

Technology Enabled Care (TEC)

Home Mobile Health Monitoring (HMHM)

Data Dashboard Development



"A data dashboard is a tool used for visualising and communicating important business data to stakeholders and employees within your organisation"

BACKGROUND:

The Technology Enabled Care Home and Mobile Health Monitoring Service (HMHM) service was introduced in NHS Ayrshire and Arran due to the increasing prevalence of long term conditions such as Chronic Obstructive Pulmonary Disease (COPD), Coronary Heart Disease (CHD), Diabetes and Hypertension, as well as increasing hospital admissions, multi-morbidity and an ageing population. HMHM Technology allows remote monitoring of patients in their own home and enables supported self-management with independent living. It has also been shown to contribute to improved patient outcomes and reducing demand on health and social care services. It is necessary to evaluate and evidence the impact of Technology Enabled Care at both local and national levels; provide performance information (KPIs) to Health & Social Care Partnerships and a variety of NHS Programme Boards; support improvement and redesign of pathways and services by providing activity data to support the management of services and also report recruitment numbers to the National TEC programme office. This has however proven to be challenging until now due to numerous factors:

- limited reporting capabilities in TEC source systems;
- systems are data rich/information poor;
- multiple stand alone TEC systems; lack of interoperability;
- lack of APIs (application process interface) to make patient level data easily accessible;
- data sharing concerns (Caldicott).

SOLUTION:

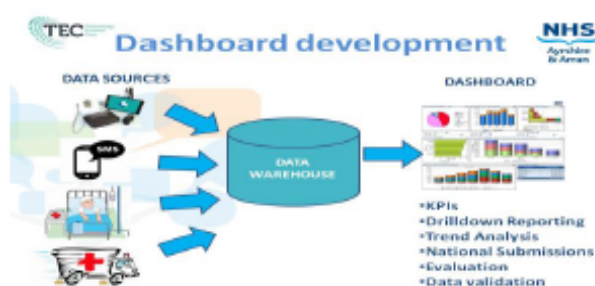
Business Objects reporting software was identified as a suitable tool to develop a data dashboard to bring together TEC data from the various systems (HomePods Clinical User Interface data, Florence data and HMHM minimum dataset tool) and link this to other core health and social care datasets such as:

- Admissions data
- Accident and Emergency data
- SPARRA data
- GP contacts data
- Prescribing data
- Out of Hours data
- Out Patients Data
- Workforce data

The dashboard provides high level decision support information in a KPI scorecard, as well as trend analysis, drilldown reports and is also capable of producing patient identifiable reporting for clinicians to directly support clinical decisions around patient care.

Effectively, the dashboard provides a 'one-stop shop' for all local reporting and performance information to provide business intelligence to support predictive analytics, service planning, performance management and evaluation of TEC HMHM in Ayrshire and Arran:

- Key Performance Indicators;
- Trend Analysis;
- Drilldown Reports;
- Activity Data;
- Data Quality and verification;
- Evaluation.



OUTCOMES/RESULTS:

Development of the dashboard is ongoing, however data linkage has been used to produce KPIs; trend analysis; patient level reporting as well as impact analysis of COPD and CHF emergency admissions and A&E attendances for people having received HMHM interventions, through the use of data linkage to link to existing health datasets.



CHALLENGES AND LEARNINGS:

- Interoperability of TEC and other health and social care systems;
- Data extraction, availability of data APIs;
- Data integration;
- Information Governance/Caldicott requirements;
- Consent Models;
- Dedicated experienced business intelligence expertise;
- Collaboration with eHealth developers.

NEXT STEPS:

- Work with suppliers to further develop data extracts and APIs;
- Work to have CHI number available on all data extracts for data linkage;
- Link data dashboard to Covalent performance management tool (Ayrshire);
- Identify further data sources for linkage to evidence impact (eg Social Care).

