



Scottish Centre for  
**Telehealth & Telecare**



**NHS 24**  
**SCTT Strategy 2010-12**



## Background

- SCTT est 2006 following publication of “Delivering For Health”
- Provide a centre of expertise to define and disseminate best practice
- Provide practical and informed support to telehealth projects in their development phase and to NHS Boards implementing National Telehealth Solutions
- Co-ordinate the evaluation of projects capable of evolving into National Telehealth Reference Solutions and supporting the process of awarding funds to projects
- Evaluate the impact of telehealth solutions on service redesign.



## SCT Review 2009

- clear evidence that the SCT has had significant successes in various discrete areas of healthcare
- support for the continued exploitation of telehealth across NHS Scotland
- support for the concept of a 'centre of expertise' accessible by NHS Boards, as they plan the introduction of telehealth solutions
- the need for a telehealth Strategy for Scotland
- the need for SCT to focus on a small number of clinical areas, moving them from 'pilot' to national implementation
- the opportunity to integrate telehealth and telecare initiatives



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May 2010

- In terms of governance, the SGHD Review made recommendations on repositioning the Scottish Centre for Telehealth within NHS 24



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## NHS 24 Strategy

- Improving Health
- Unscheduled Care
- Improving Access to NHS Services



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## **Scottish Centre for Telehealth Priorities to 2012**

1. Stroke Programme
2. Paediatric Programme
3. Mental Health Programme
4. COPD/Pulmonary Rehabilitation Programme



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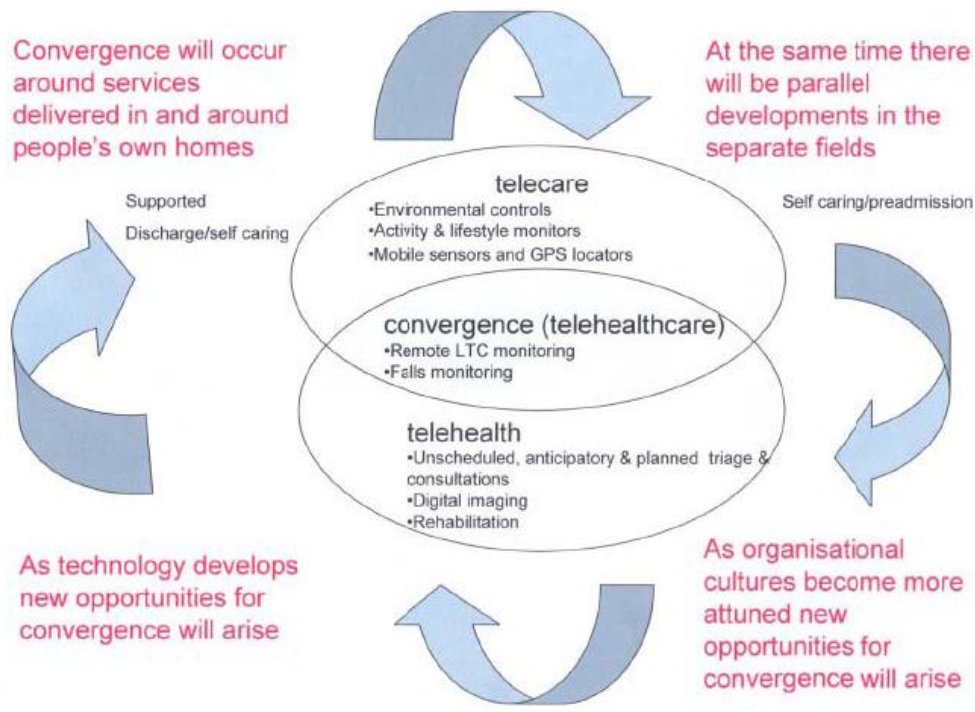
## Telecare

- *“To help more people in Scotland live at home for longer, with safety and security, by promoting the use of telecare in Scotland through the provision of a development fund and associated support”.*



# Telehealthcare

TELEHEALTHCARE– areas of Telehealth & Telecare convergence, 2010-15



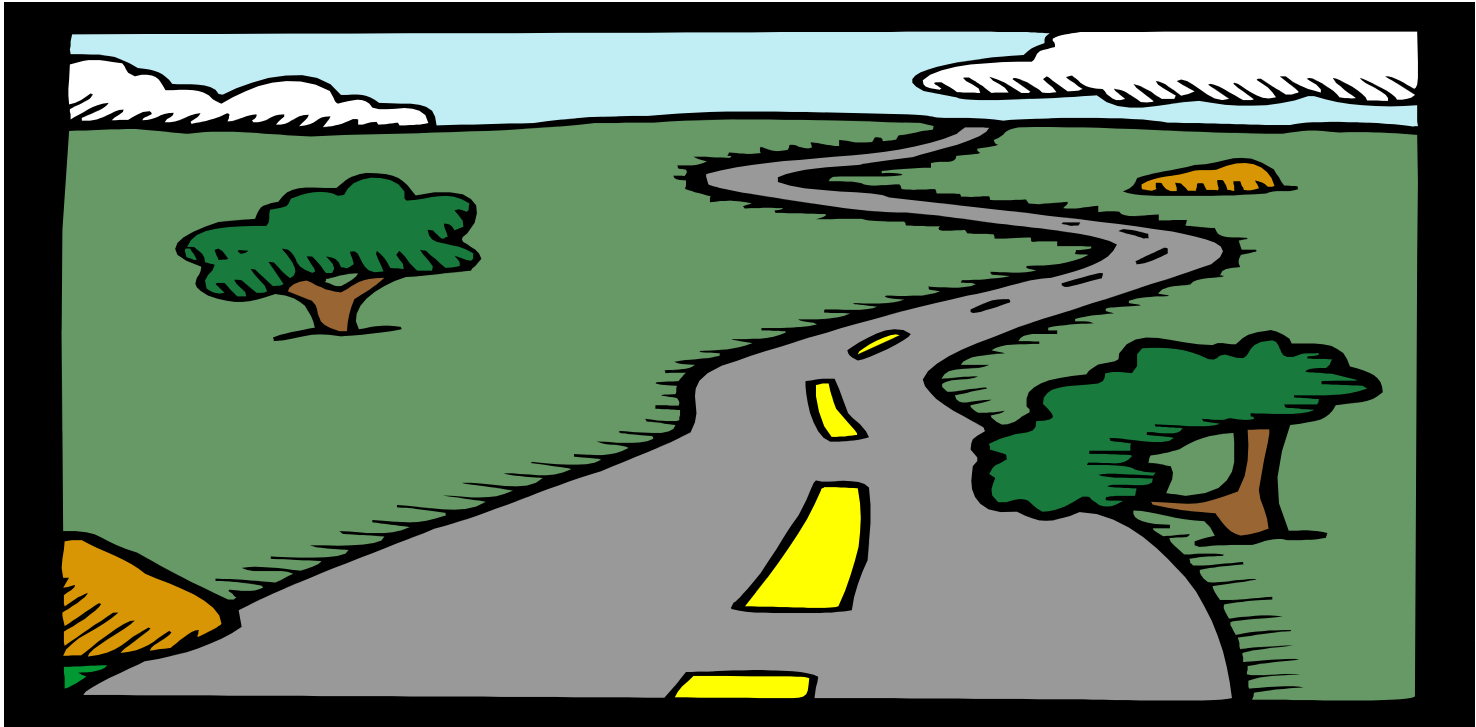




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# THE WAY FORWARD





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# **SCTT STRATEGY**

**Anne Reoch**

**SCTT Cardiac & Stroke Clinical lead**

**SCIMP 1 Nov 2011**



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## **SCTT STRATEGY**

Programmes will include:

- Improving Health & Care
- Improving Access
- Assisted living
- Empowering People
- Sustaining wellness



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# Remote Pulmonary Rehabilitation

Morag Barrow  
Clinical lead COPD  
AHP Manager

**NHS**  
Dumfries  
& Galloway

**NHS**  
Lothian

**NHS**  
Greater Glasgow  
and Clyde

**NHS**  
Tayside

**NHS**  
Borders



## THE BACKGROUND....

- COPD is one of the major causes of morbidity and mortality within Scotland and currently accounts for over 10% of all acute hospital admissions and 30,000 deaths annually in Scotland and the UK.
- COPD is estimated to cost Scotland £818 million a year in direct medical costs excluding social services spending and morbidity costs (BTS 2000).
- A mapping exercise identified that a substantial proportion of the population with COPD (45%) lived in the most isolated areas. Statistics suggest that only 1.7% of those with COPD have access to PR.



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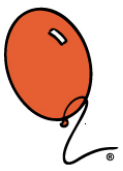


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## THE PROJECT AIMS

- To provide Tele PR in the NHS Board areas of Lothian, Dumfries & Galloway, Borders, Tayside and Western Isles
- To remove barriers of access and limitations experienced by people living with, and isolated by, lung disease



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New  
Innovations:  
Technology,  
increasing demand  
and expectation.



GETTY IMAGES





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## EVIDENCE: Tayside 2008

- The use of Tele-Health equipment was able to deliver PR.
- Patients who took part in the trial would not have been able to travel to main site
- All staff and patients were in agreement that this was an effective method of delivery for PR.
- Clinical outcomes as effective as traditional “one to one” model.



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## MODELS OF CARE

- **Traditionally high skill mix models. Delivered face to face. One class at a time.**
- **Tele model**
  - **Hub and spoke**
  - **Multiples access at any one time**
  - **Allows lower skill mix**
  - **Greater efficiency**



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## EVALUATION....

- Carbon footprint.
- Clinical outcomes.
- Physiotherapist Satisfaction.
- Patient Satisfaction.
- Financial.

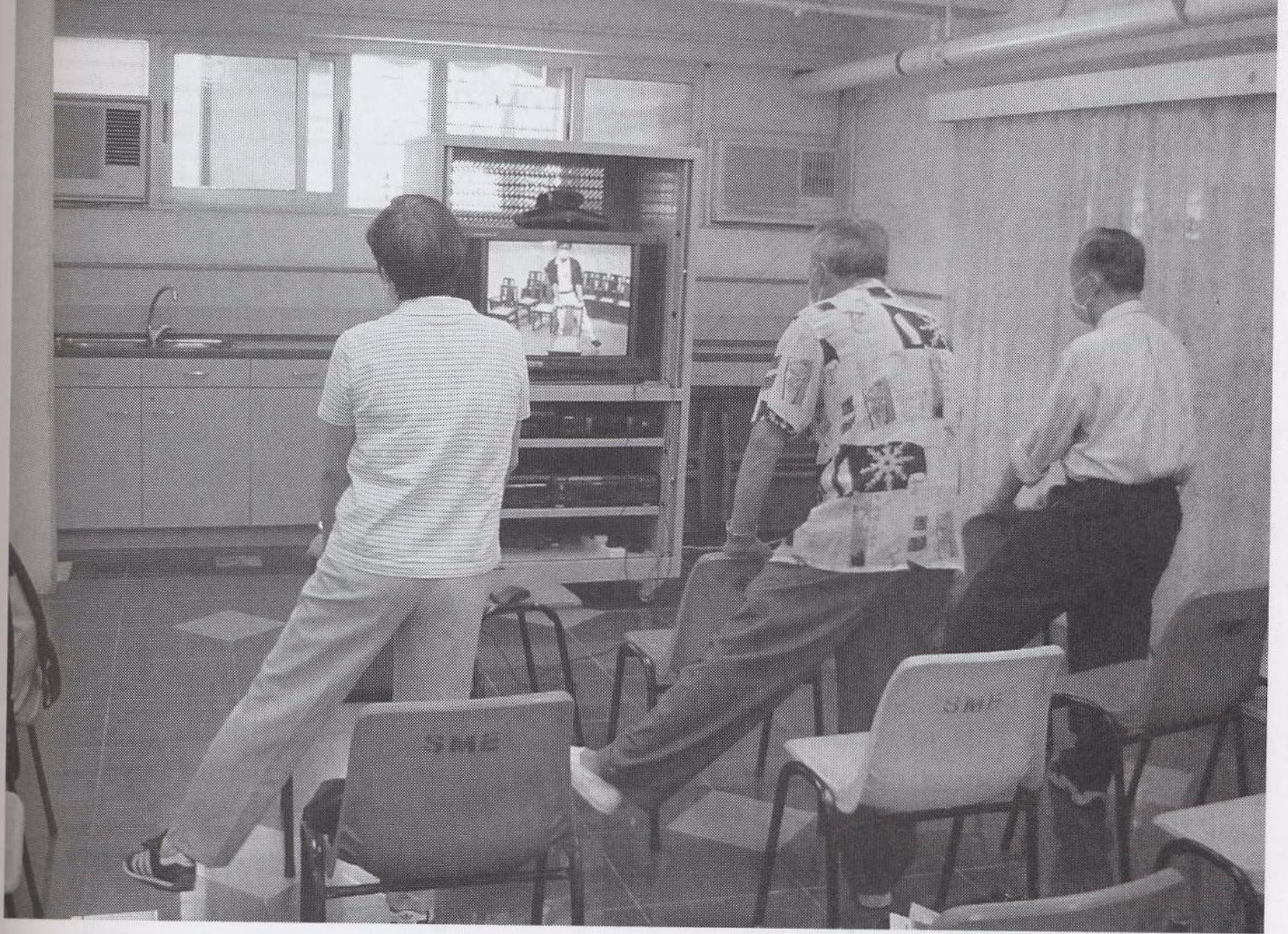
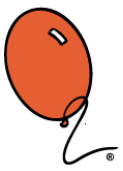


Fig. 7.4. Exercise class at work. [Masks were worn during the severe acute respiratory syndrome (SARS) epidemic in Hong Kong.]



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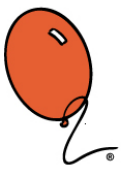


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# Tele-rehabilitation Telephysiotherapy





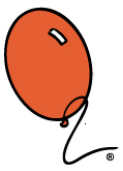
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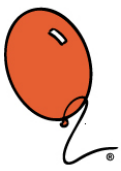


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## Results

- 226 patients (110 conventional classes, 110 Tele-linked classes, 6 conventional class with Tele-education)
- Mean age 67 years
- Mean improvement in walking distance was 37%
- Mean improvement in Chronic Respiratory Questionnaire domain scores clinically significant
- Minimum 30% additional capacity at each PR class using Tele-links
- Cost per patient per PR programme decreased due to increased patient throughput (50%)



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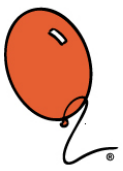


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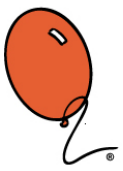
## Access

- 30% additional capacity based on Hub and Spoke model (2 simultaneous classes running)
- Potential to increase with a 3 site model
- Reduced waiting times
- Care delivered in the community, closer to home



## Carbon savings

- Compared to the traditional model of pulmonary rehabilitation programmes, the Telehealth programme saved
  - Tayside 568kg CO<sub>2</sub> per programme
  - Lothian 111kg CO<sub>2</sub> per programme
  - Dumfries 116kg CO<sub>2</sub> per programme.
- If we assume that each area will conduct a minimum of 4 programmes per year by Telehealth, then the overall savings for the year, from these three sites, would be 3180 kg CO<sub>2</sub> per year, or 3.18 tonnes CO<sub>2</sub> per year.



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***Positive proof of global warming.***



**18th  
Century**

**1900**

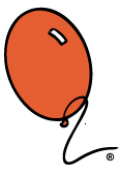
**1950**

**1970**

**1980**

**1990**

**2006**



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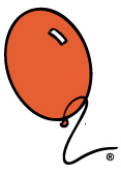


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## Carbon footprint

- What we term a “traditional model” is time intensive and has a high cost for travel.
- Telehealth negates travel time thereby improving staffing availability and efficiencies.
- Telehealth improves staff availability for assessment (gain of 9.6 days in NHS Lothian).
- Telehealth decreases the pulmonary rehabilitation carbon footprint by 0.67 tonnes per annum.  
(<http://www.carbonfootprint.com/calculator.aspx>)



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## SUMMARY POINTS....

Video Conferenced telerehabilitation has the potential to extend Pulmonary Services to patients where access or severity of condition is a challenge.

- Opportunities for cross-boundary working to further reduce cost and improve access.
- Transferability of model to other areas of Rehabilitation



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# **TELESTROKE PROGRAMME**

**‘Growing and Sustaining a National Telehealth  
Service’**



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Scottish Telestroke - where did we start?

2007 - 4 of the 22 acute sites across Scotland with CT scanning and HDU facilities had a stroke thrombolysis service

SMC  
Alteplase  
2004

European  
telestroke  
2005

Scottish  
interest  
2006

SCT  
2007





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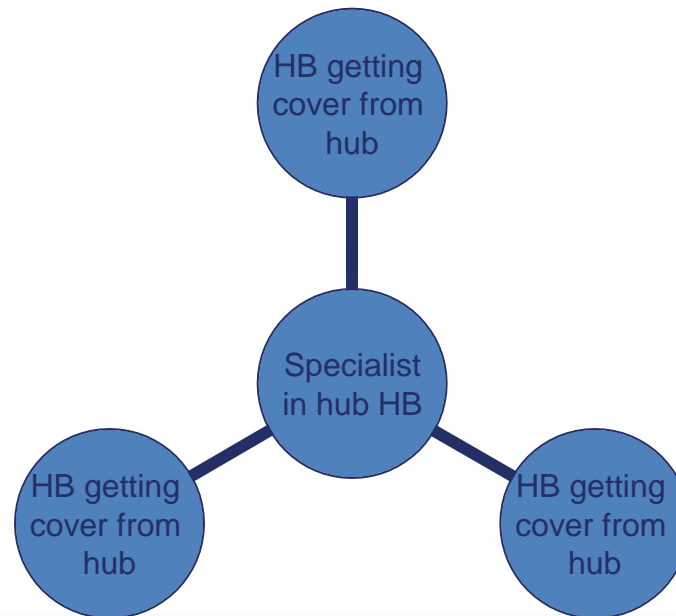
We needed enthusiasts that could drive forward change and influence strategy...







# Hub and Spoke





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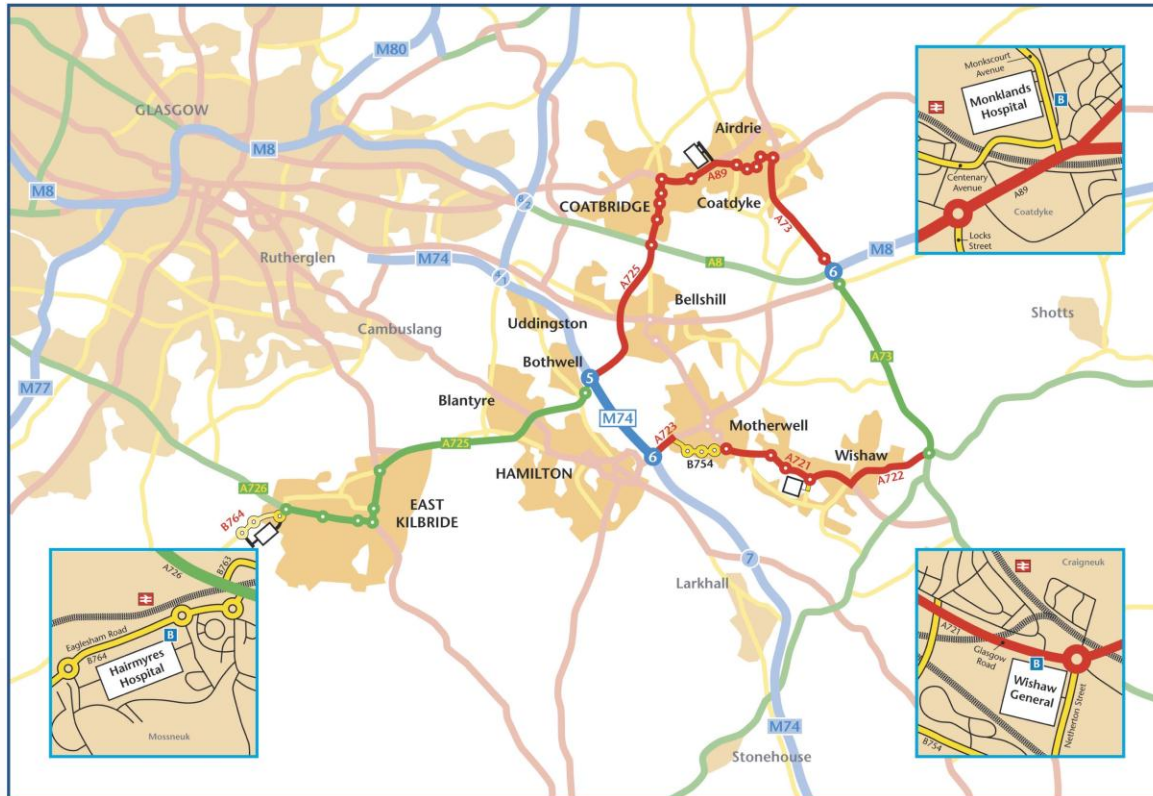


## Hub and Spoke





# Mesh





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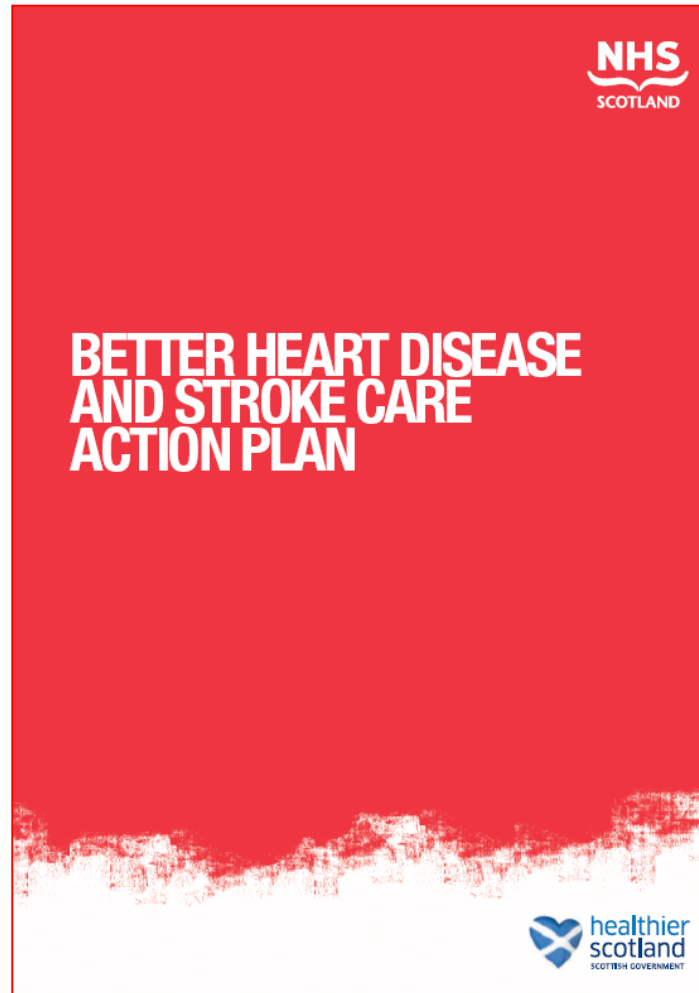


## Home Links





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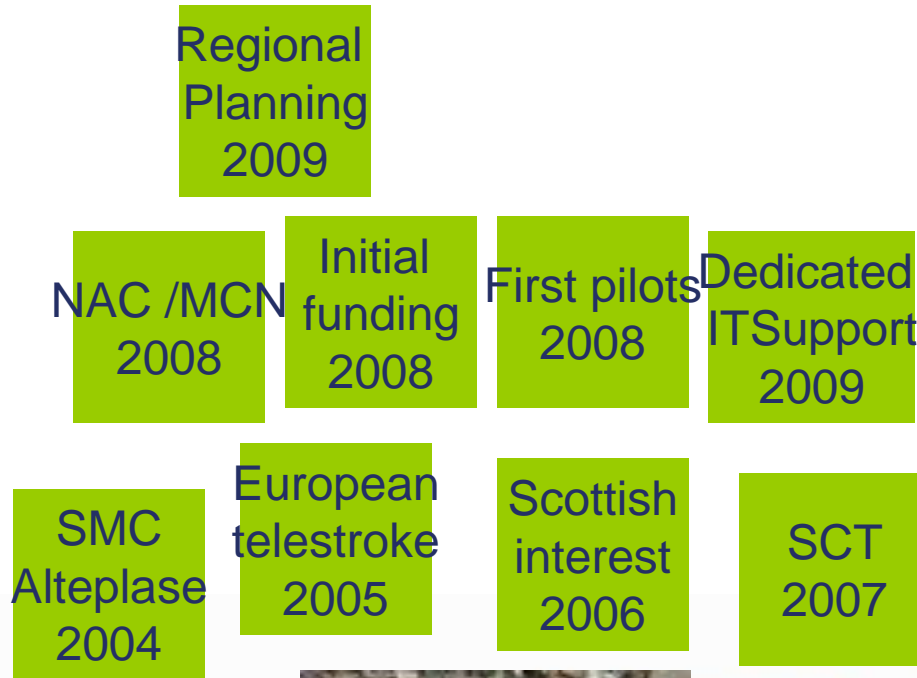




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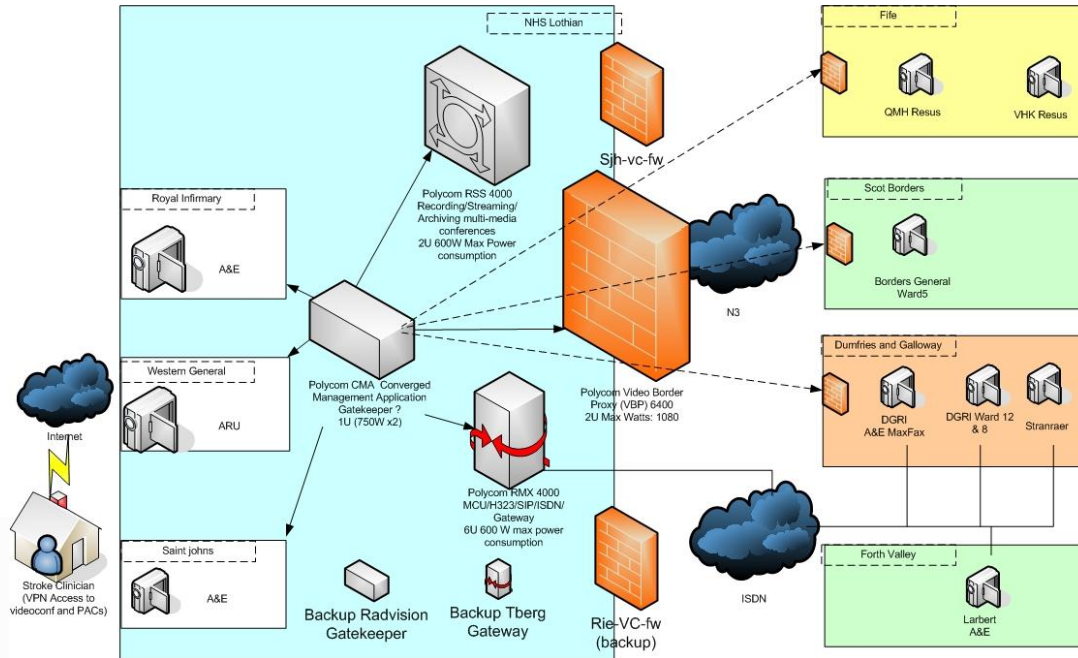
Telestroke IT support and regional planning....





## South Network

### South Scotland Telestroke Codec Sites





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## Patient to Specialist's Office, home or on the move:

- BT N3
- VC software (Emblaze, Polycom PVX, CMAD)
- Tandberg Movi
- Future - Android phone/tablet







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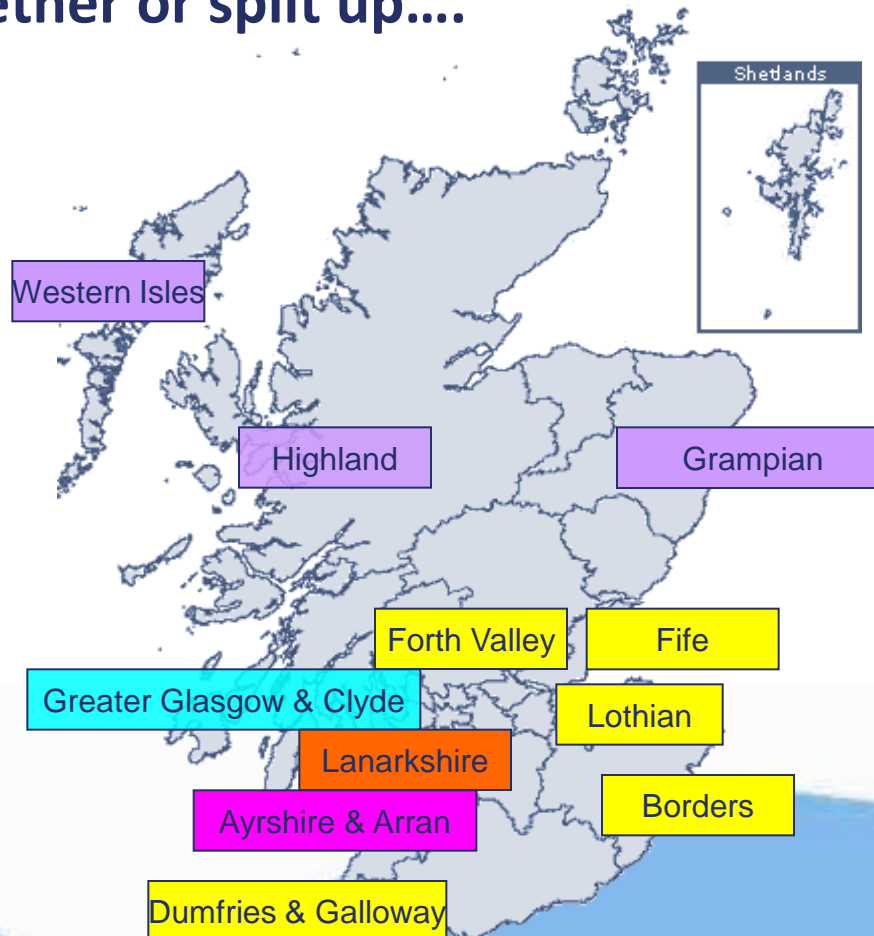


National planning - becoming part of national delivery organisation.....



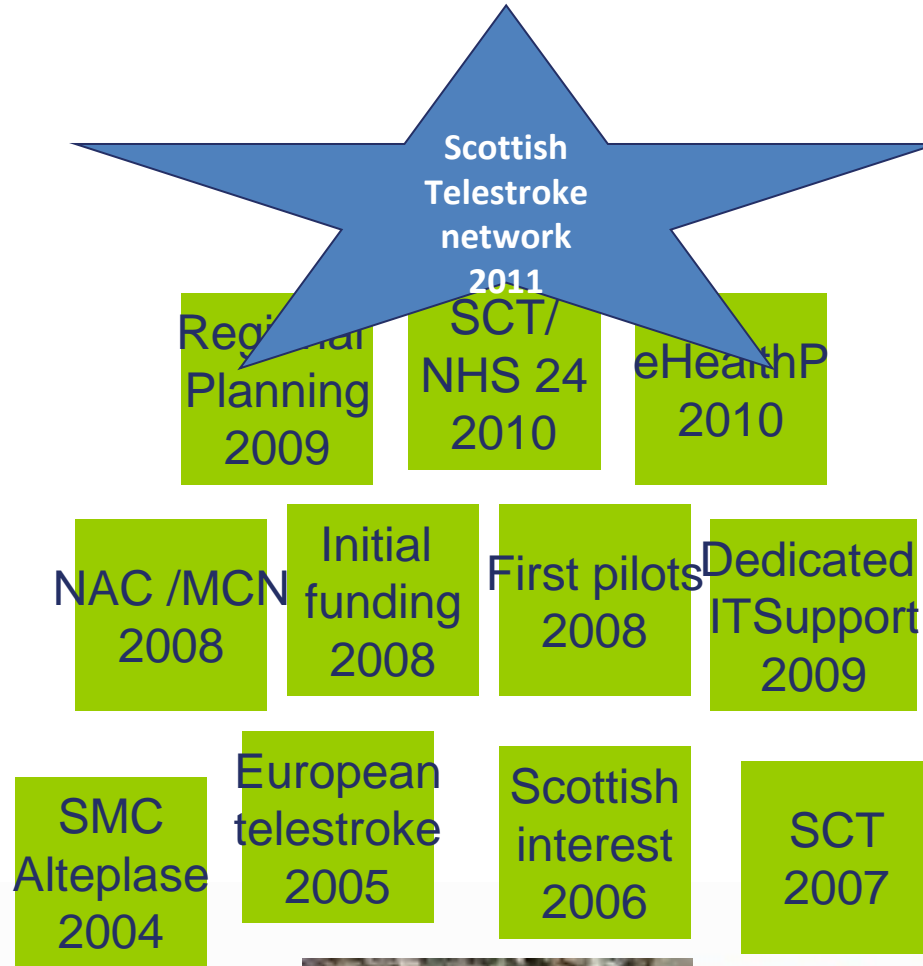


**Five networks in place but we have the technical ability to join all together or split up....**





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## **Acute telestroke**

Extract from letter to Lothian hub from Fife patient's daughter  
(March 2011)

“I just wanted to pass on sincerest thanks on behalf of my Mum, my brother and myself for the treatment you were able to provide my Dad on Saturday. The progress Dad has made in the space of a few days is incredible and we know that has a lot to do with the clot busting drug you were able to prescribe....  
Thank you so much”



## **Sustainability**

### Robust medical rota

- Management agreement to support PA time
- Document the potential to lose specialists from rota as future risk
- Have plan of mitigation in place - Consider potential additions to rota if manipulation of current commitments (eg MoE, GIM etc)



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## Potential Telestroke Cover





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Now in Scotland 19 acute sites with  
thrombolysis services OOH or 24/7

- Thrombolysis rate continues to rise
- With that new challenges.....





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## **Other Telestroke Work**

- Secondary Care tele rehabilitation
- SALT to home
- Remote goal setting in community hospital
- SALT rehab to community hospital





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[www.sctt.scot.nhs.uk/stroke.html](http://www.sctt.scot.nhs.uk/stroke.html)

# Speech & Language Therapy Telerehabilitation – a Novel and collaborative Approach to delivery

Michelle Brogan, Community Speech &  
Language Therapy Manager  
NHS Lothian

# Background

- Demand for SLT rehabilitation services is high due to ageing population and associated increase in disability .
- SLT resource is scarce for people with Stroke across NHS Lothian ( Smith, 2007) particularly in more remote and rural areas like East and Midlothian.
- SLT services have been identified as particularly well suited to telerehabilitation service delivery models and technology offer's potential solutions to timely, equitable and efficient access to SLT services and enhanced intensity of intervention.
- Few projects in Scotland have examined use of Video Conferencing as a means of delivering SLT rehabilitation and even less have explored the benefits of collaboration with established third sector organisations

# Project Aims



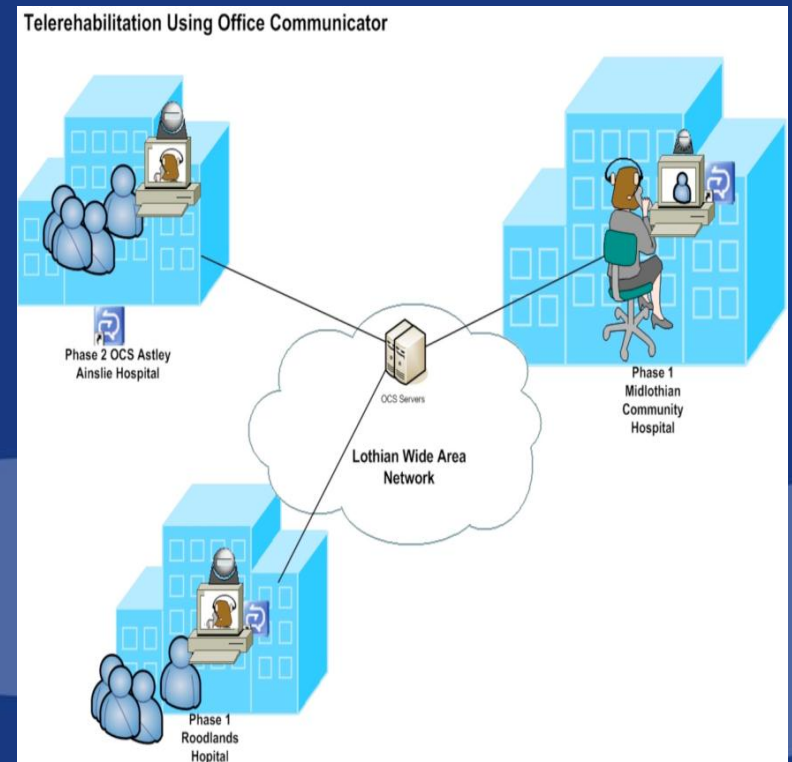
- Improve the efficiency and accessibility of an SLT Support Discharge Stroke outreach service based in Edinburgh providing to people living in East and Midlothian using existing telerehabilitation systems within NHS Lothian .

This involved :-

- Testing Feasibility of Office Communicator Videoconferencing Kit and its suitability for delivery of SLT rehabilitation .
- Pilot a service delivery model using Telerehabilitation delivery which would work in collaboration with the existing community capacity within Chest Heart and Stroke Scotland volunteer services.
- Produce a written evaluation with key conclusions as to feasibility of delivering remote SLT using OCS and recommendations to shape delivery of and redesign of SLT Stroke Pathway.

# SLT Telerehabilitation delivery model

- SLT based in Astley Ainslie Hospital, Edinburgh
- Patient in East Lothian or Midlothian Hospital
- CHSS volunteer supporting patient at hospital
- Deliver SLT intervention using OCS



# Evaluation Methodology

## Phase 1

- Two staged Feasibility study
  - Testing of OCS Equipment and software across sites/ locations.
  - Focus Group with Service User, CHSS Volunteers & SLT's explore suitability of proposed model

## Phase 2

- Small Number of Patients invited to Trial  
Telerehabilitation model of service delivery
- Evaluate the use and suitability of OCS equipment to deliver SLT intervention
- Evaluate Model of service delivery from service user, volunteer and SLT experiences.

# Conclusion so far.....

- More questions than answers
- Lessons Learned - Infrastructure delays and eHealth security in relation to volunteers.
- Limitations arising from the OCS kit impact on aspects SLT intervention
- Positive outcomes in respect of involvement of volunteers and collaboration with CHSS
- Present our project findings to Stroke Forum Conference in Dec 2011 .

# Acknowledgements

- Anne Reoch SCT
- Lucie McAnespie, S&LT
- Morag Barrow AHP Manager
- Linda Morrow & Rosi Capper CHSS
- Mark Haggart OCS NHS Lothian
- Mark Smith AHP Stroke Consultant
- Service users and volunteers