents a challenge to the interpretation of eHR for health surveillance data. eHR data are only available for individuals who seek health care. Those who seek health care most frequently and thus have the most complete records may be more likely to have underlying health conditions that require regular monitoring.

DUPLICATE RECORDS:

Duplicate records can threaten the validity of estimates derived from a Population Health Surveillance System. Using line level data with unique patient identifiers, duplication is not a major threat. But in surveillance systems where data are collected in aggregate one patient who visits two participating practices will be counted twice, also information may be split across the patients records in the two practices resulting in what appears to be two patients each receiving suboptimal care. While duplication cannot be avoided in an eHR based on aggregate data, it can be minimized by narrowly limiting the type's providers who contribute data.

INCLUSION & EXCLUSION CRITERIA:

Aggregating data across all practices in a health care practice will not be sufficient to develop a valid surveillance system. Depending on the population health indicators of interest different types of contributing practices should be included.

INNOVATIVE ELEMENTS & NOVEL APPROACHES TO IMPLEMENTATION:

In terms of the system architecture, eHR is a complex information technology & communication innovation. The main novel principles of the system are its service oriented structure, standard communication method with external information systems via a common message centre, autonomy of services and its scalability. Implementation of these principles is important, not only for technical performance and security of eHR system.

CONCLUSION:

Clearly, the Need of eHR for Population Health Surveillance System implementation is rely upon the driving forces of our society that will bring the transparency in health care by using standard practice tool available worldwide. In future public, private organization should adopt and implement standard eHR population health surveillance system to remain viable in a highly qualitative healthcare system. eHR for Health surveillance system should plan for future regulatory standards accepted worldwide. Additionally, the public authority in the country should address the demands that concerned authority make for specific information that must be collected in individual and aggregate form. Data capture, storage, manipulation, and retrieval be the cornerstone of the future.

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