EXPERIENCE OF THE ERADICATION OF PRESSURE ULCERS IN PRIMARY CARE

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Terminology

- “Pressure sores”
- “Bed sores”
- “Decubitus ulcers”

Pressure ulcers

- Care homes
- Residential homes
- Private homes

Primary care

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Definitions

Stage 1

Stage 2

Stage 4

Suspected Deep Tissue Injury
What’s the problem?

Pressure Ulcer Prevention – Zero Tolerance
Pressure ulcers in hospitals

- Typical UK Hospital 5 years ago: 10-15% incidence of Pressure Ulcers (grade 2-4)
- Our four main Hospitals have 2500 beds
- We were seeing around 500 pressure ulcers every month! (grade 2-4)
- Typical Danish Hospital incidence was probably similar, prevalence is around 19% (grade 1-4)

Pressure ulcers in primary care (UK)

- Pressure ulcers are a problem
- Pressure ulcers are probably not well reported
- It is hard to be certain where they were acquired
- When you start to record them, they are more common than you thought!
- As frailty increases and as more care is delivered in primary care, so the risks will increase
Demographic changes: Denmark

Source: Eurostat, European Commission
Primary care: data hard to collect

- In one region of Wales (population 130,000)
  - 85 in care and residential homes
  - 218 pressure ulcers in peoples homes per annum
  - 88 under community nursing care

- In another region (pop 138,000: 987 care beds)
  - 45 pressure ulcers in 22 care homes (*prevalence audit*)
  - 75 under community nursing care per annum

- In a third (pop 140,000: 1100 beds)
  - 60 pressure ulcers care homes per annum
  - 24 in peoples homes
Why is it important?

Pressure Ulcer Prevention – Zero Tolerance
Pressure Ulcers

- Pressure ulcers are devastating
- Pressure ulcers can be life-threatening
- Pressure ulcers can be painful
- Pressure ulcers are expensive
- Pressure ulcers are (mostly) avoidable!

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“... I will keep them from harm and injustice....”

Every time a patient acquires a pressure ulcer whilst under our care we have failed to protect them from harm.
Prevention is a moral imperative

Citizens now expect this..... and lawyers too!
Pressure Ulcers: Avoidable expense

Audit of 1464 hospital in-patients in 2005

Audits of whole Health Board (2500 beds) in 2009 showed around 500 pressure ulcers a month

<table>
<thead>
<tr>
<th>Grade</th>
<th>Number of ulcers</th>
<th>Estimated cost of treatment (DKr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>184</td>
<td>2,400,000</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>3,600,000</td>
</tr>
<tr>
<td>3</td>
<td>44</td>
<td>3,950,000</td>
</tr>
<tr>
<td>4</td>
<td>35</td>
<td>4,500,000</td>
</tr>
<tr>
<td>Total</td>
<td>329</td>
<td>14,450,000</td>
</tr>
</tbody>
</table>

This equates to an average cost of 9800 DKr for every admitted patient in our hospitals

Cost estimated using Department of Health productivity tool
Why does it still happen?

Pressure Ulcer Prevention – Zero Tolerance
Why does it still happen?

Do we know which patients are at risk of pressure ulceration?

Do we know how pressure ulcers develop?

Do we know how to prevent pressure ulcers?
Why does it still happen?

- Pressure ulcers have become so common that they are seen as an inevitable consequence of frailty, hospitalisation and institutional care.
- Prevention is not thought possible with the rising number of older patients and reduced resources.
We need to do something different

We need to change the culture!
How to make sustainable change

The Model for Improvement (Deming)
The model for Improvement

Three key questions -

☐ What are we trying to accomplish?

☐ How will we know that a change is an improvement?

☐ What change can we make that will result in improvement?

Associates for process Improvement [API] www.apiweb.org


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How will we know that a change is an improvement?

- Use a **measure** which is:
  - Well defined
  - Allows comparison between sites and over time
  - Already in use, if possible

- It may not be perfect and it may be difficult to collect. It needs to be **specific** enough and **sensitive** enough

- Try and find a measure which can be applied to a whole community, population or system
What change can we make that will result in improvement?

- Study the system
  - What is wrong now?
  - What will deliver the biggest benefit?
- Avoid making change for changes sake
- Focus on things which regularly cause problems
- Do not confuse “information on performance” (targets) with “information on improvement” (how the system is working)
How to introduce change

- Start small
  - One patient, one setting, one service provider
- Take time to do a small scale trial
- Test and retest using Plan, Do, Study, Act cycles [PDSA]
- Only when the change has been reliable for 90-95% of patients, consider spread to more sites
Testing using the PDSA Cycle for Learning and Improvement

**Plan**
- Objective
- Questions and predictions (why)
- Plan to carry out the cycle (who, what, where, when)

**Do**
- Carry out the plan
- Document problems and unexpected observations
- Begin analysis of the data

**Act**
- What changes are to be made?
- Next cycle?

**Study**
- Complete the analysis of the data
- Compare data to predictions
- Summarize what was learned

Source: Institute for Healthcare Improvement
Use the PDSA Cycle to:

Answer the first two questions of the Model for Improvement

- Develop a change
- Test a change
- Implement a change

Create ownership
Care Bundles

- Groupings of best practices with respect to a disease process that individually improve care, but when applied together may result in substantially greater improvement.

- The science supporting each bundle component is sufficiently established to be considered the standard of care.

- The bundle approach to a small group of interventions promotes teamwork and collaboration.
Applying this to preventing Pressure Ulcers

Pressure Ulcer Prevention – Zero Tolerance
ABM University Health Board, Wales

- Large organisation in South Wales, UK providing primary, community, secondary, palliative and mental healthcare for 600,000 people with 17,000 staff

- 4 acute hospitals with 92 wards and 2500 beds covering a wide range of specialities

- 77 community care and residential homes
The SKIN Bundle

A bundle of evidence-based interventions that are known to prevent pressure ulcers developing in patients “at risk”

- The **Surface** the patient sits and lies upon
- Keeping the patient moving (or turning)
- Managing **Incontinence** and keeping skin dry
- Ensuring the **Nutritional** state is assessed and managed
**SKIN Bundle of care: implementation**

**Surface**
- Mattress and Cushion
- Include safety checks
- Sheet – check for wrinkles etc.
- Reassess pressure ulcer risk score* at least daily

**Keep Moving**
- Reposition patient
- Inspect skin
- Encourage mobility
- Written advice for patient and carers

*: We use Waterlow™ scoring

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## SKIN Bundle of care: Implementation

### Incontinence
- Toileting assistance
- Continence products
- Specialists
- Non oil-based creams with continence products
- Keep clean and dry

### Nutrition
- Nutritional risk tool
- Follow instructions
- Ensure optimal intake
- Use of charts if required
- Keep well hydrated
Apply SKIN bundle if pressure ulcer risk identified (eg Waterlow score of 15 or above)

Document pressure sores of all grades (1 – 4) on Safety Cross if they occur

Count “days since last pressure ulcer developed on this ward” and display on Safety Cross

Calculate rate per 1000 bed-days
<table>
<thead>
<tr>
<th>Days since last Pressure ulcer</th>
<th>Ward B-2 October 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>192 days</td>
<td></td>
</tr>
</tbody>
</table>

### Days

|    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

### Color Codes

- **Green**: No new PU
- **Red**: Ward acquired PU
- **Blue**: Patient admitted with PU
Spreading the intervention

- Successful spread to all inpatient wards (92 wards = 2500 beds) in four acute hospitals and all community hospitals across since April 2010
- Further PDSA’s on each ward to encourage ownership by the staff: local modifications allowed
- Since June 2012, spread to 77 community care homes and primary care teams
- Further spread across the whole of Wales
Hospital acquired pressure ulcers*

92 wards and departments: 2500 beds

*grade 1-4
Primary care

Spreading the learning to primary and community settings
Our approach

- Confirm that there is a problem with commissioners of primary care and the providers
- Agree the measures that will be used and reporting (continuous audit of compliance)
- Meet care home managers, staff and carers: introduce programme and implementation plan
Our approach

- Review all existing documentation – look for care elements that are already in place
  - Pressure ulcer risk assessment, skin assessment, repositioning charts, nutritional assessments, incontinence
- Link to any national or corporate policies
- Send copies of safety cross, risk triggers, SKIN bundle as well as posters and information sheets
- Develop training materials and arrange training sessions
Training

- 2 hour sessions (2 per home) to cover:
  - Assessing risk
  - Skin assessment
  - Minimising pressure through repositioning
  - Equipment choice and postural management
  - Managing moisture (incontinence and skin care)
  - Importance of nutrition and hydration
  - Overview of pressure ulcer programme
Delivering the training

- **Direct training provided by us**
  - Community nursing teams
  - Nurse assessors (who inspect care homes)

- **“Train the trainers” (cascade training)**
  - We train nominated staff from the care homes
  - They are responsible for training their colleagues
  - Supported by online video
  - Ongoing telephone advice and support
  - Self assessment questionnaires
Challenges

- Unskilled workforce in care homes
- Educational ability
- Need to modify risk assessment ("triggers list")
- Resources to provide training
- Time to release care home and community nursing staff (1 person per 10 beds in care homes)
- Poor reporting before the programme started
Community Homes: Triggers

SKIN Bundle to be used for all residents who have:

- **Reduced mobility**
  - Unable to walk beyond approximately 5 metres even with assistance. Essentially restricted to wheelchair/armchair/bed.

SKIN bundle to be used for 2 weeks and then reviewed for any resident with:

- **Reduced appetite**
  - Poor appetite: leaves most meals and drinks offered. Unintentional weight loss of 6 kg over 6 months. Contact Primary care physician (GP) and community dietician

- **Skin assessment**
  - Skin noted to be reddening/broken. Contact District Nursing Team for advice

- **Change of health status**
  - Generally unwell for more than 24 hours with reduced mobility and/or reduced appetite.

- **Change of care setting**
  - New resident or resident returning from hospital admission.
Measures and audit

Measures
- Number and grade of pressure ulcers
- “Days since......”

Audits (utilise existing processes)
- Audit of documentation
- 4 monthly prevalence audit
- Audit of reported pressure ulcers
- Audit of training (% staff who have been trained)
Early results

- Enthusiastic involvement by primary care
- Good uptake of training and well evaluated
- 90% of care homes following the elements of pressure ulcer prevention
- Not always in a co-ordinated way
- Significant improvement in communication within and betweens sectors
- 50% reduction in pressure ulcer incidence but still some grade 3-4 ulcers occurring
Managing high risk patients

Wheelchair bound, neurological conditions, immobility

Prevention and treatment

- Specialised team (PUPIS)
  - Wound care specialist
  - Seating specialist (rehabilitation engineer)

- Detailed assessment in the residential setting, including a review of equipment

- Pressure mapping technology
Typical patient

- Severe rheumatoid arthritis, frail. Lived at home.

CLINICAL IMAGES HERE
Conclusions

- It is possible to translate evidence-based knowledge into clinical practice in a sustained and effective way.
- Zero tolerance is a realistic objective for hospital acquired pressure ulcers.
- Significant reductions can be achieved in primary care: we are aiming for zero tolerance but have not got there yet.
ANY QUESTIONS?

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https://www.youtube.com/watch?v=rkBWcIrJnK8

search Youtube™ for “SKIN bundle” and “ABMU”