Chronic Conditions Management and Telehealth

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Outline

- Background
- CCM Framework
- Service Improvement Plan
- Setting the Direction
- Virtual Ward Concept
- Telehealth
- Lessons Learnt

- Account for up to **80%** GP consultations
- **60%** of hospital bed days are for patients with chronic disease or related complications
- **Two thirds** of patients admitted as medical emergencies have exacerbation of chronic disease, or have chronic disease
- **10%** of inpatients account for 55% of inpatient days
  DoH 2004

GIG
CYMRU
NHS
WALES
Bwrdd Iechyd
Hywel Dda
Health Board

In Wales:

- Wales has a higher proportion of reported limiting long-term illness **(23%)** compared with England **(18%),** Scotland and Northern Ireland **(20%)**

- **1/3** of adults report having at least one chronic condition

- **2/3** of over 65 year olds report having at least one chronic condition with **1/3** having multiple chronic conditions

- **3/4** of over 85 year olds report having a limiting long-term illness

- The most commonly reported chronic condition treated in Wales is arthritis **(14%),** followed by respiratory **(13%)** and chronic heart condition **(9%)**

- Intensive users of in patient services have on average **3** chronic conditions

- It is estimated that by **2014** there will be a **12%** increase in adults with at least one chronic condition and **20%** increase in those over 65

National Strategy

d for Life:

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cial Care for Wales
ntury

Making the Connections -
Delivering Beyond Boundaries

Transforming Public Services in Wales

November 2006

Rural Health Plan

Improving integrated service delivery across Wales

Designed to Improve
Health and the Management of
Chronic Conditions in Wales

Designed for People with
Chronic Conditions

Service Development and
Commissioning Directives

Chronic Respiratory Conditions

Designed to Improve Health
and the Management of
Chronic Conditions in Wales

Service Improvement Plan 2008-2011

Background

"Designed to Improve Health and the Management of Chronic Conditions in Wales — an integrated model and framework" (April 2007) with emphasis on:

- Whole systems approach to improvement across health and social care and other partners
- Proactive, early intervention not reactive
- Transitional funding was provided to support the development and testing of the model elements
- Targeting services at people in all four defined tiers of risk, not just the top
- Undertaking health needs assessments of chronic conditions prevalence and nature
- Stratifying needs and risks, across all four levels of the CCM model
- Reviewing current service provision to determine local actions and resources needed to strengthen CCM community services
- Establishing CCM core teams including CCM care service coordinators and case managers as in the model

CCM — Integrated model and framework

Identifies 4 levels of care with emphasis on:

– Targeting services at people in all four defined tiers of risk not just the top

– Focused targeted delivery integrated with mainstream service delivery

– Whole systems approach to improvement across health and social care and other partners

– Proactive, early intervention not just reactive

– Use of generic pathway to support care

People with chronic conditions and complex needs who frequently use hospitals and residential care and require ongoing care coordination including case management in addition to disease management and self-management support to avoid hospitalisations and complications, slow down disease progression and maintain optimal help

People with chronic conditions who are at high risk of residential care / hospitalisation, requiring care coordination and ongoing disease management in addition to self-management support to avoid complications, slow down progression and maintain good health

People with chronic conditions who can be optimally cared for in the community (general practice and other community based services), with self-management support to monitor and manage their condition and its risk factors

The general population, for whom primary prevention, early detection and assessment will maintain good health throughout life with appropriate information and service signposting
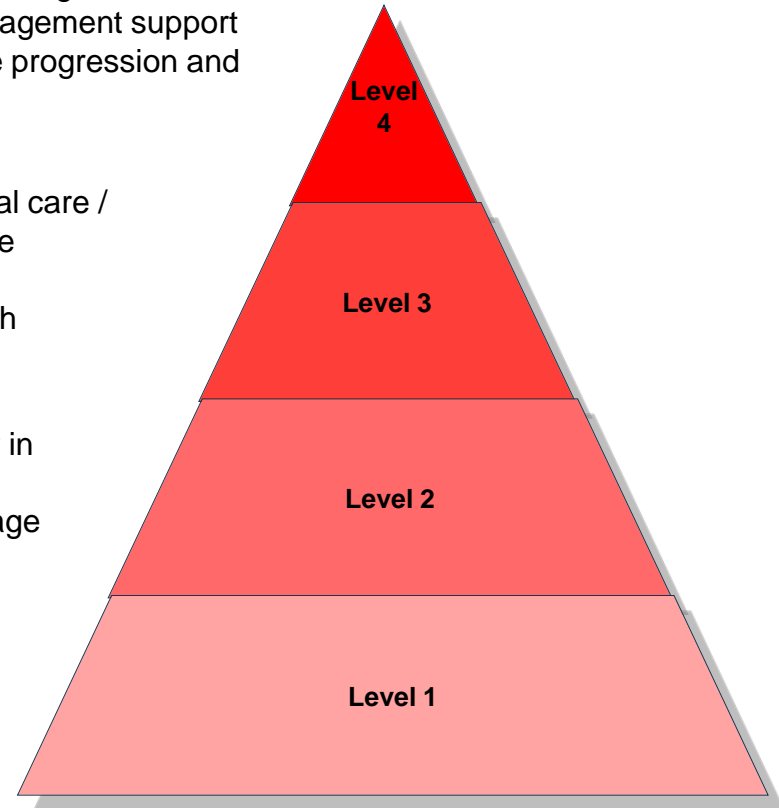
Level 4

Level 3

Level 2

Level 1

Level 1:
Primary prevention and health promotion

- Strong infrastructure to promote healthy lifestyles across communities
- Promotion of :
  > Healthy eating
  > Exercise
  > Smoking cessation
  > Weight management
  > Moderate drinking
  > Social inclusion
- Healthy environment including work places and homes
- Promotion of shared responsibility to maintain health and well being
- Where appropriate, early diagnosis through screening

- GP 'practice-based' services, built around the General Medical Services (GMS) Contract with registration of patients
- Targeted information, monitoring and proactive management
- Referral to Education Programme for Patients (EPP), other self management programmes and voluntary sector services (such as Diabetes UK), and to national screening if appropriate (such as diabetic retinopathy screening)
- Early identification, assessment and diagnosis of chronic conditions and factors impacting on these such as housing

Level 3: High Risk Management: locality based CCM services

- Services provided at locality level for patients at high risk, depending on locally developed plans May include services for patients with failure of 'control' (e.g. deteriorating blood tests) at level 2, or requiring new intermediate type services (e.g. diabetic or other specialist, physiotherapist, occupational therapist, investigations – e.g. echocardiography, GP with special interest (GPwSI) services)

- May be provided in community-based facilities, hospitals, other health centres / clinics, or in individual GP practices on behalf of the locality

Level 4:
Case managed services

- Holistic case assessment based on Unified Assessment principles

- Case management of complex high risk case with care coordinator

- Identification of complex cases because of historic service uptake (frequent admissions) or on the basis of additional patient risk assessment (multiple conditions and frailty), and needing multi-sector assessment etc

CCM Service Improvement plan

- Set out implementation of the vision for CCM in Wales
- Clarified the actions needed to implement CCM model and framework
- **Aims:**
- Reduce levels of mortality and avoidable emergency admission to hospital
- Minimise risks associated with living with chronic condition, maximise independence
- Integral part of effective mainstream services in the community
- Robust Evaluation

Setting the Direction

- Vision for delivering services in the community

- Improving the interface between in and out of hours services

- Partnership working

- Communications Hubs

- Creating a pull system

- Locality CRTs

- Enhancing skills in the community

Service Directives

- Series of documents establishing towards remodelling services for people with Chronic conditions

- Compiled by multi professional multi agency reference groups

- Outlines incidence

- Outlines evidence base

- Prevention assessment diagnosis and management, facilitating independence

- Reporting of key actions to Welsh Government

Virtual Ward Concept- Added Value

- Reduce unplanned and unscheduled care demand throughout the healthcare system
- Prevent chronic condition deterioration or exacerbation in high risk groups.
- Reduce hospital admissions specifically for exacerbations of chronic conditions and frail elderly patients
- Achieve an earlier hospital discharge for those patients who no longer require acute hospital care.
- Reduce the number of acute medical beds within hospital system
- Provide a visible community and primary care structure that is seamless in its delivery
- Facilitate 'flow' of individuals through the total system, and use of acute bed capacity efficiently and effectively supporting consistent delivery of elective service delivery and improving quality and performance

More Anticipatory Care

Case manage and upstream interventions for:

Individuals with predicted high risk of admission - PRISM

High dependency / non steady state patients identified by GP

Individuals at risk of falling as identified by FRAT score

Patients registered with a chronic disease

More telephone based support

Support compliance with treatment plans

Telehealth telemedicine telecare

Emphasis public health messages

Secondary prevention strategies

Guided self management

Lifestyle coaching

Signposting to supporting services / organisations

In summary

- Prevention and early intervention are fundamental

- Services planned around a generic CCM pathway to support provision within local communities

- Integrate and reconfigure existing services to improve service delivery and access including new ways of working

- Seamless care provided by integrated MDT's working across primary, secondary and social care

- Monitoring of performance against clear actions and outcomes

- Improvements needed are extensive and complex

- Dependent on good planning and management in partnership with all stakeholders

Supporting Technology

- Telecare devices

Control unit	Alarm button	Fall detector	Gas detector
Door exit sensor	Temperature sensor	Flood detector	Bed or chair occupancy sensor
Smoke detector/alarm	Pressure mat	Alarm pill dispenser	Pull cord alarm

Telemedicine

Better Breathing

EU funded project – four field trial sites across Europe including Wales www.betterbreathing.org

Primary objective:

- To assess the validity of telehealth homecare in COPD in a Welsh healthcare system. (Is is safe and useable?)

Secondary objectives:

- Does telehealth reduce healthcare contacts?
- Does telehealth reduce hospital admissions?

- Does telehealth improve quality of life?

Summary: Baseline

- Severe COPD
- Extensive co-morbidity

- Matched apart from for telehealth group, a longer period since pulmonary rehabilitation and higher on MRC dyspnoea scale

Telehealth device – Docobo HealthHUB

Data collection

- From 0600 to 1200
- Awake at night
- Wheeze
- Cough
- Breathlessness
- Daily activities
- Temperature
- Saturations

- From 12.01 to 2300
- Breathless
- Wheeze
- Sputum
- Reliever use

- Saturations

Data collection

- Questions:
- Better / same / worse / <u>much worse</u>

- Temp ><u>38</u>° C
- Pulse ><u>140 </u>bpm

If 2 or more alerts then automated e-mail to respiratory nurses

https://secure-2.docobo.net/uk-1/generic_PatInfo.asp

Doc@HOME

doc@HOME®
The bridge to care!

COPD (Version 2)

Enroll new patient
List active patients
Agreement archive

➤**View patient data**
Messages to patient

Logout
Configuration

Patient [   ] Thomas (Ag-17446)   age: 63

[M-] [W-] 16.3.2008 [W+] [M+]

| New message to patient | Register an intervention |
| Configure alerts | Configure questions |

SpO2 - oximeter: 98%

                                                                       83%

Pulse Rate from SpO2:   109bpm

                                                                       78bpm

Temperature: 36.4
                                                                       34.9

Relieving Medication:
Daily Activities:
Sputum:
Cough:
Wheeze:
ternoon Breathlessness:
ightime Breathlessness:

February 18 19 20 21 22 23 24 25 26 27 28 29 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 March

Better Breathing - Outcomes

## Primary outcomes
Found to be simple to use and patients coped well
No adverse events/ 1 drop-out at 6 weeks (nursing home)
Well accepted by staff

Secondary outcomes

Mean per 30 days	Standard (n=19)	Telehealth (n=18)	P-value
Patient reported contacts (chest)	1.3	0.9	.50
Patient reported contacts (non-chest)	0.6	0.1	.34
GP listed contacts (chest)	0.6	0.6	.99
GP listed contacts (non-chest)	0.7	0.5	.76

Cost-effectiveness of telehealth
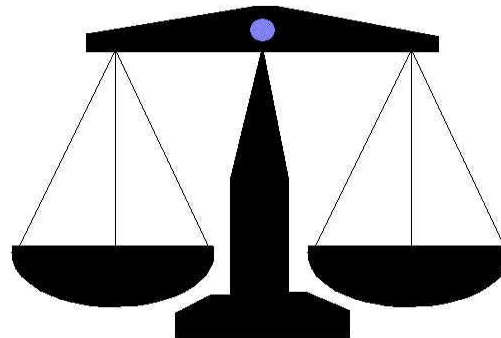
Start up costs £115,783
Running costs £35,147
TOTAL costs Y1 £150,930

1 Int J Clin Pract 2007; 61: 1112 – 1120

2 Unit Costs of Health and Social Care 2010

http://www.pssru.ac.uk/uc/uc2010contents.htm

A&E attendances saved 84 x £691 = £58,044
Hospital admissions saved 36 x £2131[1] = £76716
GP contacts saved 780 x£32[2] = £24960
TOTAL savings Y1 = £159,720
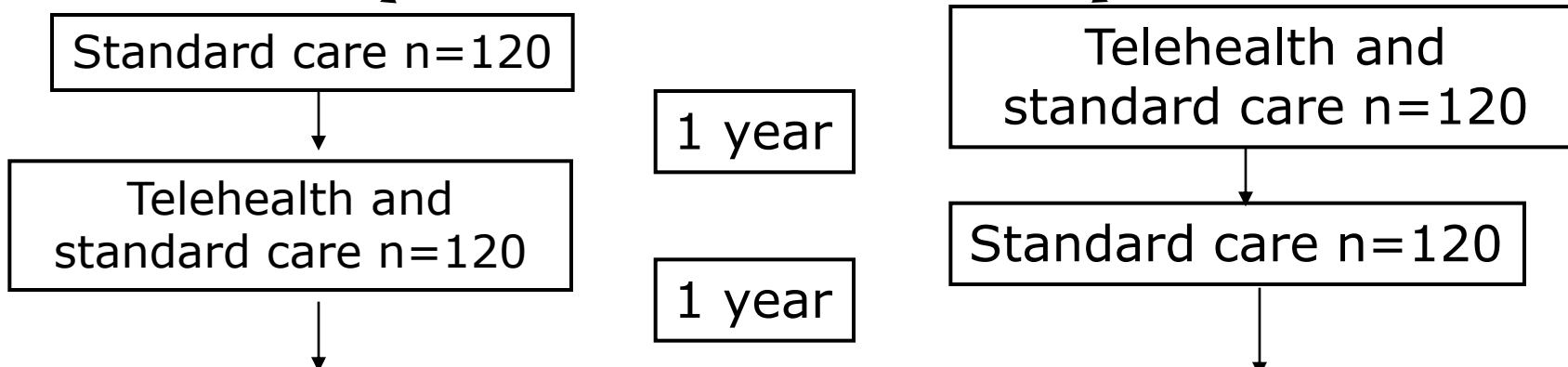
Current progress

- Recruitment ongoing, slower than expected – approx 170 of 240 target

- Poorer data compliance than seen in Better Breathing group

- Higher drop-out rate (due to deaths/withdrawals) than in Better Breathing study

Lessons Learnt

All non-clinical tasks undertaken by local authority's telecare team staff/chronic conditions management administrative support:

- Installing devices and providing patient training
- First-line monitoring of uploaded patient data
- Escalation of clinical alerts to nursing team by telephone
- Resolving technical alerts and technical problems

Other issues:

- Use of GPRS models to address problems with home set-up – no landline or power sockets sited away from telephone sockets and immobile patients
- Difficulties with peripheral devices – low readings on thermometers and pulse oximeters
- Changing staff behaviour is more challenging than changing patients' behaviour

Whole Systems Demonstrator (WSD)

- Largest RCT of **telehealth and telecare** in the world, involving **6191 patients, 238 GP practices** across three sites, Newham, Kent and Cornwall.
- Set up to look at cost effectiveness, clinical effectiveness, organisational issues, effect on carers and workforce issues.
- Focused on **diabetes, COPD and coronary heart disease.**

Early indications show that if used correctly telehealth can deliver:

- **15%** reduction in A&E visits
- **20%** reduction in emergency admissions
- **14%** reduction in elective admissions,
- **14%** reduction in bed days and an 8% reduction in tariff costs.

- More strikingly they also demonstrate a **45%** reduction in mortality rates.

Conclusions

1. Embedding telehealth into existing community specialist nursing service has the potential to:

- Help patients take more responsibility for day-to-day care
- Enable nurses to monitor patients remotely, contact those who need support and reduce the number of inappropriate home visits
- Reduce travelling for the nursing service
- Improve relationships between patient and nurse
- Provide better support for carers

2. New ways of working are essential to allow us to care for people in their own homes

3. Integrated working with health and social care allows us to use technology differently

4. Different technologies should be considered for different service users

5. Doesn't suit everybody

6. Embed in a current service

Thank you