Alere
™

Alere Connected Health Ltd

Chronic Conditions Management And Telehealth

ehi2 - ehealth industries innovation centre

Presentation

- The UK Market Definition

- Who are Alere?

- Alere Connected Health - Outcome data

- UK Market – Past – Present – Future

The UK Market Definition

UK Tele - Market definitions

Telehealth

"The delivery of healthcare at a distance using electronic means of communication – usually from service user to clinician e.g. a service user measuring their vital signs at home and this data being transmitted via a telehealth monitor to a clinician."

Telemedicine

"The delivery of healthcare at a distance using electronic means of communication – usually from one clinician to another e.g. a non-specialist GP undertaking an ECG on a patient suspected of heart disease and the transfer of that data electronically to another specialist clinician for discussion/comment."

Telecare

"The continuous, automatic and remote monitoring of real-time emergencies and lifestyle changes over time in order to manage the risks associated with independent living."

(All three definitions from Department of Health / Kings Fund, 2011)

UK Market definitions and needs - Long Term Conditions
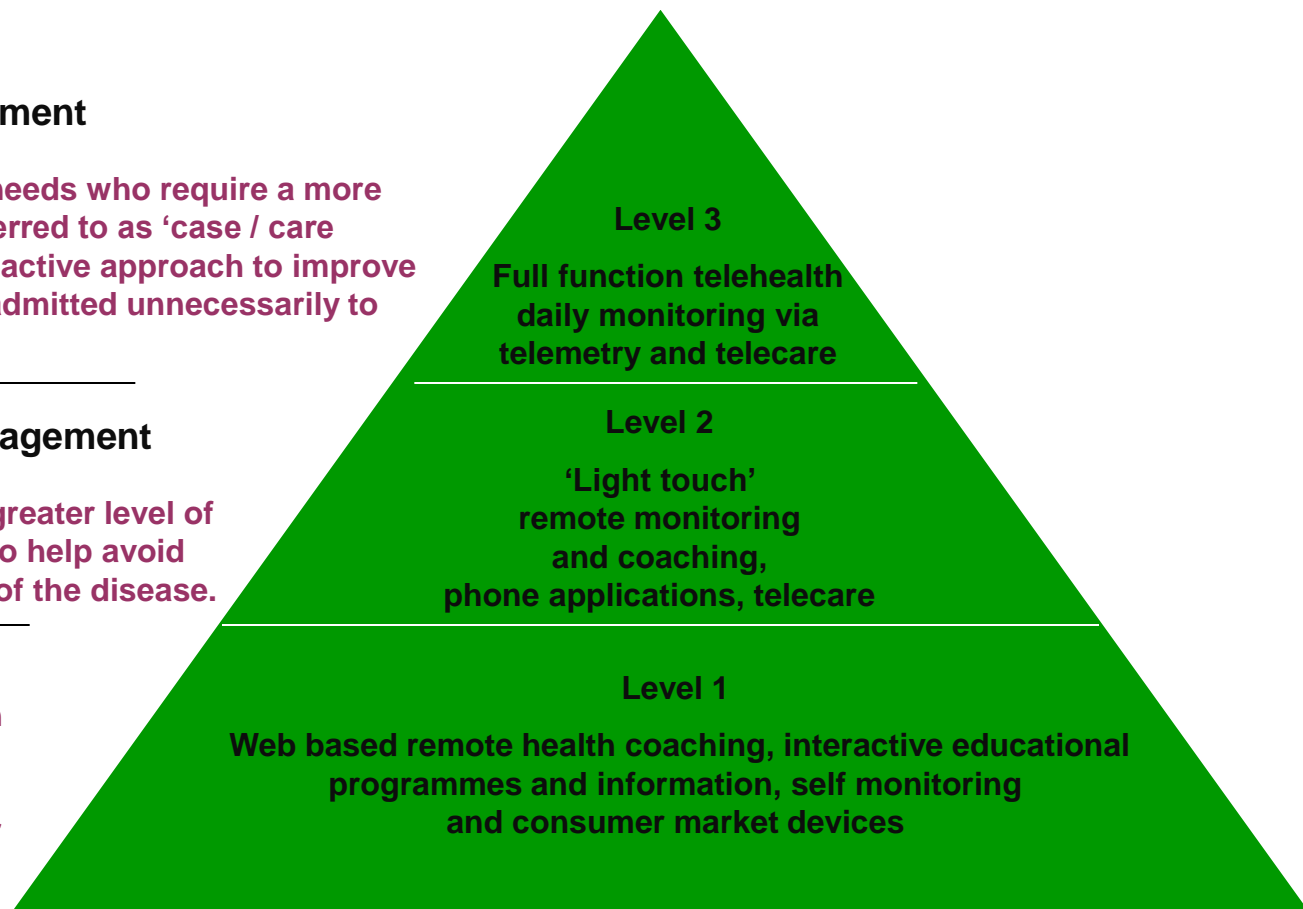
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Case Management

For those with particular complex needs who require a more intensive level of care, often referred to as 'case / care management', a co-ordinated and proactive approach to improve health and help them avoid being admitted unnecessarily to hospital.

Disease Specific Case Management

Condition management in which a greater level of professional support is required to help avoid complications or slow progression of the disease.
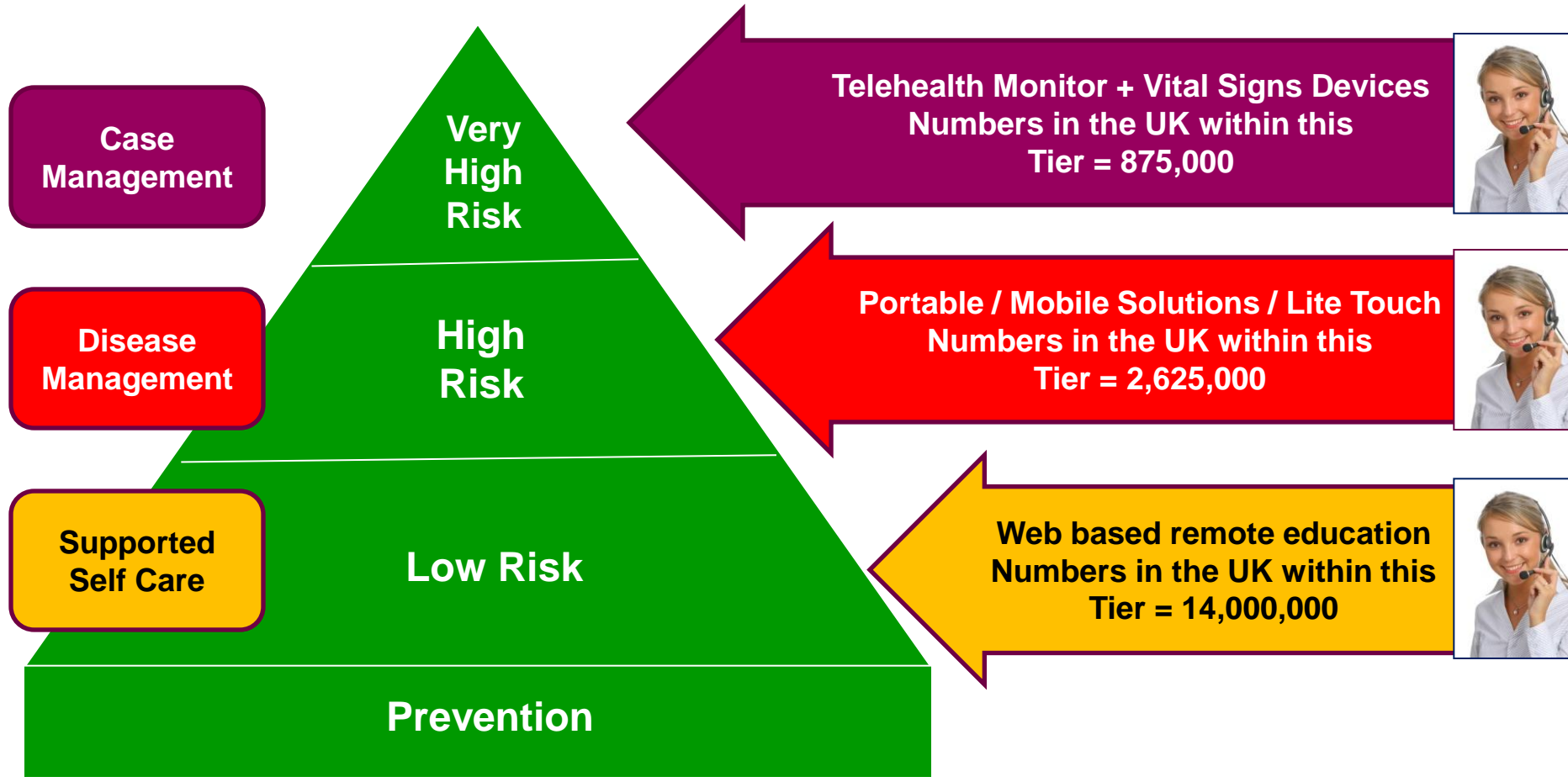
Supported Self Care

Self management, where people with long term conditions are given the information and other practical support they require to manage their conditions in a way that helps them use this information to their own benefit.

Level 3

Full function telehealth daily monitoring via telemetry and telecare

Level 2

'Light touch' remote monitoring and coaching, phone applications, telecare

Level 1

Web based remote health coaching, interactive educational programmes and information, self monitoring and consumer market devices

REF: NHS Lothian 2012

Personalised Connected Care
Enabling people to self manage their health

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Case Management

Disease Management

Supported Self Care

Very High Risk

High Risk

Low Risk

Prevention

Telehealth Monitor + Vital Signs Devices
Numbers in the UK within this
Tier = 875,000

Portable / Mobile Solutions / Lite Touch
Numbers in the UK within this
Tier = 2,625,000

Web based remote education
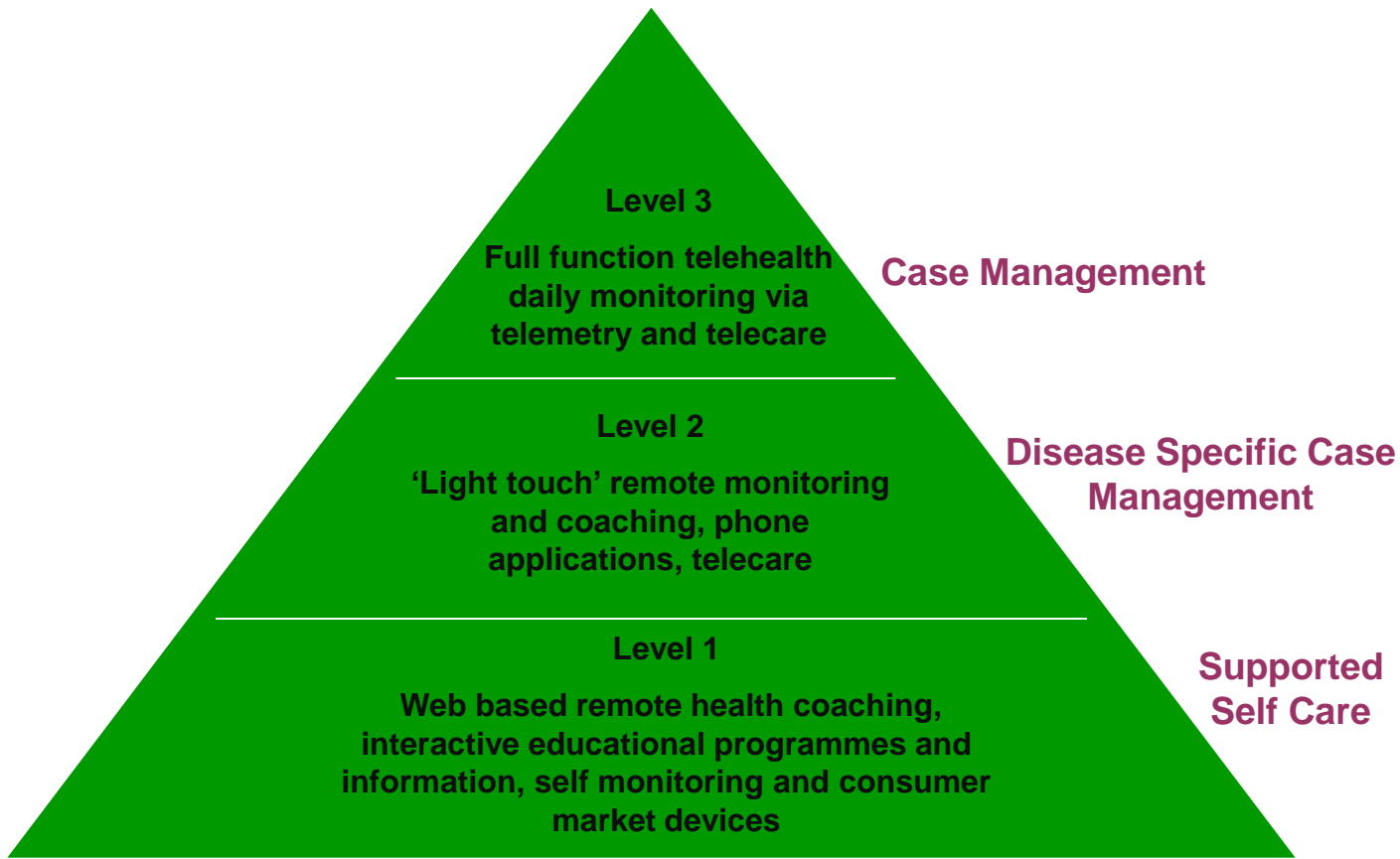Numbers in the UK within this
Tier = 14,000,000

REF: (Department of Health 2011)

NHS Lothian are looking for provider(s) to deliver!

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**NHS Lothian
800,000 people**

QOF Register	
COPD	9,113
CHF	3,565
Diabetes	21,627
Osteoporosis	2,000
Obesity	32,036
Hypertension	68,478
Dementia	3,951

Level 3

Full function telehealth daily monitoring via telemetry and telecare

Case Management

Level 2

'Light touch' remote monitoring and coaching, phone applications, telecare

Disease Specific Case Management

Level 1

Web based remote health coaching, interactive educational programmes and information, self monitoring and consumer market devices

Supported Self Care
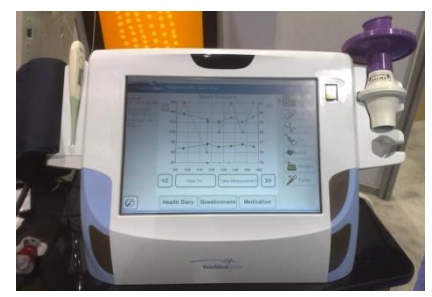
REF: NHS Lothian 2012

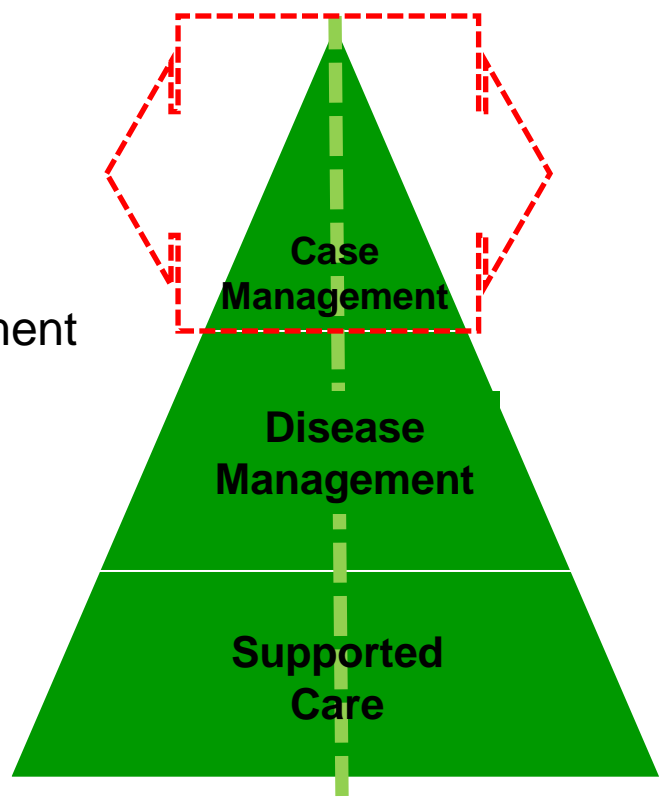# Community Care
connecting people ~ connecting places

Chronic Disease Management

End of Life Care

Early Discharge Management

Case Management

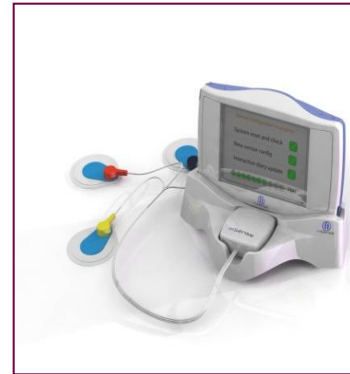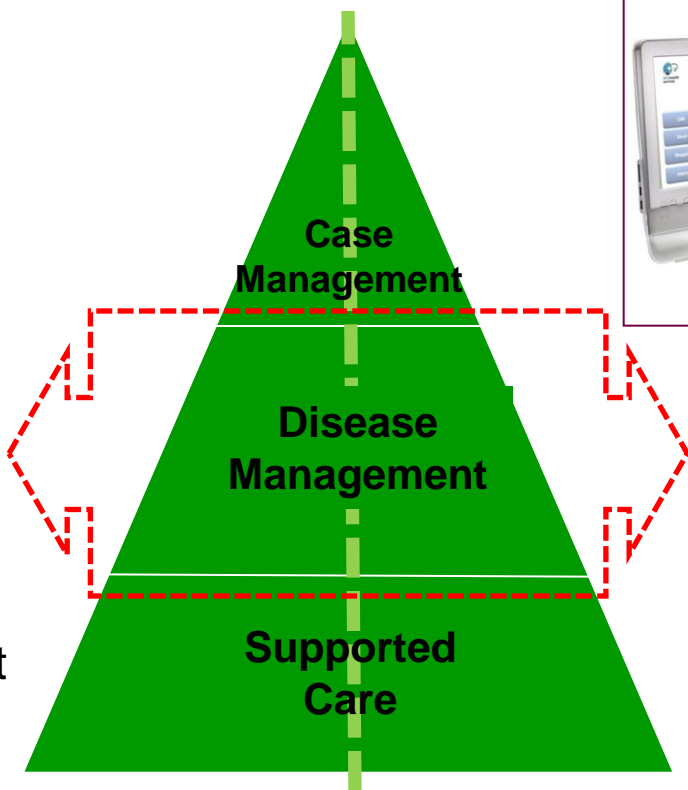Disease Management

Supported Care

Numerous devices available

Community Care
connecting people ~ connecting places

Diabetes Management

Pregnancy Management

Medication Titration
Management

INR Management

Pre-Hospital Monitoring

ECG Event Management

Rural Health Monitoring

Case
Management

Disease
Management

Supported
Care

Numerous devices available

Community Care
connecting people ~ connecting places

Weight Management

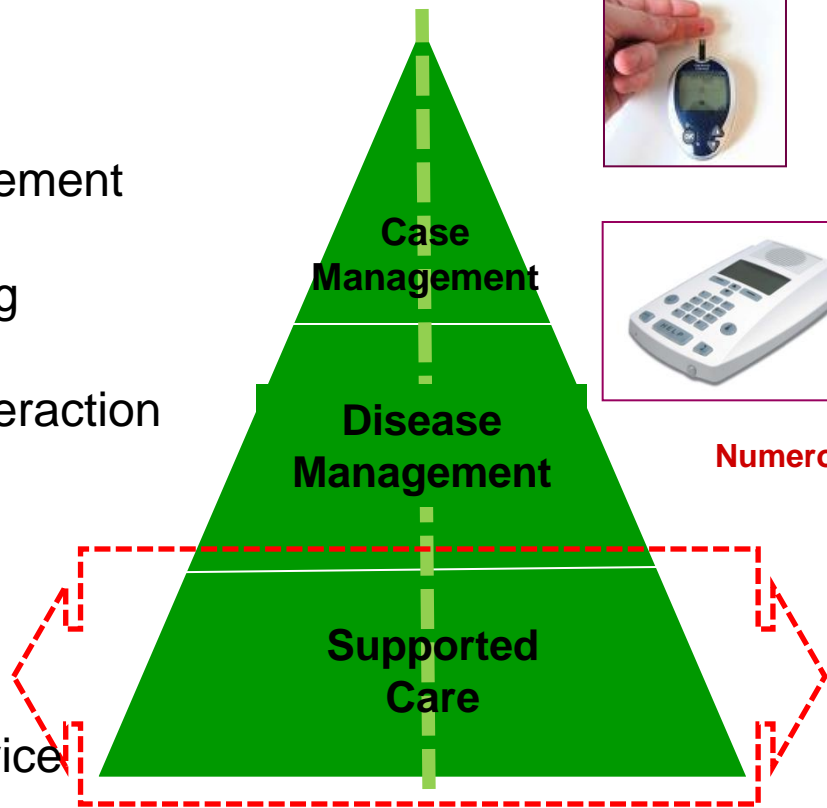Hypertension Management

Health and Well-being

Health and Social Interaction

Health Education

Social Inclusion

Surgery self-test service

Occupational Health

Case Management

Disease Management

Supported Care

Numerous devices available

Lite Touch programmes

'Near Patient' Telemedicine Applications

Emergency Trauma & Orthopaedics	Cardiology
Ear, Nose And Throat	Paediatric Cardiology
Ophthalmology	Respiratory Medicine
Orthodontics	Respiratory Physiology
Anaesthetics	Genito-Urinary Medicine
Pain Management	Medical Oncology
Paediatric Urology	Rheumatology
General Medicine	Paediatrics
Gastroenterology	Geriatric Medicine
Endocrinology	Obstetric Outpatients
Clinical Haematology	Gynaecology
Hepatology	Gynaecological Oncology
Diabetic Medicine	Midwife Episodes
	Clinical Oncology
	Diagnostic Imaging

As performed in some HM Prisons and some UK GP practices

Buying Solutions Framework Agreement Code RM784
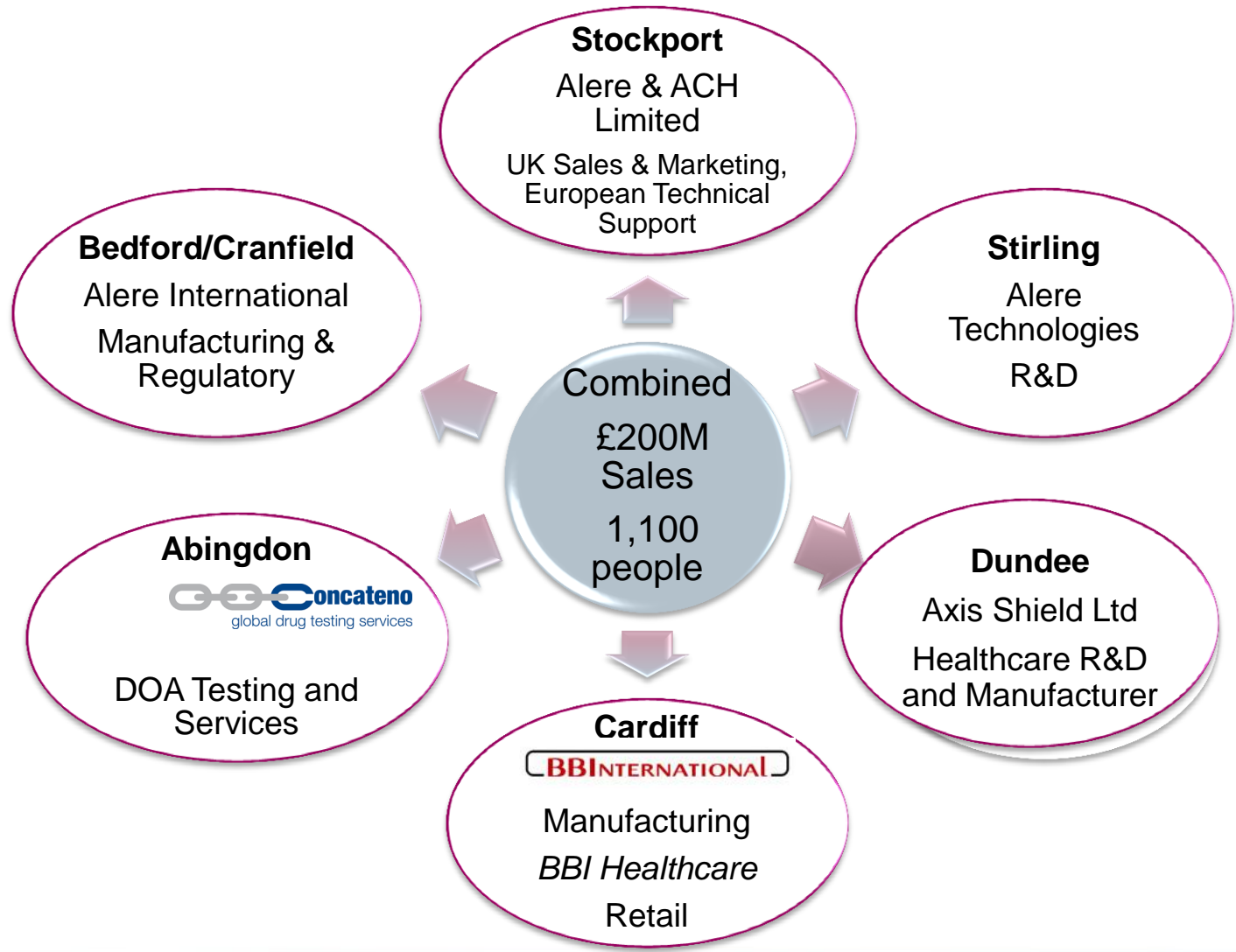
Route to market

Who are Alere

With 2 million people in Health and Wellness Programmes, Alere has well-established credentials and an excellent reputation in the clinical healthcare sector.

Alere with an installed base of Telehealth monitoring systems in some 65,000 homes, is committed to empowering individuals to better manage their conditions and offers a range of 'connected health' products and services that allow healthcare to be delivered in the community or home.

Alere is already delivering connected health services at scale.

Alere in the UK

Stockport

Alere & ACH Limited

UK Sales & Marketing, European Technical Support

Bedford/Cranfield

Alere International

Manufacturing & Regulatory

Stirling

Alere Technologies

R&D

Combined

£200M Sales

1,100 people

Abingdon

Concateno
global drug testing services

DOA Testing and Services

Dundee

Axis Shield Ltd

Healthcare R&D and Manufacturer

Cardiff

BBINTERNATIONAL

Manufacturing

BBI Healthcare

Retail

Alere in Wales

Four major businesses in Wales;

- ❑ BBI Holdings in Pencoed & Cardiff
- ❑ Trichotech in Cardiff
- ❑ Alere Connected Health in Cardiff
- ❑ IG Innovations in Llandysul

Circa 400 highly skilled employees in Wales
[Includes scientists & research laboratories]

£210 million UK revenues – 25% in Wales

Wales & Global R&D centres for;
- ❑ Hair Testing services for drug & Alcohol abuse
- ❑ Centres for Telehealth/Telemedicine Service Development
- ❑ Specialist centre in extraction & purification of natural enzymes

We offer a **comprehensive** Managed Services capability

Alere™

- Clinical Support
- 365 Day Telehealth Monitoring
- Programme Management
- Programme Implementation & Training
- Technology Agnostic
- Protocol Development
- Installation & Support Services
- Customised Management Reports
- Video-enabled Monitoring Centre

OUR PLEDGES TO YOU

We can provide as much or as little as you need from this list.

We can deploy the equipment you already own from another supplier.

We will work with your preferred manufacturer of equipment to deliver to you 'end-to-end' Telehealth programme.

We will not 'prescribe' any technology to you.

Telehealth services are designed to be complimentary and to support local health services – NOT to compete with them

Creating & delivering innovative Telehealth Services

- Clinician education already embedded locally
- Undertakes chronic disease monitoring
- Nurses monitor and support patients 365 days per year
- Community nursing teams supported
- Trusted relationships - local GP's, Consultants & Hospitals
- Work with many different technologies
- Partnership provides a full managed service
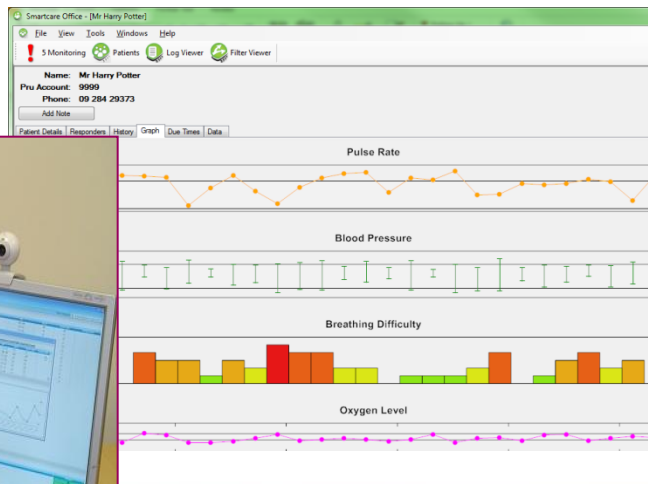
our clinical experience, managed service capability, flexible technology and partnership approach enables us to...

- Support new integrated care pathways and service design

- Enhance patient outcomes and wellness

- Empower self management and independent lifestyles

- Promote health and well being

- Increase productivity and sustainability

- Deliver cost saving

It's All About the Results

Financial

118% ROI for 800 patient COPD programme

112% ROI average over 3 disease states

Patient Satisfaction

84% of patients say "the service stopped them from visiting their doctor as much"

94% of patients say "the service has given them more assurance"

Clinical

COPD admissions reduced from 42% to 9%

13% of patients escalated to community nursing teams

Statistical

16% of patients escalated to community nurses resulted in a planned admission

ACH - COPD Customer outcomes

60%
Saving of COPD unplanned hospital admissions

20 x
Clinical Alerts per 12 week episode of care

118%
Return on Investment

"It improved my feeling of well being and gave me a sense of a safety net with help on hand".

32%
Of patients escalate out-of-hours

75%
Of escalated patient's are a result of a nurse to patient phone interaction and triage

**This outcomes data is NOT about PILOT programmes
but from over four years delivering community-based
Telehealth patient monitoring services
to >1,000 NHS patients with a long-term chronic illness
in Northern Ireland, UK.**

**The purpose of these telehealth programmes with 2 NHS
Trusts in Northern Ireland to over 16 distinct
programmes was to implement telehealth technologies
into the care pathway of people with
long-term conditions.**

TMS – Telehealth Management Suite

Database - delivering 'Outcome-based' analysis

Nurse Interaction	Innovate	Gather data	Analyse	Report
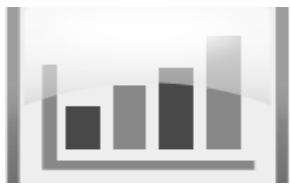
TMS – Telehealth Management Suite

Data analysis – 'If you cannot measure it – you cannot manage it'

- ✓ TMS collects data that other systems do not

- ✓ TMS data is Clinical ,Technical and Statistical

- ✓ TMS data provides detailed management reports for our customers

- ✓ TMS assists in determining ROI of the Telehealth Programme

'Delivering outcomes – not boxes'

Additional Information

Study;

- >1,200 patients monitored with NHS SE Trust & NHS Belfast Trust
- This study focuses mainly on 790 COPD patients in NHS SE Trust - and other key data
- Telehealth Managed Service model - is a12 weeks per Episode of Care (EOC)
- Fee for service model (per patient per day) – or fee per EOC
- All inclusive service model involving no capital outlay – and includes;
- Equipment acquisition and support /installation/daily triage/de-installation/sanitisation/reporting
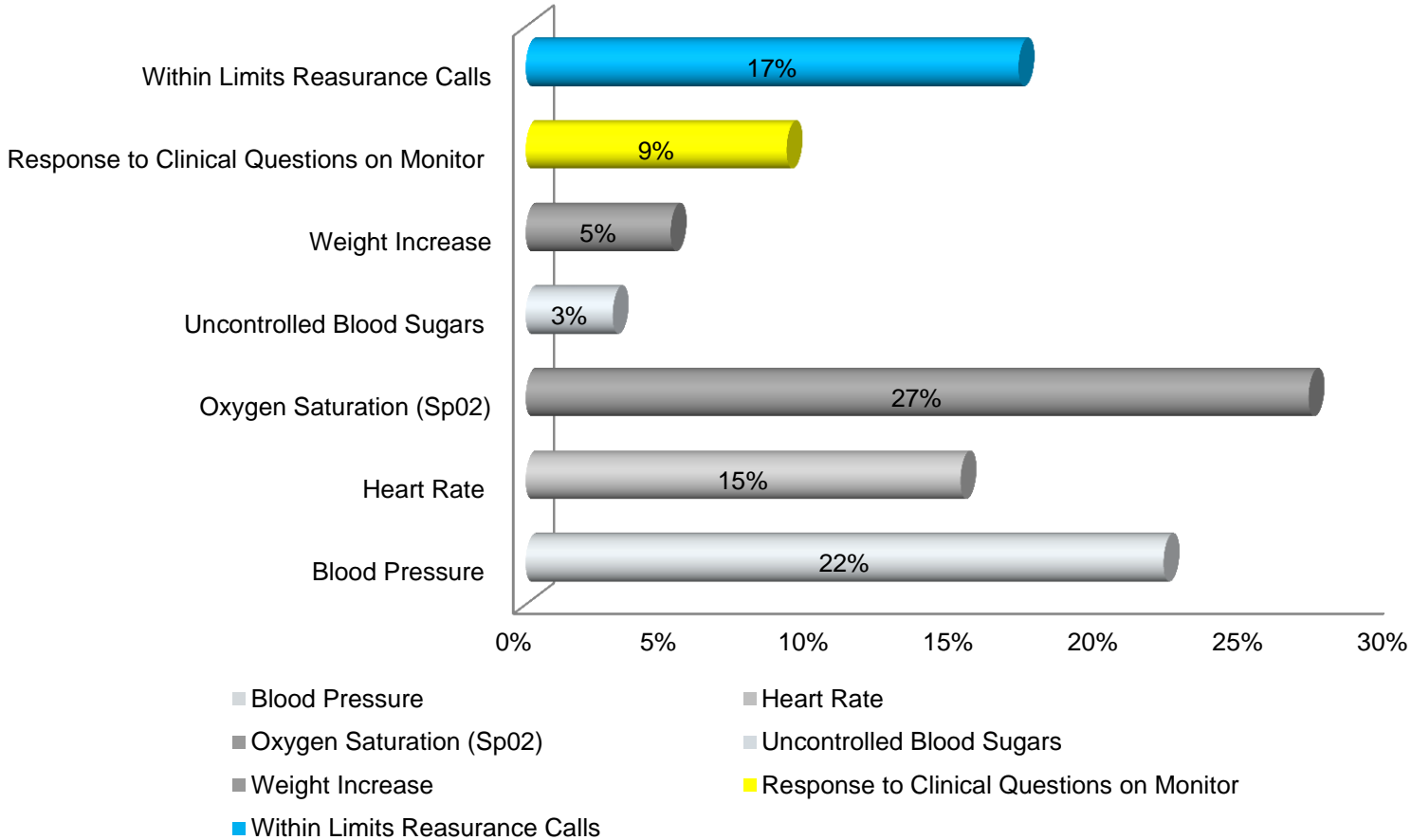
**Telehealth services are designed to be complimentary
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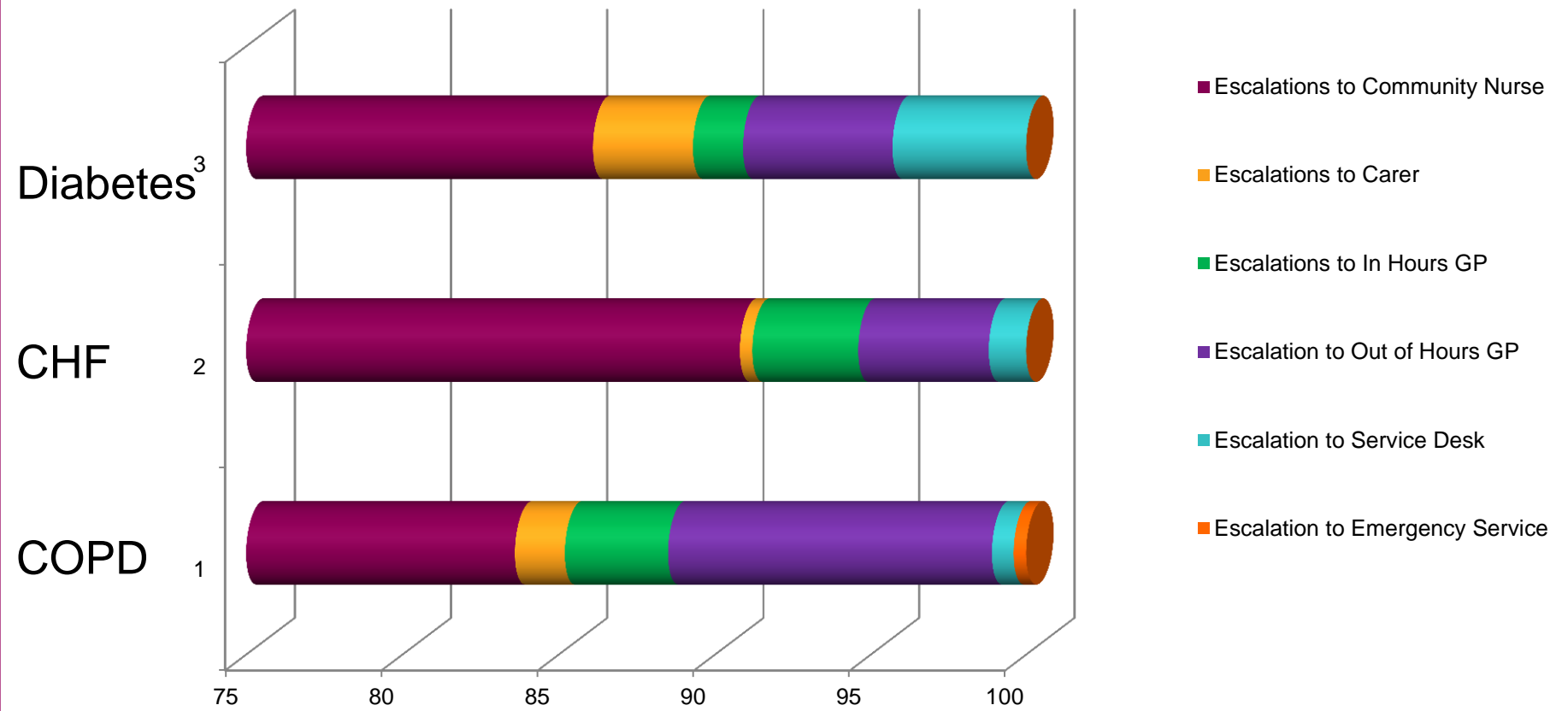
TMS data analysis – all programmes

TMS DATA	COPD	CHF	Diabetes	Totals
Total Patients	790	113	159	1,062
Total number of Clinical Alerts	15,451	1,663	3,006	20,120
Total number of Clinical Escalations	2,420	238	189	2,847
Total Unplanned Admissions Prevented	472	37	23	532
Total Emergency Admissions to Hospital as a result of an Escalation	94	8	5	107

Ref: Data based on >1,000 NHS LTC patients monitored over 3 years

'Delivering outcomes – not boxes'
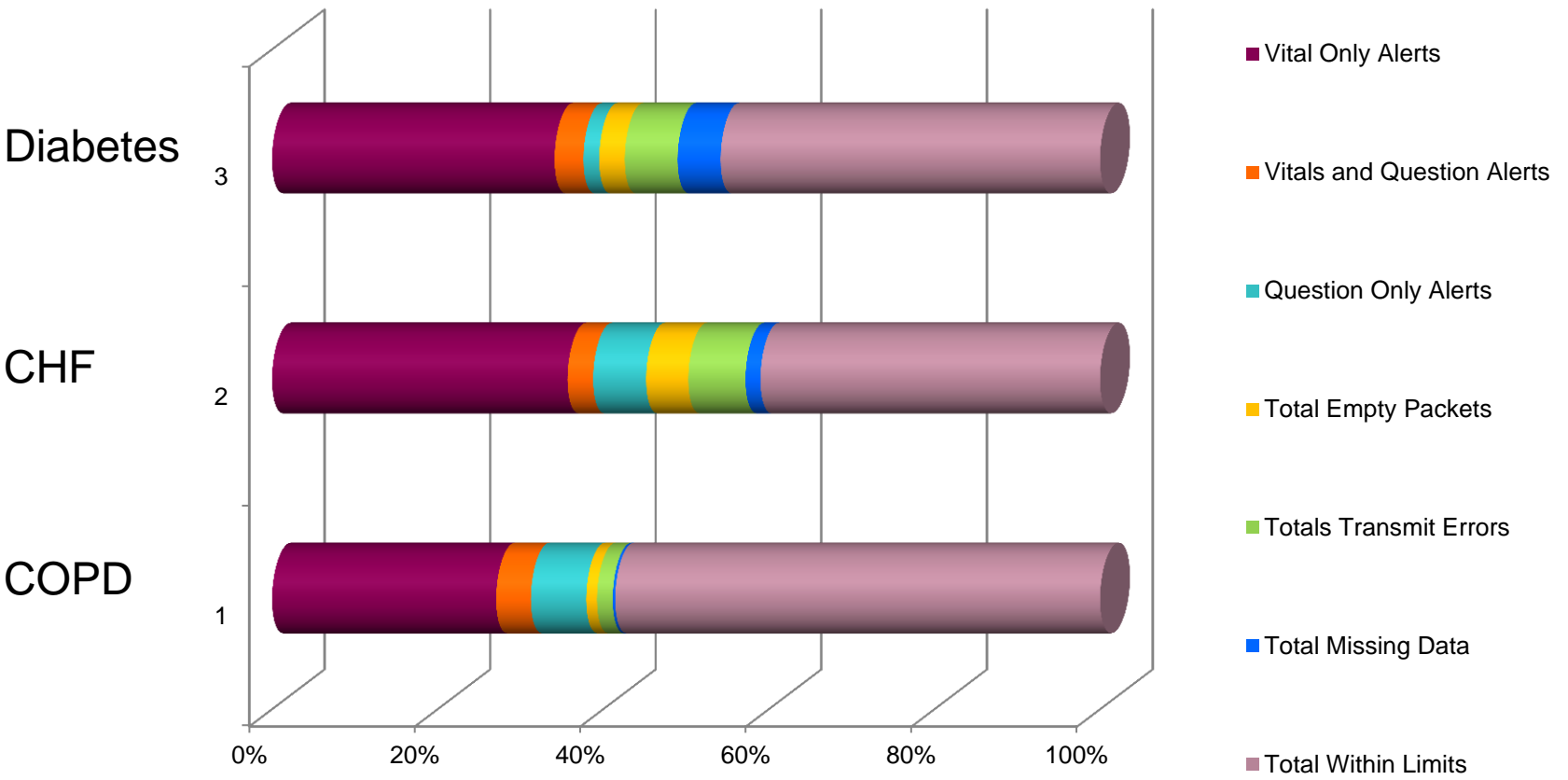
Reasons for Clinical Escalation

'Delivering outcomes – not boxes'

Escalation comparisons across 3 conditions

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Diabetes[3]

CHF 2

COPD 1

75 80 85 90 95 100

- Escalations to Community Nurse
- Escalations to Carer
- Escalations to In Hours GP
- Escalation to Out of Hours GP
- Escalation to Service Desk
- Escalation to Emergency Service

Source: Data for 1,062 patients

'Delivering outcomes – not boxes'

Estimated savings

Area of Savings		Total	NHS Tariff	Gross Saved
COPD Admissions Prevented		472	£2,793.00	£1,318,296.00
Nurse Visits Saved		1,758	£30.00	£52,740.00
Mileage Saved (35,160)		1,758	£8.00	£14,064.00
CHF Admissions Prevented		37	£2,987.00	£110,519.00
Nurse Visits Saved		205	£30.00	£6,150.00
Mileage Saved		205	£8.00	£1,640.00
Diabetes Admissions Saved		23	£2,112.00	£48,576.00
Nurse Visits Saved		160	£8.00	£1,280.00
Mileage Saved		160	£30.00	£4,800.00

Totals Gross Savings

£1,558,065.00

Formula: 20 Miles per journey @ £0.40 per mile
Nursing Time: 1.5 hours @ £20 per hour

Ref: Data based on >1,000 NHS LTC patients monitored over 3 years

'Delivering outcomes – not boxes'

Your success is in the numbers

£824,186.00

Cost-effective LTC programmes	
Total Gross Savings	**£1,558,065**
Total Net Savings	**£824,186**
Average Net Saving per patient	**£776.06**
ROI (average over 3 disease states)	**112%**
NO CAPITAL OUTLAY	
Services from £0.50 per day	

Clinical Triage Vs Technical Triage

Clinical Alerts by condition				

TMS DATA	COPD	CHF	Diabetes	Totals
Total number of Clinical Alerts	15,451	1,663	3,006	20,120
Number of patients by condition	790	113	159	1,062
Average # of Alerts by condition / per person	19.5	14.7	18.9	18.9
Total number of patient Escalations – In Hours and Out of Hours				2,668
% of patient Escalations to Community Nursing teams				13.3%
THEREFORE: with a non Clinical Care Centre Operation				
NUMBER OF EXTRA ESCALATIONS TO COMMUNITY NURSING TEAMS				17,452

'Delivering outcomes – not boxes'

Clinical Triage Vs Technical Triage

20,120 Alerts

20,120 Alerts

Clinical staff

Non-Clinical staff

2,668 Escalations = **13%**

20,120 Escalations = **100%**

Community nursing teams

Community nursing teams x 8

Note:

Ref: Data based on >1,000 NHS LTC patients monitored over 3 years

'Delivering outcomes – not boxes'

Before & After Info

OUTCOMES

BEFORE Telehealth Managed Service			
Data Fields	**DATA**	**COPD analysys - BEFORE**	**%**
No of COPD patients in NI	25,959		100%
No of COPD Admissions / yr	10,886		42%
Cost of admissions / yr	£25,000,000	£2,296.5	per patient
Av. cost of admission / tarriff	£2,305		
Av. no of bed days / adm	12		
No of bed days used / yr	130,632		
Source: Northern Ireland (NI) statistics (DHSSPNI 2005/06)			

**COPD Unplanned
Admissions reduced from
42% of population to 9%**

AFTER Telehealth Managed Service			
Data Fields	**DATA**	**COPD analysys - AFTER**	**%**
No of COPD patients on program	790		3%
No of COPD Admissions / yr	66		9%
Cost of admissions / yr	£152,130		
Av. cost of admission / tarriff	£2,305	- 24 % in tariff costs	
Av. no of bed days / adm	9.4	-2.6 days	22%
Source: NHS SE Trust / Alere Connected Health Limited/TMS Database			

**Bed days reduced (5,664)
by 2.6 days per COPD
admission
a reduction of 22%**

**Reduction in COPD
Tariff costs of 24%**

**Each COPD patient
monitored had on average
20 clinical alerts per
12 week episode of care**

Source: Data for 790 COPD patients = 3% of N.I population of COPD patients – monitored for three years

NHS Patient Survey

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HSC South Eastern Health and Social Care Trust

St George's
University of London

ST GEORGE'S RESPIRATORY QUESTIONNAIRE
FOR COPD PATIENTS (SGRQ-C)

St George Questionnaire scores / outcomes

Total score for all patients before = 7520
Total score for all patients after monitoring = 6016

Reduction in score
12.5%

Patient survey regarding service provided

Question:	Yes%
Was the monitor easy to use?	93%
Was the monitor installed in a professional manner?	100%
Did the clinical service provide a better understanding of your condition?	88%
Did the service give you more reassurance?	94%
Did the service help you manage your condition better ?	91%
Has the service stopped you from visiting your doctor more?	84%
Do you feel that the service has prevented any hospital admissions?	85%
Do you feel that you had the telehealth service for long enough period ?	36 %
Would you like to have the telehealth service in the future?	77 %

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Telehealth Evolution in the UK

PRE WSD Results

POST WSD Results

Telehealth in the USA early 1990's

No UK service

Start Small Pilots Projects

Start Managed Services

Outsource services?

Do nothing for 10 years

Buy 000's Boxes <20% implemented

Take in-house to trial internally
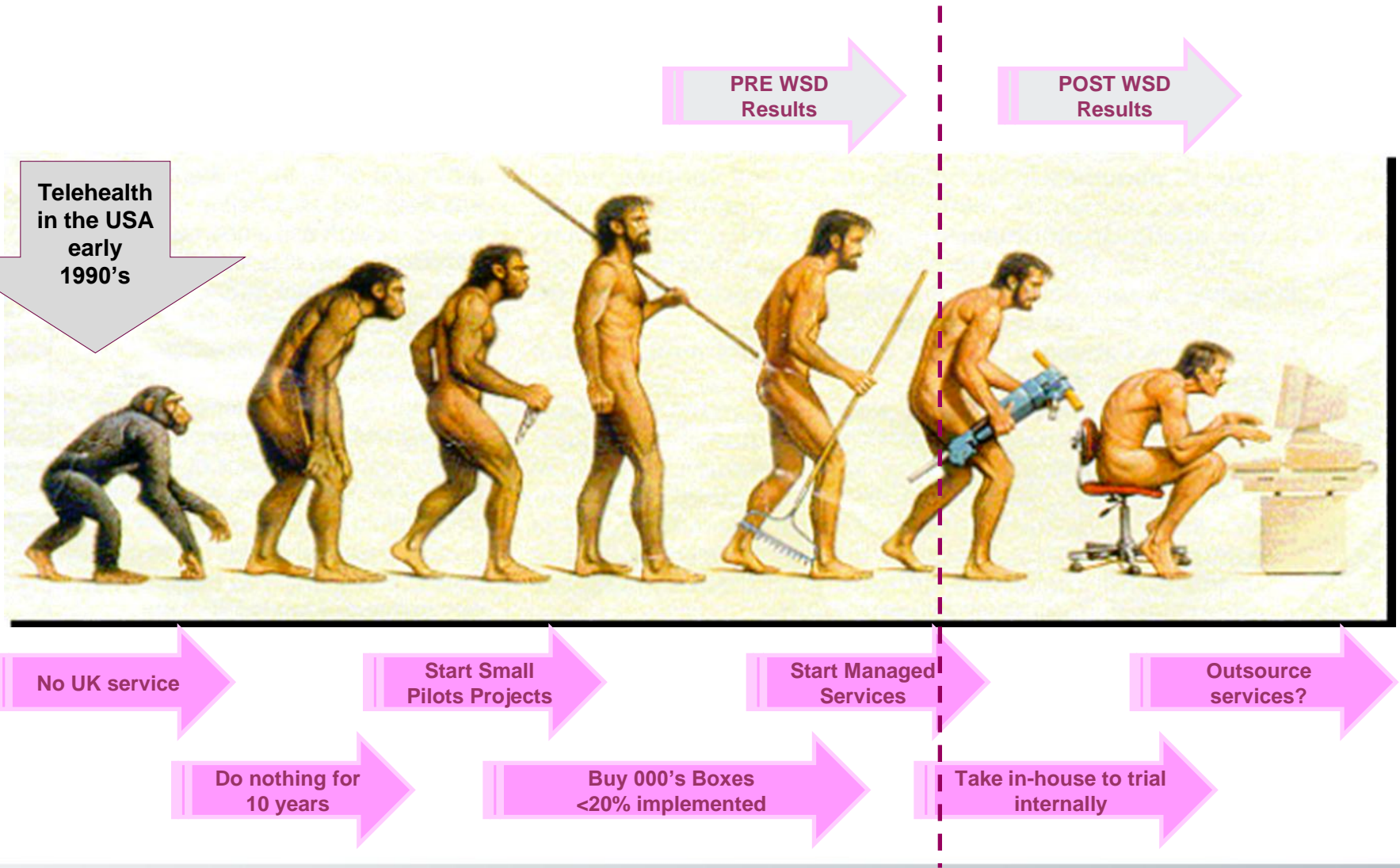
The UK Market

Past -

Telehealth Projects in the UK

Telehealth put on the (Google) map

News as at: 03 Feb 2010

More than a third of NHS Primary Care Trusts are involved with Telehealth Programmes, according to the Department of Health's Telecare Local Integrated Network.

The Network says more than a third of PCTs are actively involved with a programme, with numbers rising to more than 100 PCTs when the criteria is expanded to include those that are planning a programme or have expressed a firm intention to do so as part of their commissioning plans.

The network said there are now thought to be more than 5,000 telehealth remote units in active use covering heart failure, COPD and diabetes.

The DH's Whole System Demonstrator trial of assistive technologies, based in Cornwall, Kent and the London Borough of Newham, has also now recruited more than 6,000 participants.

The WSD evaluation is expected to report in Spring 2011

Note: 1 year LATE

Map annotations:
- Northern Ireland 1,300 per year systems
- Scotland 500+ scaling to 10,000 systems
- England Circa 10,000 systems
- DALLAS Up to 10,000 systems
- Wales 200 Systems scasling to 10,000
- Ireland 100 systems

Large Telehealth Programmes

WSD : Kent, Newham, Cornwall – 6,000
Barnsley – 300 going to 3,000
North Yorkshire – 2,000 going to 5,000+
Gloucester 2,500 systems
Nottingham - 300
Birmingham - 200

Map approximation as at Feb 2012

The UK Market

- Present -

WSD Outcomes

Whole System Demonstrator Programme

Headline Findings – December 2011
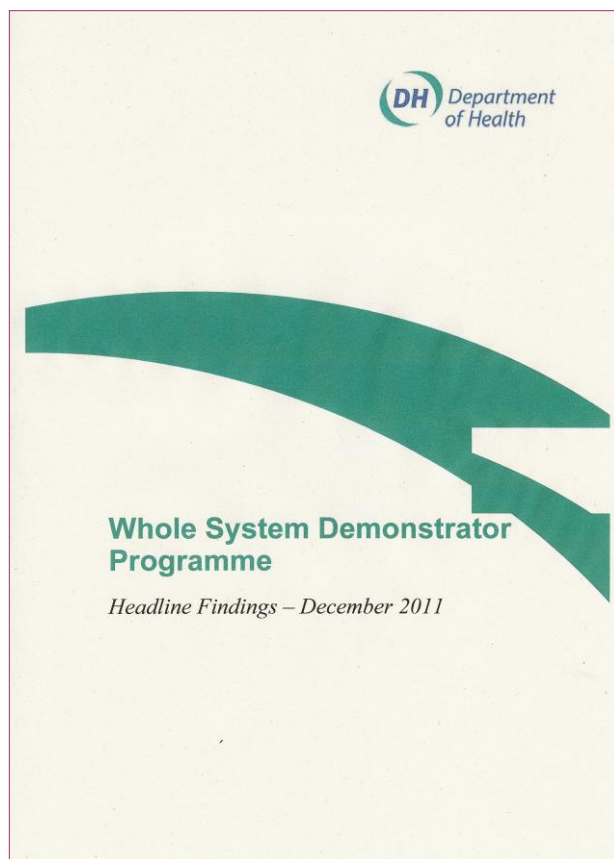
The Whole System Demonstrator (WSD) programme has been one of the most complex and comprehensive studies the Department of Health has ever undertaken, and has yielded a wide range of very rich data.

The WSD programme was launched in May 2008. It is the largest randomised control trial of telehealth and telecare in the world, involving 6191 patients and 238 GP practices across three sites, Newham, Kent and Cornwall.

WSD Results

- **Care Services Minister Paul Burstow said:**
- **"The trials of telehealth and telecare have shown how people with long term conditions can live more independently, reducing the time they have to spend in hospital and improving their quality of life.**

- **Early WSD findings indicate that telehealth can lead to:**
- **45 per cent reduction in mortality;**
- **21 per cent reduction in emergency admissions;**
- **24 per cent reduction in elective admissions;**
- **15 per cent reduction in A&E visits;**
- **14 per cent reduction in bed days; and**
- **8 per cent reduction in tariff costs.**

-

WSD outcomes – Alere outcomes

Programme Outcome Results	WSD[1]	Alere
Reduction in mortality rates	45%	xx%[2]
Reduction in Emergency admissions	20%	50%[3]
Reduction in A&E visits	15%	xx%[4]
Reduction in Elective admissions	14%	25%[5]
Reduction in bed days	14%	22%[6]
Reduction in tariff costs	8%	24%[7]

[1] Source: Whole System Demonstrator Programme - *Headline Findings – December 2011 – DoH*
[2] Source: Awaiting Alere /customer data
[3] Source: Alere Connected Health TMS Database analysis of 1,000+ NHS patients in Northern ireland over three years
[4] Source: Awaiting Alere /customer data
[5] Source: S. Sonntag, H.Y. Sohn, V. Klauss, M. Ziegler, h. Möhlmann, F.X. Kleber; Suppl. Z Kardiol., Apr. 2010, S.298; The Disease Management / Telemonitoring Programme Cordiva for Patients with heart failure reduces hospitalisations and costs – Analysis and follow-up over a 2 year period
[6] Source: Alere Connected Health TMS Database analysis of 1,000+ NHS patients in Northern Ireland over three years
[7] Source: Alere Connected Health TMS Database analysis of 1,000 +NHS patients in Northern Ireland over three years

WSD - What Happens Now?

- At least three million people with Long Term Conditions and/or social care needs could benefit from using telehealth and telecare.

- To achieve this level of change the Department of Health is planning to work with industry, the NHS, social care and professional partners in a collaboration with a difference, the "Three Million Lives" campaign.

- This is not a national target or a government guarantee of delivery, instead it is about the Department providing national leadership, strategic direction, and advice to NHS and social care organisations; with support from industry who would be responsible for creating the market and working with local organisations to deliver the change.

- The detailed workplan for the 'Three Million Lives' campaign is still in the early stages of development with all stakeholders and further information will be available in due course.

The UK Market

Future

Integrating Health and Social Care?

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- Health

- Social Care

- Housing

- Community Care
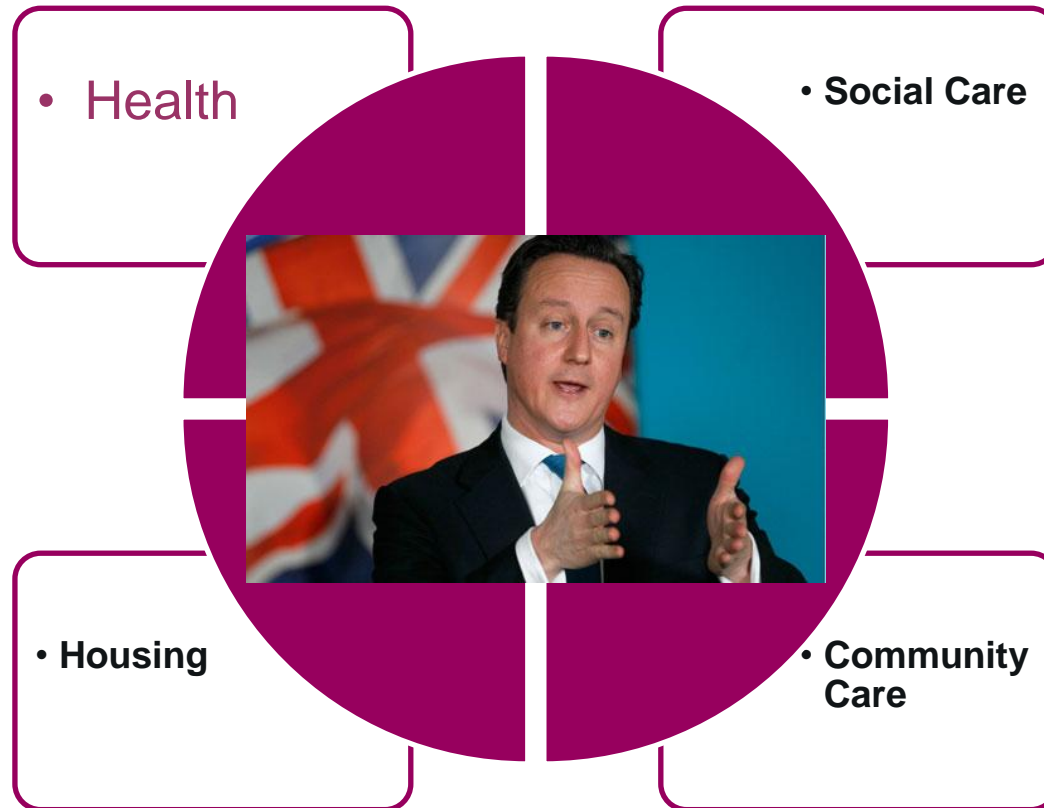
The integration of health and social care services, as reportedly ordered by David Cameron, is the holy grail of public policy. More than a nice-to-have, it's an absolute imperative if we are to maintain the 1948 welfare state settlement through the seismic demographic changes we are starting to undergo.

REF: http://www.guardian.co.uk/commentisfree/2012/jan/05/integrating-health-and-social-care-cameron
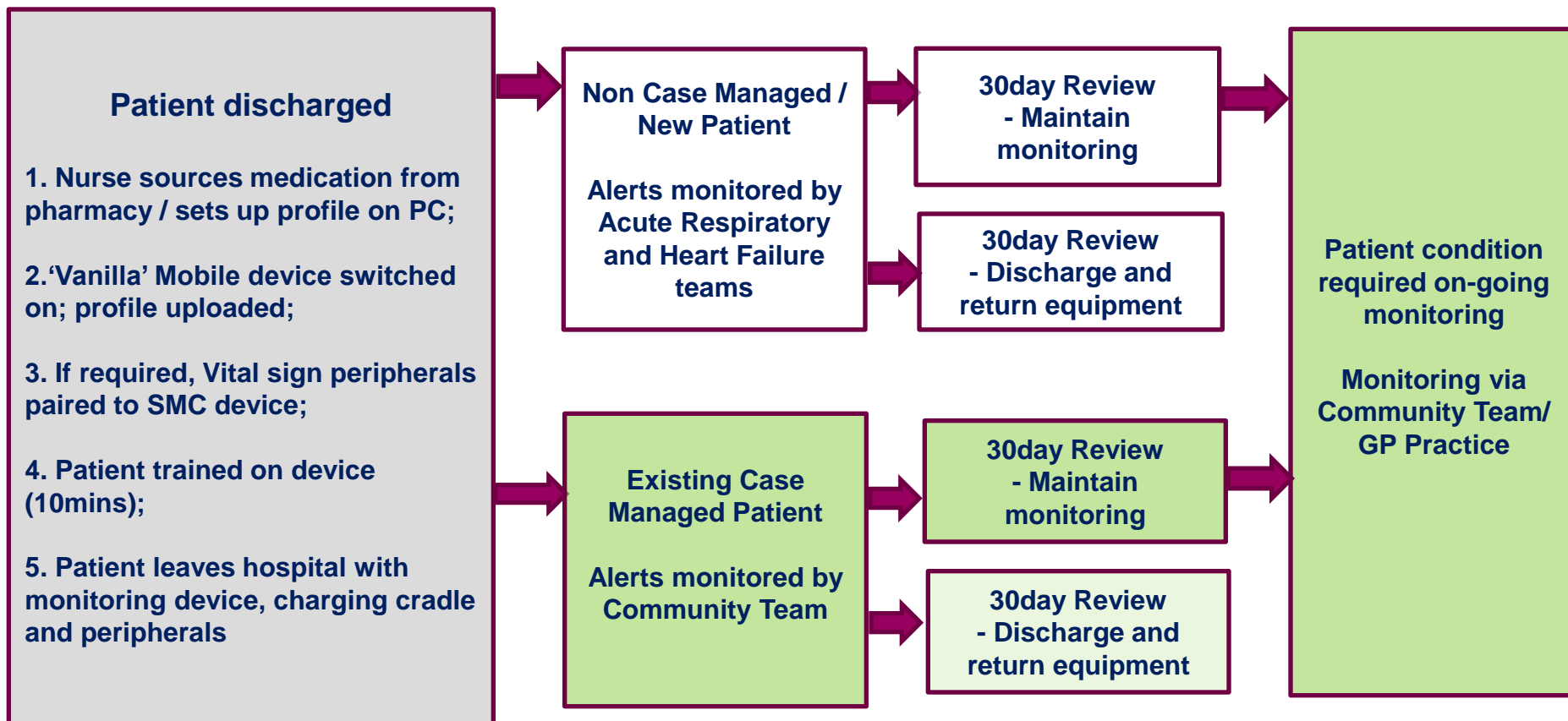
Integration of Services – tender example

- We are planning to hold a Telecare Workshop on the 2nd May 2012 at Cedar Court Wakefield to look at ways that Yorkshire Ambulance Service can develop innovations and service improvements along with telecare organisations.

- *1.   How many telecare customers do you have?*
- *2.   Do you have a responder service/ mobile wardens?*
- *3.   If you have responders are they able to handle and move people from the floor?*
- *4.   Do you have referral processes into health after a customer has had a fall?*
- *5.   How many customers do you have with response service?*
- *6.   Approximately how many 999 calls does your organisation make each month to ambulance service in Yorkshire area?*

7. *Are you involved in introducing processes within your organisation? If no, what is the name and position of this person?*

- REF: Yorkshire Ambulance Service NHS Trust Headquarters – 20th Feb 2012

Integration of Services – tender example

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- *NHS Leeds has invested in a risk profiling tool which will identify patients in high risk groups based on their diagnosis.*

- *Following clinical evaluation patients will be identified for Telehealth alongside the introduction of Telehealth as an option within agreed key LTC disease pathways.*

- *We expect through a graduated increase to be providing Telehealth interventions to approximately 800 – 1,000 patients a year with the highest proportion of those patients benefiting from a 'light touch' approach such as Tele-coaching.*

- *When considered alongside Tele-care options for patients already supported by the Leeds Local Authority this represents a significant scaled approach to Tele-healthcare across Leeds Health & Social Care.*

Integrating Pathways between Acute & primary care

Patient discharged

1. Nurse sources medication from pharmacy / sets up profile on PC;

2. 'Vanilla' Mobile device switched on; profile uploaded;

3. If required, Vital sign peripherals paired to SMC device;

4. Patient trained on device (10mins);

5. Patient leaves hospital with monitoring device, charging cradle and peripherals

Non Case Managed / New Patient

Alerts monitored by Acute Respiratory and Heart Failure teams

30day Review - Maintain monitoring

30day Review - Discharge and return equipment

Existing Case Managed Patient

Alerts monitored by Community Team

30day Review - Maintain monitoring

30day Review - Discharge and return equipment

Patient condition required on-going monitoring

Monitoring via Community Team/ GP Practice

3 Million Lives

3millionlives is about transforming service delivery for people with long term conditions, putting together telehealth and telecare with other services, where these will make a difference. The Whole System Demonstrators (WSD's) have shown that it can be done.

Benefits of Telecare and Telehealth

Early WSD results for telehealth demonstrate telehealth can deliver reduction in AE visits, emergency admissions, elective admissions, bed days and tariff costs.

Why has 3millionlives been developed?

The Department of Health (DH) believes that at least three million people with long term conditions and/or social care needs could benefit from the use of telehealth and telecare services. Implemented effectively as part of a whole system redesign of care, telehealth and telecare can alleviate pressure on long term NHS costs and improve people's quality of life through better self-care in the home setting.

Get Involved

To be successful, 3millionlives needs active support across health and social care including health and social care practitioner's, commissioners, service delivery organisations, technology suppliers, and patient and service-user groups . By getting involved with 3millionlives, you will be facilitating a major change that will impact not only on an individual's ability to improve their health and quality of life, but also on the delivery of health and social care services faced with increased demand from an ageing population.

Key challenges 3ML is seeking to address

The challenge is to integrate these technology assisted services into the care and services that NHS and social care delivers. The NHS can transform the way services are delivered and ensure that technology is used effectively

Note

REF: http://www.3millionlives.co.uk/Get-Involved.html
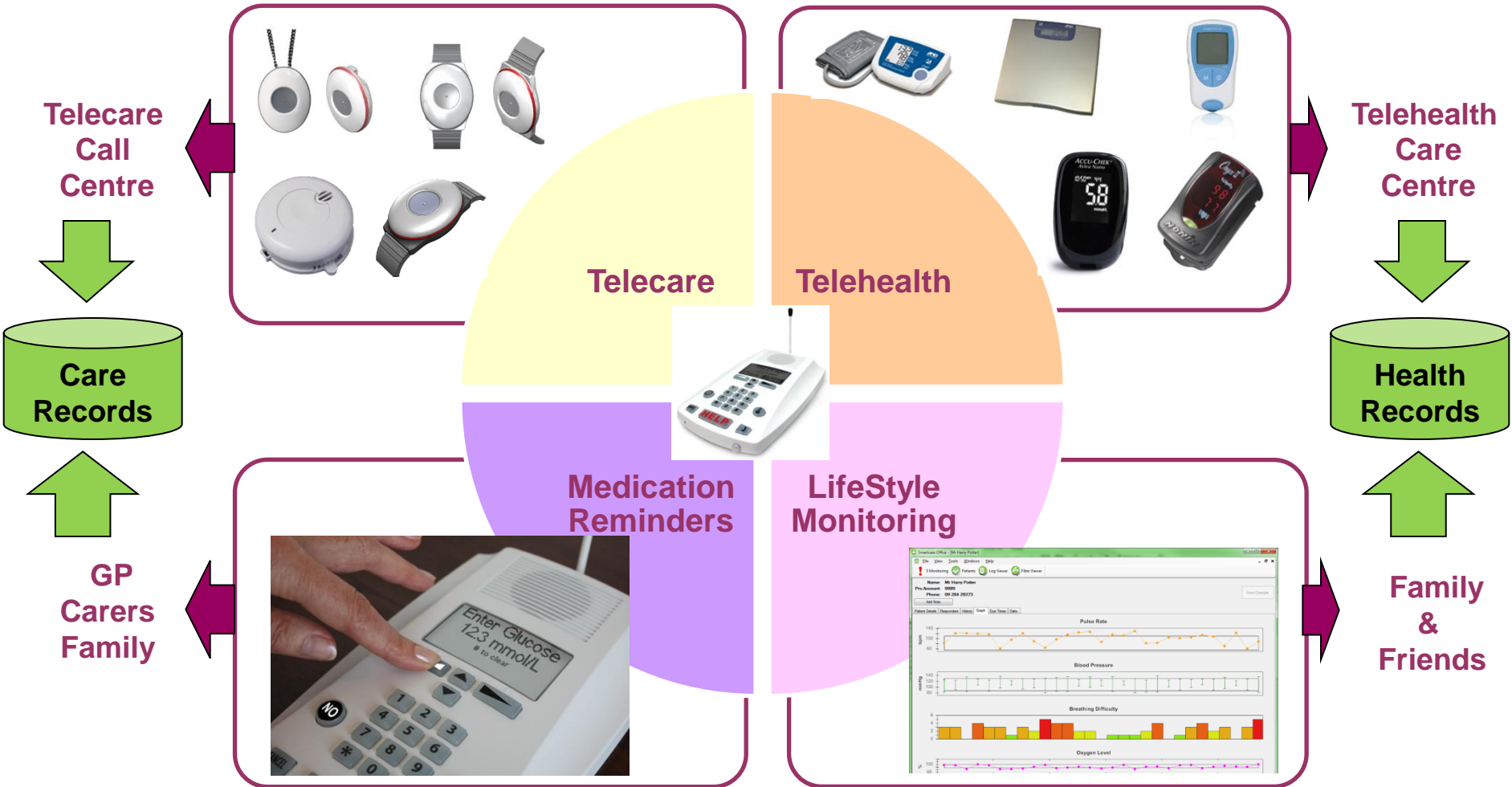
3 Million Lives

- **Care Services Minister Paul Burstow said:**

- **In order to make this a reality, over the next five years the Department of Health will work with industry, the NHS, social care and professional organisations to bring the benefits of assistive technology such as telehealth and telecare to millions of people with long term conditions**

- **Telehealth and Telecare use electronic equipment to read vital health signs such as pulse, weight, respiration and blood oxygen levels, which can be read remotely by health professionals in a different location. It means that people can stay in the comfort of their own homes with the peace of mind that a doctor or nurse will be alerted should there be a problem.**

- **To kick-start the campaign, the four main industry associations have come together, with the Department of Health, to provide the initial leadership and collaboration to get the programme underway. These include:**

Personal Response Unit (PRU)
the world's first 'single unit' Telecare & Telehealth product

Alere

Telecare Call Centre

Telehealth Care Centre

Care Records

Health Records

Telecare

Telehealth

Medication Reminders

LifeStyle Monitoring

GP Carers Family

Family & Friends

Different phone numbers can be set for different signal types enabling multiple dedicated destinations for data, monitoring, test and emergency signals.
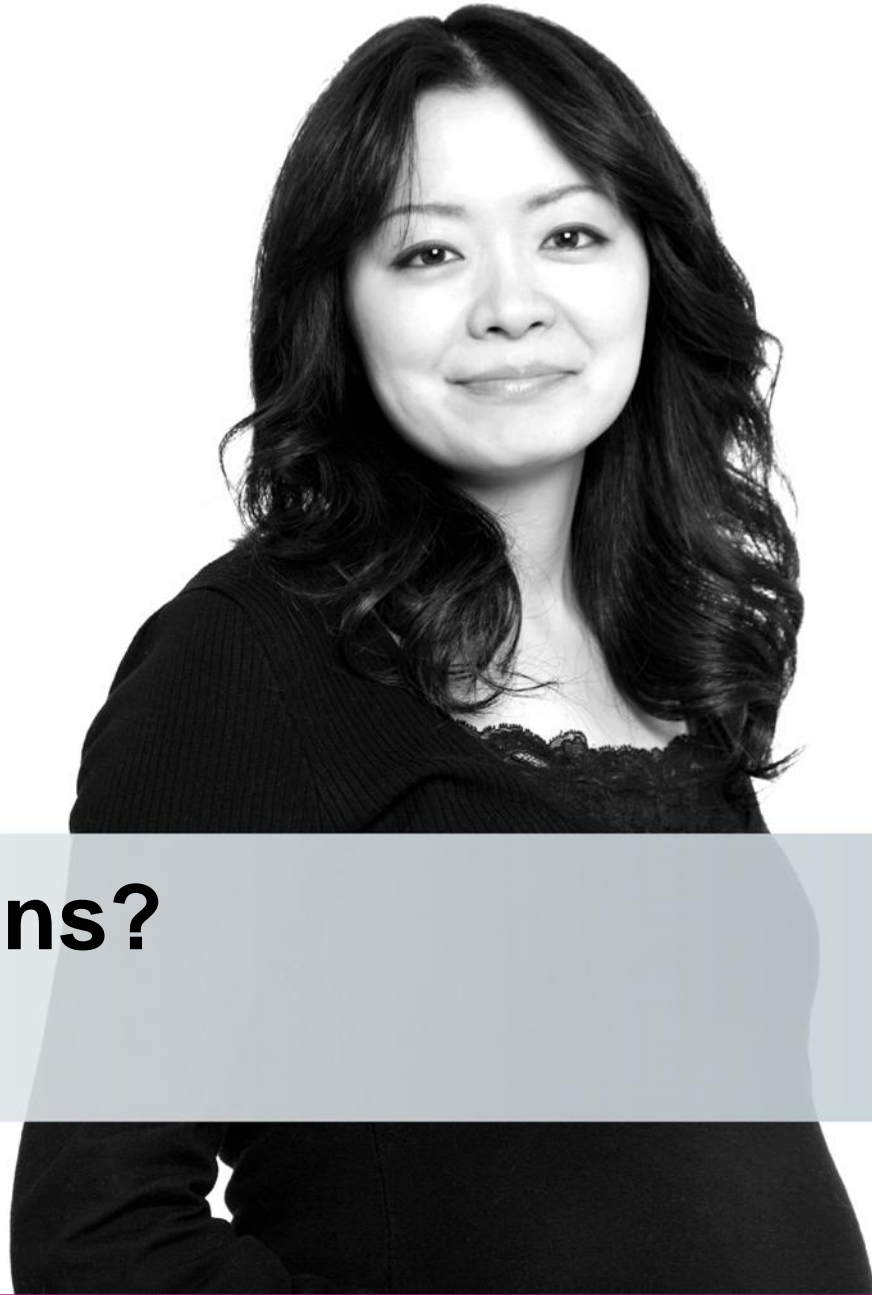
Questions?

Engagement

Target the right people…

Provide the right care…

…at the right time…

…drive the right results.

THANK YOU

We look forward to discussing your Health & Wellness programme needs

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