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Looking to the future - Projecting future hospital activity - Approaches, Challenges and Results

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The rise in healthcare demand, and its consequent impact on expenditures, has stimulated interest among policymakers and planners interested in better projecting future healthcare needs to aid the management and organisation of healthcare resources. More accurate projections are expected to allow the healthcare system to adapt and prepare for future challenges. In an environment of constrained budget limited staffing and seeming ever increasing demand; planning to meet future needs is challenging but necessary undertaking.

This presentation describes and approach to projecting future activity level across all major domains of hospital care; Inpatient, Emergency Department and Ambulatory for an island population of 580,000 residents

Three basic factors are utilised to derive the projections; activity changes over the past 7 years, population growth projections, and population aging projections.

To undertake this requires several important conditions to be present.

1. Full enumeration of hospital data for the entire region including care provided outside the jurisdiction and care provided to visitors. These data are at facility level and include all admitted care providers.

2. Sufficient time series data to provide reliability of past activity growth

3. Population projection data both in terms of age incrementation and population increase at level of age sex cohort and local area of residence.

4. Classification schemas covering the entire time series that allow for specific consistent classes with sufficient volumes to allow regression models to achieve reliability.

7 years of historical activity data from all facilities in the jurisdiction were incorporated into the demand/Activity projections process, Activity is projected out 25 years in 5 year segments with annual projections over the initial 5 year projection period.

A facility to model what if scenarios such as creating a new service or altering the services proved by a facility are also able to be modelled for impacts on surrounding services.

This presentation will describe the projections methodology for each of the Care settings as well as enhancements to capture and present cohorts interest such as patients with exceptional burden of disease, elective surgery and other areas of interest. Technical improvements to the projection and data processes over the years are described. Projected activity includes inpatient episodes/presentations, bed days / LOS and relative utilisation rates.

Data issues will also be discussed along with approaches taken to ensure that data represents a consistent policy setting within the 7 years of the sample data.

This approach to activity projection has been used and continually developed since 2006 and reliability of the process, learnings over time is also described. The development of patient classification over this period has enabled expansion and led to improvement in the ability to reliably model additional services such as Emergency and ambulatory care and increased the value of this tool to assist in health planning.

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