Cost effective non-surgical treatment of chronic pressure ulcers

Megan Dale
Researcher and Clinical Scientist,
Cedar, Cardiff and Vale University Health Board

Bill Cox-Martin
Clinical Nurse Specialist,
Pressure Ulcer Outreach Service,
Salisbury NHS Foundation Trust

Dr Susan Peirce,
Researcher and Clinical Scientist,
Cedar, Cardiff University
Cedar evaluation project

- Innovation project
- For Chief Scientific Officer
- South West of England
- Roles of healthcare scientists
- 6 months
What happened before the Outreach Service?

Patient population:
- Wheelchair dependent
- 33% with spinal cord injury
- 16% with MS
Patient X, wheelchair user, high risk of pressure ulcers

Grade 4 pressure ulcer develops

Treatment fails to heal pressure ulcer after 6 months

Patient X referred for surgical closure

Patient discharged home

Surgical closure of pressure ulcer + inpatient stay

Long waiting list, ulcer still not healed

Increased risk
Patient X, wheelchair user, high risk of pressure ulcers

Grade 4 pressure ulcer develops

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Increased risk

Patient discharged home

Outreach Service
Aspects of the service

Experience
- 2 staff with almost 60 years experience
- Nursing, spinal cord injuries, tissue viability, rehabilitation engineering & orthopaedics

Wheelchair set up
- High footplates put weight on ischiums
- Sagging back canvas leads to sacral sitting
- Prescribe wheelchair modifications

Patient centred
- Consider the patient’s lifestyle & what is important to them
- Look at the root causes of the pressure ulcer

Pressure mapping
- Help choose best cushion
- Teach methods of pressure relief (patients & carers)

Follow up
- Patients with healed pressure ulcers are not discharged
Patient X, wheelchair user, high risk of pressure ulcers

Grade 4 pressure ulcer develops

Treatment fails to heal pressure ulcer after 6 months

Surgical closure of pressure ulcer + inpatient stay

Specialist advice
Non surgical healing

Ulcer healed
Risk reduced as far as possible
Ongoing advice available

Reduced risk

Outreach Service
Cost Model

Surgery only route
- Hypothetical
- 6 months community treatment (wait)
- 100% have surgery (42 day hospital stay)
- 35% recurrence

Outreach service route
- 3 weeks wait
- 10.6 months community treatment + outreach service
- 27% still need surgery
- 4% recurrence
Cost of surgical route per patient

Waiting time = 183 days x £56.77 daily cost = £10,389

Surgery + inpatient cost = £15,260

Total = £25,649

Taken from NHS reference costs
With additional bed days
Cost of outreach route per patient

- **Outreach Service**: £1,608
- **Community treatment**: 318 days @ £56.77 = £18,053
- **Surgery for 27%**: =£4,102
- **Total**: =£24,955

Cost for waiting time = 21 days @ £56.77 = £1,192
Cost Saving per patient = £694

Total = £24,955

Total = £25,649
Cost Saving per patient = £8,598

Outreach

Surgery

Recurrence 4%
Recurrence 35%
Total = £26,028
Total = £34,626

Cost per patient £1000s
% outreach going to surgery  
27%

Treatment time for outreach  
10.6 months

Time for referral to outreach  
21 days

Length of stay for surgery  
42 days

Staff Costs for Outreach  
£79,555

Daily Cost  
£150

Recurrence Rate for Outreach  
4%

Recurrence Rate for surgery  
35%

Cost Saving

32.4%  
21.6%  
8.48 mths

25 days  
17 days  
63 days

£87,510  
£71,600  
£30

6.45%  
1.7%  
60%

Change to base case of £8,598 cost saving from Pressure Ulcer Outreach Service
Patient X, wheelchair user, high risk of pressure ulcers

Grade 4 pressure ulcer develops

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Long waiting list, ulcer still not healed

Surgical closure of pressure ulcer + inpatient stay

Patient discharged home

Increased risk

What about prevention?
£81.5 K to run Outreach Service per year

Dealy (2012): grade 4 pressure ulcer costs £14,108

6 ulcers > Outreach Service

Our model: chronic grade 4 pressure ulcer costs £26,000

4 ulcers > Outreach Service
Conclusions

- Health care scientist skills for setting up, running and evaluating the Outreach Service
- Patient-focused, problem-solving approach with scientific input (rehab engineering, pressure mapping) improves healing & prevents recurrence
- Significant uncertainties due to poor data – sensitivity analysis improves confidence in the model
- Treatment service is cost saving
- Only need to prevent 4-6 ulcers to pay for the service
More information:


- megan.dale@wales.nhs.uk

- www.cedar.wales.nhs.uk