Nurse-led innovation in the management of symptomatic cancer patients

**Chair:** Kay Leonard, Ireland  
**Friday 27th April, 2012 11:30 – 13:00**  
Centre International de Conférences Genève (CICG) Room 8
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Housekeeping

• Please turn off all mobile phones

• Observe any fire alarms and leave by the emergency exits.

• Questions will be taken after the end of the final presentation. Please raise your hand to ask a question.

• Please complete the evaluation form and hand it in as you leave the room. It would be helpful if you could add what country you are from.
Programme outline

Emergency admissions of cancer patients to hospital are increasing costs for healthcare commissioning groups.

Prophylactic treatment of patients assessed as high risk for complications associated with chemotherapy, combined with monitoring strategies and education can reduce these emergency admissions significantly.

Nurses have a central role to play in this process.
AGENDA

Chair  Kay Leonard, Ireland
11.30  Welcome & introduction
       Kay Leonard, Ireland
11.35  Blood complications associated with chemotherapy
       Kay Leonard, Ireland
12.00  Challenges of cancer related bone disease
       Sara Faithfull, UK
12.25  The financial burden of symptom and side effect management
       Roger James, UK
12.50  Panel discussion and conclusions
13.00  Close
BLOOD COMPLICATIONS ASSOCIATED WITH CHEMOTHERAPY

Kay Leonard
Ireland
CANCER THERAPY

• Many cancer treatments are myelosuppressive and may result in one or more blood complications

• Shift in model of care from inpatient to ambulatory care

• Complexity of regimes
## CONSEQUENCES OF BLOOD COMPLICATIONS

<table>
<thead>
<tr>
<th>Neutropenia</th>
<th>Anaemia</th>
<th>Thrombocytopenia</th>
</tr>
</thead>
<tbody>
<tr>
<td>• G3 ANC &lt; 1 x 10^9/L</td>
<td>• Deficiency in red blood cells Hb &lt; 12 g/dL</td>
<td></td>
</tr>
<tr>
<td>• G4 ANC &lt; 0.5 x 10^9/L</td>
<td>• Impact on performance status</td>
<td>• Number of circulating platelets is &lt; 150 x 10^9/L</td>
</tr>
<tr>
<td>• Risk of infection and febrile neutropenia</td>
<td></td>
<td>• Risk of bleeding and haemorrhage</td>
</tr>
</tbody>
</table>
FEBRILE NEUTROPENIA

- A disorder characterized by an ANC <1000/mm3 with a single temperature of >38.3 degrees C (101 degrees F) or a sustained temperature of >=38 degrees C (100.4 degrees F) for more than one hour

NCI CTCAE 4.03 2010

- Most likely to occur in the first cycle of chemotherapy
IMPACT OF NEUTROPENIA/FEBRILE NEUTROPENIA, ANAEMIA AND THROMBOCYTOPENIA

Patient

• Significant impact on the patients health may be life threatening
• May result in the need to interrupt or reduce the dose of cancer treatments
• These reductions and delays can impact on QoL and treatment outcomes for patients

Cont.
IMPACT OF NEUTROPENIA/FEBRILE NEUTROPENIA, ANAEMIA AND THROMBOCYTOPENIA

Cost containment
- Drug costs
- Emergency room visits
- Hospitalisation
UNPLANNED VISITS AND ADMISSIONS

Descriptive retrospective study to identify the number and nature of chemotherapy outpatients unplanned visits or admission (McKenzie et al. 2011)

• 518 outpatients treated per year
• 316 made 469 unplanned visits
• 69.7% occurred within 4 weeks of chemotherapy
• 87.6% resulted in a hospital admission for a median length of 5 days

Cont.
UNPLANNED VISITS AND ADMISSIONS

Most frequent presentation symptoms

- Nausea vomiting 45.2%
- Pain 27%
- Fever and/or febrile neutropenia 23.4%
- Shortness of breath 19.8%
- Anaemia 8.8%

McKenzie et al. 2011
ECONOMIC IMPACT

• Patients with cancer account for 10% of the overall healthcare costs

• 22% of all cancer patients receive chemotherapy and incur $111,000 per year per patient (4 times the cost of a cancer patient not receiving chemotherapy)

• Chemotherapy related inpatient admissions 378/1000
  • Patients receiving chemotherapy utilise 1 inpatient admission per year per patient
  • 40% chemotherapy related
  • Average cost per admission $22,000

Cont.
ECONOMIC IMPACT

• Chemotherapy related emergency room visits 929/1000

• 10 cancer cohorts 2 visits per patient per year

• Almost half are chemotherapy related

• Average cost per visit $800

Fitch & Pyenson 2010
WHAT CAN NURSES DO

- Assessing and identifying high risk patients
- Contributing to pro-active management strategies
- Making patients and their families aware of the implications and impact of blood complications
- Educating patients and their families about prevention and early detection strategies
ASSESSMENT

- Patient history
- Physical exam
- Laboratory tests
THROMBOCYTOPENIA MANAGEMENT

• Goal: to prevent and reduce the risk of bleeding
• Dependant on platelet count and clinical evaluation
  • Reduce/delay chemotherapy
  • Monitor platelet count
  • Platelet transfusion
• Minimise complications
• Patient education
ANAEMIA MANAGEMENT

• Assessment

• Proactive management

• Treatment based on cause and symptoms
  • ESA’s
  • Blood transfusion
ROLE OF THE NURSE IN IDENTIFYING PATIENTS AT RISK OF FEBRILE NEUTROPENIA (FN)

Assess the FN risk of planned chemotherapy regimen

Evaluate presence of individual patient risk factors

Define overall risk

Aapro et al, 2006
EUROPEAN SURVEY RELATING TO CHEMOTHERAPY INDUCED NEUTROPENIA (CIN)

• Nurse survey conducted by EONS across 8 European countries 2009 - 217 nurses

• 95% agreed preventing infections is extremely/very important and were aware of the impact of neutropenia and FN

• Almost all of the nurses (95%) discussed risk and how to minimise risk of developing infection

• Reported an average of 5-9 infections per month

• 95% reported seeing patients hospitalised with fever/infection

• 86% said local/national guidelines in place for managing CIN

Cont.
EUROPEAN SURVEY RELATING TO CHEMOTHERAPY INDUCED NEUTROPENIA (CIN)

- 78% had local/national antibiotic guidelines in place for managing neutropenia
- Most common (>80%) prevention advise
  - Handwashing
  - Avoid sick people and crowds
- Almost all nurses reported use of G-CSF/antibiotics
- Patient concordance with therapy an issue
- Recommendations
  - Improved communication between nurse and patient
  - Education for staff in the community
  - Provision of effective prophylaxis
  - Ensuring concordance with therapy

Leonard on behalf of EONS 2011
PREVENTION of FN

- Clinical priority
- Risk assessment
  - Prior chemotherapy
  - Baseline labs
  - Cancer type
  - Medications
  - Co-morbidities
  - >65 years old
  - Chemotherapy regimes >20% risk of FN
  - Receiving dose dense chemotherapy
  - Receiving adjuvant therapy
- Guidelines
  - EORTC
  - NCCN
  - ASCO
# Common Chemotherapy Regimens Associated with Intermediate or High Risk of FN

<table>
<thead>
<tr>
<th>Malignancy</th>
<th>Chemotherapy regime</th>
<th>FN risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>AC-Docetaxel</td>
<td>5-25%</td>
</tr>
<tr>
<td></td>
<td>Paclitaxel-AC</td>
<td>40%</td>
</tr>
<tr>
<td></td>
<td>AC</td>
<td>10-20%</td>
</tr>
<tr>
<td>Small cell lung cancer</td>
<td>ACE</td>
<td>24-57%</td>
</tr>
<tr>
<td>Non-small cell lung cancer</td>
<td>Etoposide/Carbo</td>
<td>54%</td>
</tr>
<tr>
<td>Ovarian</td>
<td>Paclitaxel</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Docetaxel</td>
<td>33%</td>
</tr>
<tr>
<td>NHL</td>
<td>CHOP-21</td>
<td>17-51%</td>
</tr>
<tr>
<td>Germ cell</td>
<td>BOP-VIP-B</td>
<td>46%</td>
</tr>
</tbody>
</table>

Aapro et al, 2006
Assessing risk of Neutropenia

EORTC Algorithm

Aapro et al, 2006
NURSES ROLE IN MINIMISING THE RISK OF NEUTROPENIA

• Promote awareness of risk factors
• Document patient history
• Recognise normal/abnormal blood values
• Teach protective measures and monitoring practices
• Encourage patient and family awareness, education and vigilance
• Teach the importance of prompt reporting of symptoms
• Teach patients to self-administer G-CSFs where appropriate
CONCLUSIONS

Nurses can and do play an important role in the prevention, detection and management of chemotherapy induced anaemia, thrombocytopenia and neutropenia/FN

This can help improve QoL and outcomes for patients and minimise emergency admissions and hence provide more cost effective management of patients with cancer
Comments and Questions
Cancer therapy induced bone loss, osteoporosis and fractures

Prof. Sara Faithfull
UK
Aim to

• Raise awareness of bone related problems in cancer patients
• Survival and fracture risk with adjuvant therapies
• Provide an overview of the patho-physiology of Cancer Treatment Induced Bone Loss (CTIBL)
• Explore impact and the challenges for patients
Definition

• Skeletal disease characterized by low bone mass, deterioration of bone micro-architecture, and increased bone fragility increasing susceptibility to fracture

• Characterized by
  • Bone Mineral Density loss
  • Decreased bone strength
  • Vertebral, hip, and other bone fractures

Myths and misconceptions

I keep finding these all over the house!

My doctor says bone loss is normal at my age.

© 2000 Randy Glasbergen. www.glasbergen.com
Impact on the individual and services

• Growing incidence of bone complications in cancer survivors
  – Evolution of cancer therapy
  – Aging population

• Tremendous quality-of-life and functional implications

• Implications of cost of managing fractures for health services

• Significant implications for nurses and primary care
Invisible symptoms

- Systematic review 18-23% of men on ADT had bone changes after 12 months
- UK-GDPR secondary data analysis
  - Breast cancer HR 1:26 (1.13-1.40)
  - Colorectal HR (1.15-1.73)
  - Prostate HR 2.49 (1.93-3.22)
- Men have higher risk of mortality from fracture (37.5%)

Khan NF et al (2011) *BJC* 105 S29-37

De Haas et al. 2010 *Lancet Oncology*
<table>
<thead>
<tr>
<th>Cancer Population</th>
<th>Prevalence of Osteopenia/Osteoporosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast cancer</td>
<td>27.2% osteoporosis only[^1]</td>
</tr>
<tr>
<td></td>
<td>(Women’s Health Initiative trial)</td>
</tr>
<tr>
<td>Prostate cancer on androgen deprivation therapy</td>
<td>73% (men 70 yrs age or older)[^2]</td>
</tr>
<tr>
<td></td>
<td>55% osteopenia; 18% osteoporosis</td>
</tr>
<tr>
<td>Childhood cancer survivors</td>
<td>25% to 65%[^3]</td>
</tr>
<tr>
<td>(acute lymphoblastic leukemia, sarcoma, brain malignancy)</td>
<td></td>
</tr>
<tr>
<td>Testicular cancer</td>
<td>50.6% (unilateral testicular cancer)[^4]</td>
</tr>
<tr>
<td></td>
<td>73.2% (bilateral testicular cancer)[^4]</td>
</tr>
<tr>
<td>Allogeneic stem cell transplantation</td>
<td>24.4% to 58.0%[^5,6]</td>
</tr>
<tr>
<td></td>
<td>9% osteoporosis only[^7]</td>
</tr>
</tbody>
</table>

Bone loss in men and women

- Naturally occurring bone loss
- Bone loss due to hormone ablation therapy

<table>
<thead>
<tr>
<th>Condition</th>
<th>Bone Loss at 1 Year (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal men</td>
<td>0.5%</td>
</tr>
<tr>
<td>Postmenopausal women</td>
<td>1%</td>
</tr>
<tr>
<td>Menopausal women</td>
<td>2%</td>
</tr>
<tr>
<td>AI therapy after menopause</td>
<td>2.6%</td>
</tr>
<tr>
<td>ADT in men</td>
<td>4.6%</td>
</tr>
<tr>
<td>AI therapy+GnRH after menopause</td>
<td>7.4%</td>
</tr>
<tr>
<td>Premature menopause secondary to chemotherapy</td>
<td>7.7%</td>
</tr>
</tbody>
</table>

References:
Fracture rate in women receiving Aromatase Inhibitors for at least 3 years

Prostate cancer: Risk of fractures with Androgen Deprivation Therapy (ADT)

Of men surviving at least five years after diagnosis, 19.4% of those who received ADT had a fracture, compared with 12.6% of those who did not receive ADT ($p<0.001$).

Bone Mineral Density (BMD) loss in premenopausal women receiving cancer treatments

- Chemotherapy induced early menopause
- Negative effect of chemotherapy and corticosteroids on bone

- BMD loss
  - Faster in trabecular bone of the lumbar spine than long bones
  - Greatest BMD loss in first year
  - Depends on baseline BMD
### Risk factors

#### Overall Risk Factors for Osteoporosis

<table>
<thead>
<tr>
<th>Endogenous</th>
<th>Exogenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Age</td>
<td>• Premature menopause</td>
</tr>
<tr>
<td>• Female sex</td>
<td>• Primary or secondary amenorrhea</td>
</tr>
<tr>
<td>• Slight body build</td>
<td>• Primary or secondary hypogonadism in men</td>
</tr>
<tr>
<td>• Asian or white race</td>
<td>• Previous fragility fracture</td>
</tr>
<tr>
<td></td>
<td>• Glucocorticoid therapy</td>
</tr>
<tr>
<td></td>
<td>• Maternal history of hip fracture</td>
</tr>
<tr>
<td></td>
<td>• Low body weight</td>
</tr>
<tr>
<td></td>
<td>• Cigarette smoking</td>
</tr>
<tr>
<td></td>
<td>• Excessive alcohol consumption</td>
</tr>
<tr>
<td></td>
<td>• Prolonged immobilization</td>
</tr>
<tr>
<td></td>
<td>• Low dietary calcium intake</td>
</tr>
<tr>
<td></td>
<td>• Vitamin D deficiency</td>
</tr>
</tbody>
</table>

### Risk Factors

#### Endogenous
- Age
- Female sex
- Slight body build
- Asian or white race

#### Exogenous
- Premature menopause
- Primary or secondary amenorrhea
- Primary or secondary hypogonadism in men
- Previous fragility fracture
- Glucocorticoid therapy
- Maternal history of hip fracture
- Low body weight
- Cigarette smoking
- Excessive alcohol consumption
- Prolonged immobilization
- Low dietary calcium intake
- Vitamin D deficiency
Summary risk factors for cancer patients

- Premature menopause
- Hypogonadism
  - Commonly due to hormonal therapy such as androgen deprivation therapy, aromatase inhibitors, pelvic radiotherapy
- Growth hormone deficiency
- Prolonged treatment with glucocorticoids
- Methotrexate or Ifosfamide chemotherapy
- Childhood/adolescent diagnosis of certain
- Other risk factors in survivors of paediatric/adolescent cancers
  - Treatment with cranial irradiation
  - Stem cell transplantation
  - Prolonged glucocorticoid therapy

Assessment tools

Establish patient history

Bone mineral density & FRAX assessment
- Dual Energy X-ray absorptiometry (DEXA) scanning/ FRAX tool

Anti-Mullerian hormone
- Predict chemotherapy induced ovarian failure

WHO Fracture risk assessment tool [http://www.shef.ac.uk/FRAX](http://www.shef.ac.uk/FRAX)
Anderson RA, Cameron DA (2011) *J Clin Endocrinol Metab* 96 1336-43
The number of standard deviations that separate the patient from the mean value of a healthy population.
Health promotion

Calcium and vitamin D

1200-1500 mg daily
Vit. D 800IU

Activity 20-50%

Weight-bearing exercise and falls prevention

Limit alcohol and caffeine consumption

Nutritional advice

Lifestyle advice

Smoking cessation

Risk assessment

1. Before starting long-term adjuvant Androgen deprivation therapy (ADT) or Aromatase inhibitors (AI)
2. Patients informed about the potential risk
3. Regularly during long-term adjuvant therapy based on initial T score (or Z-score for premenopausal women)
4. Every 2 years if T-score > –1.0
5. Annually if T-score –1.0 and –2.5 in absence of other associated risk factors

Body JJ (2011) BMC Cancer 11:384
Bone protective therapy

- Supplemental calcium (1200mg daily) & Vitamin D3 (800iu-1000iu daily) for all men over 50.
- Additional treatment when the 10 year probability of hip fracture is ≥ 3% or 10yr probability of a major osteoporotic fracture ≥ 20%.
- Premenopausal women with a Z score of lower than -2 and or an annual decrease in BMD of 5-10% should receive anti-resorptive therapy plus supplements.
- ADT – should be considered “Secondary osteoporosis” when using FRAX.
- Zoledronic acid (4mg iv annually) or Alendronate (70mg po weekly) is recommended when the absolute fracture risk warrants treatment.
- Denosumab (60mg sc every 6 months) Post menopausal at high risk of fracture.

Economic costs of Cancer Treatment Induced Bone Loss (CTIBL)

- 2.5 million fragility fractures within Germany, Spain, France, Italy and UK within the last year
  - Calculated QALYs was 850,000: equals 30.7 billion EUR accounting for 3.5% of total health care spend
  - Acute management accounted for most of the cost whilst prevention only 4.7% of the costs
- Prostate cancer and ADT after 3 years follow up (18.7% vs 14.6%) of men experienced fractures
  - Mean unadjusted total costs of health care during 36 month period was double that of controls

Using effectively what we already know

- Assessment
- Raising patient and clinician awareness
- Risk assessment of long term effects
- Promoting Vitamin D, exercise and dietary advice
- Targeting preventative medications
- Side effect management
- Defining therapeutic strategies and who should do what
- Working with primary care and existing providers

Greenfield D et al. (2009) Follow up for cancer survivors: the views of clinicians *BJC*, 1010 568-574
Comments and Questions
The financial burden of symptom and side effect management

Professor Roger James
UK
Today: how do we...

- Minimise emergency admissions of symptomatic cancer patients
- by using nursing interventions
  - nurse-assessment
  - prophylactic treatment
  - patient surveillance
  - good communication links
- in order to deliver more cost effective management of cancer patients
Today

• **Problem:**
  – extent of emergency admissions of symptomatic cancer patients

• **Remedy:**
  – Strategy & Policy context

• **Implementation: Doctors or Nurses?**
  – difficulties; variations in nurse responsibility across the EU; economic, financial and management implications
Definitions

- Emergency vs. Scheduled
- Chemotherapy Facility vs. Emergency bed
- Extramural facility vs. Intramural facility
Extramural Chemotherapy

Drivers for extramural scheduled (routine) chemotherapy delivery:

– Central lines
– Anti-emetics, Growth Factors
– Better ambulatory facilities
– Oral chemotherapy
– Increased responsibility by nurses
Deaths in Hospital

>50% of all UK deaths are in Hospital

- Circulatory (Stroke/Cardiac) 35%
- **Cancer** 30%
- Respiratory (COPD) 15%
- Mental Health (Suicides etc) 10%
- Renal/Hepatic 5%
- Neurological (Alzheimers etc) 5%
Cancer Cost annually = ~£10 billion

1. Prevention, Vaccination, Screening etc.  £1.5 billion
2. First Definitive treatment  £2.2 billion
   – includes private sector
3. NHS Follow up/surveillance  £2.0 billion
4. Emergency admissions, hospital deaths, palliative chemotherapy  £4.0 billion
5. Deaths at home, hospice, community  £200 million

Total  ~  £10.0 billion
(NHS total annually ~ £100 billion)
<table>
<thead>
<tr>
<th></th>
<th>Planned</th>
<th>Emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of all cancer admissions</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Proportion of all cancer bed days</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>Which beds?</td>
<td>90% Surgical</td>
<td>80% Medicine, Elderly Care</td>
</tr>
<tr>
<td>Trend in admissions 2001-9</td>
<td>+ 8.6%</td>
<td>++++ 47%</td>
</tr>
<tr>
<td>Length of stay in hospital</td>
<td>falling by 1% pa</td>
<td>rising by 2.5% pa</td>
</tr>
<tr>
<td>Patient at end of life?</td>
<td>No</td>
<td>Yes: over 20% die from cancer in hospital</td>
</tr>
</tbody>
</table>
Symptomatic cancer patients requiring emergency admissions:

- England (population 50 million)
- 273,000 emergency admissions with diagnosis of cancer in 2006/7
  - up by 30% from 1997/8
- Typical Hospital serving 0.5 million:
  - at least 4 emergency oncology admissions per day
Symptomatic cancer patients requiring emergency admissions: most are receiving palliative chemotherapy for progressive/metastatic disease

- Symptoms depend on site
- < 2 years left!!

- 80% receive palliative chemotherapy

Emergency Hospital Admissions

Terminal care & death

2 years
Inappropriate Chemotherapy

- **Toronto:** of those who received chemotherapy in the last six months, 16% received chemotherapy in the last two weeks of life
- **Massachusetts:** of those dying of cancer >65 years old, 33% received chemotherapy in the last 6 months of life, 23% in the last 3 months, and 9% in the last month
- **UK:** of those cancer patients who died in hospital within 1 month of receiving chemotherapy, 86% were already expected to die

*Can I.V. nurses help us avoid inappropriate chemotherapy?*
Today

• **Problem:**
  – extent of emergency admissions of symptomatic cancer patients

• **Remedy:**
  – Strategy & Policy context
    1. recognising the problem & developing a consensus
    2. preventing admissions (Nurses)
    3. dealing with admissions in the correct site, using the correct expertise (Doctors)

• **Implementation: Doctors or Nurses?**
  – difficulties; variations in nurse responsibility across the EU; economic, financial and management implications
Patient-Centre Care:
2006 EU Consensus Statement on Common Values and Principles in Health Care

- Quality
- Safety
- Patient Involvement
- Care based on Evidence and Ethics
- Redress
- Privacy and Confidentiality

Brussels, 5 June 2006
• Objective: to assess the global burden of cancer and cancer treatment in patients treated with oral vs. injectable vinorelbine
  – Patient’s burden
  – Carer’s burden
  – Medical direct and indirect costs
• Study ongoing across 8 European countries (Czech Republic, Denmark, France, Germany, Italy, Poland, Spain, Sweden)
  – 630 patients planned, breast cancer and lung cancer
  – Results expected last quarter of 2013
Today

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  – Strategy & Policy context
    1. recognising the problem & developing a consensus
    2. preventing admissions
    3. dealing with admissions in the correct site, using the correct expertise

• Implementation: Doctors or Nurses?
  – difficulties; variations in nurse responsibility across the EU; economic, financial and management implications
Prevention: the multi-disciplinary team
Prevention: the multi-disciplinary team
UKONS, Phillipa Jones, 24 Hour Helpline, Rapid Assessment & Access Tool Kit
Today

• **Problem:**
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    1. recognising the problem & developing a consensus
    2. preventing admissions
    3. dealing with admissions in the correct site, using the correct expertise

• **Implementation: Doctors or Nurses?**
  – difficulties; variations in nurse responsibility across the EU; economic, financial and management implications
Royal College of Physicians UK
Consensus Statement on Acute Medicine, November 2008

• Better **organisation** of emergency medical care
• **Multi-professional working** and strong clinical leadership are essential
• **Communication** between all parts of the health and social care system is vital
• **Education, training and research** should be embedded in practice.
• **Breaking down barriers** between professions and organisations
Generic Assessments

- Physiological observations in acute hospital settings
- Identifying patients whose clinical condition is deteriorating or is at risk of deterioration
- Graded response strategy
- Transfer of patients between critical care areas and general wards
<table>
<thead>
<tr>
<th>Option</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bring all emergency patients to the Cancer Centre</td>
<td>• How far away?</td>
</tr>
<tr>
<td></td>
<td>• Will ambulance service agree?</td>
</tr>
<tr>
<td></td>
<td>• Do oncologists have the required expertise?</td>
</tr>
<tr>
<td></td>
<td>• Patient’s problem may not be oncology-related</td>
</tr>
<tr>
<td></td>
<td>• Are there the required type of beds &amp; facilities in the Cancer Centre?</td>
</tr>
<tr>
<td>2. Predict and prevent emergency admissions through Multi Disciplinary Teams, Electronic records and Telephone contact</td>
<td>• Needs up-skilling &amp; empowerment of nursing and pharmacy staff</td>
</tr>
<tr>
<td></td>
<td>• Needs recognition there should be no loss of income</td>
</tr>
</tbody>
</table>
Nurse-led surveillance

Oral Chemotherapy

Patient-Centred Care

Pharma Industry

Extramural Care

Closer to Home
Today

• **Problem:**
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• **Remedy:**
  – Strategy & Policy context

• **Implementation: Doctors or Nurses?**
  – difficulties; variations in nurse responsibility across the EU; economic, financial and management implications
HAMBURG
Two sectors of medical supply
major differences

<table>
<thead>
<tr>
<th></th>
<th>Ambulant (Extramural)</th>
<th>Stationär (Hospitals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding</td>
<td>Private</td>
<td>Public (taxes)</td>
</tr>
<tr>
<td>Fees</td>
<td>Treatment-based</td>
<td>Full payment of a</td>
</tr>
<tr>
<td></td>
<td>Patient-based</td>
<td>diagnosis-based cost</td>
</tr>
<tr>
<td></td>
<td>(Drugs excluded)</td>
<td>(Drugs included)</td>
</tr>
<tr>
<td>Type of contract</td>
<td>Collective (KV)</td>
<td>Personal</td>
</tr>
</tbody>
</table>

Dr. Klaus Becker, Onkologie Lerchenfeld & Asklepios Klinik St.Georg, Hamburg
2012 survey of responsibilities of 16 chemotherapy nurses from across the Federal Republic: comparison with UK chemotherapy nurses

• IV cannulate patients?
• push bolus injections yourself and/or sit with a patient whilst chemotherapy is being delivered?
• review patients to ensure it is safe to deliver chemotherapy?
• insert Central Lines (Hickman, PICC etc)?
### March 2012 German Nurse Survey

16 Replies

11 (~70%) in Private Practice
5 in State-owned Practice (i.e. State owns facility and pays salary)

<table>
<thead>
<tr>
<th>Yes, I:</th>
<th>Private</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>• cannulate</td>
<td>6/11 (56%)</td>
<td>3/5 (60%)</td>
</tr>
<tr>
<td>• push bolus chemo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• review patients</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Yes, I:</th>
<th>Private</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>place central lines (Hickman/Picc)</td>
<td>2/11 (20%)</td>
<td>1/5 (20%)</td>
</tr>
<tr>
<td>Who pays oncologist salaries?</td>
<td>Who owns Hospitals?</td>
<td>Who controls reimbursement?</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Russia, Former Eastern Block (UK, Spain)</td>
<td>Star (State)</td>
<td>Star (State)</td>
</tr>
<tr>
<td>USA, Most of rest of the World</td>
<td>Smiley (Private/self-employed)</td>
<td>Smiley (Private/self-employed)</td>
</tr>
</tbody>
</table>
Today

- Extent of problem: emergency admissions of symptomatic cancer patients

- Strategy & Policy context: variations in nurse responsibility across the EU

- Implementation: economic, financial and management implications
Comments and Questions
Nurse-led innovation in the management of symptomatic cancer patients

Chair: Kay Leonard, Ireland
Friday 27th April, 2012 11:30 – 13:00
Centre International de Conférences Genève (CICG) Room 8

EONS 8
Spring Convention

Official EONS-8 sponsored satellite symposium

EONS APPROVED