collection and analysis of registry data, primary and secondary prevention, promotion and implementation of optimal practice guidelines, improvement of treatment access as well as cancer research. These activities are covered by the National Anticancer Program established in 2005 in line with the World Health Organization recommendation. Investing in cancer screening programs will pay the highest dividends, since prevention is the most cost-effective way to minimize burden of cancer. Unfortunately, less than one-third of the recommended numbers of screenings (breast, cervical and colorectal cancer) take place in Poland each year. Inequalities in the access to treatment modalities (particularly, new anti-cancer drugs) are also of concern in Poland. Escalating costs of anti-cancer drugs makes allocation of limited resources particularly important. Actions to improve the drug access in Poland include the use of health technology assessments and separate funding of some most expensive drugs from a central reimbursement system. All innovative therapies are monitored with respect to appropriateness of indications and treatment conduct. Our aim is to follow the outcomes of new treatments more carefully and promote the most effective ones. Another area of interest is to employ more flexible pricing schemes in Poland – i.e, conditional reimbursement and cost sharing. Clinicians with specialist knowledge are motivated to have more substantial input into the process of new treatments assessment considering good-quality and evidence-based clinical guidelines with the aim to reimburse new agents in patients who are likely to benefit and in whom particular drugs are recommended. Coordination of regulatory institution and appraisal agency activities has to be improved in Poland – the former is concerned of safety and efficacy, whereas the latter pays attention mainly to "real-life" outcomes. The increasing complexity of cancer care will progressively strain the medical system. It is important to reduce inabilities and disparities with additional resources, but modification of structural conditions is essential.

**31** INVITED

**Management of breast cancer in limited-resource countries**

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**Background:** Guidelines for breast health care (early detection, diagnosis and treatment) that were developed in high resource countries cannot be directly applied in limited resource countries (LMC), because these guidelines do not consider real world resource constraints, nor do they prioritize which resources are most critically needed in specific countries for care to be most effectively provided. A key determinant of breast cancer outcome in any population including those from low- and middle income countries (LMCs) is the degree to which newly diagnosed cancers can be correctly treated in a timely fashion using multimodality cancer therapy that is properly selected and delivered. Panels of breast cancer experts and patient advocates met within the Breast Health Global Initiative to specifically develop consensus recommendations on how breast cancer can best be managed under the constraints of significantly limited resources.
**Methods:** Through a series of three Global Summits, the BHGI multidisciplinary panels of experts addressed the implementation of breast health care guidelines for early detection, diagnosis and treatment in LMCs. The panels reviewed the previously devised stratification tables, discussed core implementation issues related to breast treatment, and made relevant changes based on consensus opinion. Resource requirements were summarized as process checklists for (1) breast surgery, (2) radiation treatment and (3) systemic therapy. The needed resources for stage I, stage II, locally advanced and metastatic breast cancer were outlined. Process metrics were developed, based upon the priorities established in the guideline stratification.
**Results:** The ability to perform modified radical mastectomy (MRM) is the mainstay of locoregional treatment at the basic level of breast health care. The availability of radiation therapy allows for consideration of breast conserving therapy, post-mastectomy chest wall radiation, and for the palliation of painful or symptomatic metastases. The use of systemic therapy cytotoxic chemotherapy is effective in the treatment of all biologic subtypes of breast cancer, but is more resource intensive to provide. The provision of endocrine therapy requires relatively few specialized resources, but optimally requires knowledge of hormone receptor status to assure treatment of patients most likely to benefit. HER2-targeted therapy is very effective in tumors that overexpress the HER2/neu oncogene, but cost largely prevents the use of this treatment in LMCs.
**Conclusions:** Thoughtfully applied resource allocation for breast cancer treatment can improve care delivery in LMCs. The incremental, step-by-step allocation of resources can help address economic disparities across populations and provides a means for better ensuring equity in access to care. The use of checklists and allocation tables is a pragmatic approach, which recognizes that the ultimate goal of every health care system is to offer optimal care to all patients. The use of process metrics can facilitating the development of multidisciplinary, integrated, fiscally responsible, continuously improving, and flexible approaches to the global enhancement of breast cancer treatment.

## *Special Session* (Mon, 21 Sep, 14:00−15:00)
## Assessment and measurement in cancer care

**32** INVITED

**Developing cancer rehabilitation using appropriate assessment of need**

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Cancer rehabilitation aims to maximise a person's ability to function, to promote their independence and to help them adapt to their condition (National Institute for Clinical Excellence NICE 2004).
Dietz (1981) described how rehabilitation is appropriate to all stages of the cancer trajectory, in that it can be preventative, restorative, supportive or palliative.
This presentation will explore a selection of the tools available to assess, plan and evaluate the rehabilitation needs of people affected by cancer.
The tools presented will all be adaptable for multi-professional use.
Case studies from practice at the Royal Marsden NHS Foundation Trust will be used to demonstrate application in a variety of settings.
**Canadian Occupational Performance Measure (COPM**) is a client centred, individualised measure designed by occupational therapists. It aims to detect change in occupational performance as perceived by the client over time. It is based around a semi-structured interview and designed as an outcome measure as it has a structured scoring method (Baptiste et al 1993).
**Functional Independence Measure (FIM)** is an 18-item global measure of disability, scored on 7 ordinal levels from complete independence to total assistance. Function, based on observation, is assessed by clinicians before and after any rehabilitation intervention (UDSR 1997).
**Distress Thermometer (DT)** is a single item tool designed to measure psychologic distress that can be completed by individuals in any setting. It has a simple numerical scale and an accompanying problem list to assist people in identifying what has caused them distress in the last week. A scoring system facilitates the professional to suggest an appropriate action plan (American Cancer Society 2004, Jacobsen et al 2005).

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**33** INVITED

**Using evidence to measure complex symptoms**

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The management of complex symptoms is reliant on an ability to sensitively measure patient-reported experiences of health-related problems. To date, measures available to inform the efficacy of nursing and supportive care (NSC) interventions targeting complex symptoms, lack sensitivity. As a result, studies often fail to demonstrate therapeutic benefit even when strong anecdotal evidence to the contrary is present. This paper reviews several key outcome measures used in NSC randomised controlled trails and highlights their limitations to inform developments in evidence-based management of complex symptoms. Evidence to inform essential components of NSC interventions are considered and questions raised about how this evidence can contribute to improved measurement of complex, cancer-related symptoms.

## *Special Session* (Mon, 21 Sep, 14:00–15:00)
## Metastatic neck nodal carcinoma of unknown primary

**34** INVITED

**Diagnostic issues and treatment**

M. Merlano[1]. [1]*Ospedale S. Croce, Department of Clinical Oncology, Cuneo, Italy*

Neck node metastases from unknown origins account for 5–10% of all neck masses. Although metastases at the upper and middle neck can be easily attributed to head and neck cancers, and those to the lower neck may be attributable to a primary origin below the clavicles, this is not a clear rule and, moreover, many different types of cancer can arise from the head and neck region. Diagnostic procedures include complete physical examination, fiberoptic endoscopy of all head and neck regions and upper oesophagus, biopsies of the suspected regions, CT scan Magnetic resonance. PET-scan may be used as additional investigation, although the research of a primary site in the head and neck cancer areas is hampered by some limitations, in particular the its limited resolution. Some molecular assays have been suggested to identify the potential primary site. These include detection of Epstein-Barr virus (EBV) or Human Papilloma virus (HPV). However, at the moment, molecular assays have a limited role and should be regarded as investigational. The most frequent histology is squamous cell carcinoma (in particular in the upper neck). Adenocarcinoma histology and lower neck involvement, suggests origin in the lung, oesophagus, stomach, or pancreas. In these cases, PET scan may help the identification of the primary site. When the primary origin remains unknown, the therapeutic approaches include surgery and radiotherapy. In case of limited neck node involvement (N1), surgery alone and radiotherapy alone show similar efficacy. In N2 or N3 disease, the combined approach is preferred. Surgical neck dissection, with or without postoperative radiotherapy, or the opposite sequence, is suggested in many cases. However, the extent of radiotherapy remains a matter of debate, and should be weighted against acute and late toxicity and, in particular, the risk of a required re-irradiation whether a primary tumour emerges thereafter. Other approaches (hyperthermia or chemotherapy) must be considered investigational.
Prognosis depends on histology and extension of neck involvement. Patients with limited neck involvement of squamous cell type may show a long disease free survival and cure may be occasionally achieved. The poorest prognosis is observed in patients with adenocarcinoma from unknown origin.

**35** INVITED

**Metastatic neck nodal carcinoma of unknown primary: which radiotherapy is needed?**

V. Gregoire[1]. [1]*UCL Clinique Univ. St. Luc, Department of Radiation Oncology, Brussels, Belgium*

Cervical lymph node metastases of squamous cell carcinoma (SCC) of an unknown primary is a rare disease. One thousand eight hundred ninety patients with SCC of unknown primary of the H&N have been reviewed from 21 series reporting patients treated between 1948 to 1992. Overall survival mainly depended on the stage of the neck. For N1 disease (1997 AJCC/TNM classification), the median value of the reported 5 year survival reached 61% (19–90%); for N2a, N2b and N2c-N3 diseases, median values dropped to 45% (15–87%), 40% (15–63%) and 21% (0–62%), respectively. These figures are consistent with survival data of patients with known primary tumors. All series pooled together, the mean incidence of subsequent primaries in the Head & Neck mucosa did not exceed 13%. When split for different treatment modalities, the incidence reached 21% (13–29%) and 12% (0–48%) for patients treated by surgery alone and radiotherapy alone, respectively. Due to the retrospective nature of the analysis, it is likely that the staging procedure was quite different from one study to another. This probably explains the heterogeneity in the incidence of subsequent primary extending from 0 to 48%. When patients treated by radiotherapy are further divided into those irradiated only on the neck (no attempt to cover the head & neck mucosa) and those treated on the neck and the mucosa, the incidence on subsequent primary reached 13% (5–41%) and 11% (0–48%), respectively. Due to the variety of the radiation techniques used, it is likely that patients intended to be treated only on the ipsilateral neck also received some dose on the ipsilateral mucosa. It is not possible to evaluate the influence of the treatment modality on the survival of these patients from the retrospective analysis. In a retrospective Danish series with more than 200 patients, neither the survival nor the disease-free survival was influenced by the extend of the radiation treatment. On the other hand, extensive radiation treatment was associated with a significant morbidity, mainly xerostomia with its subsequent complications (e.g. taste lost, weight lost, teeth lost, osteoradionecrosis, speech difficulties). The incidence of more than grade 2 xerostomia is estimated in the range of 50 to 60% for extensive H&N irradiation. A reduction by a factor of at least two is expected using a more selective treatment. In conclusion, the review of the literature indicated that the incidence of subsequent primary is rather low and appears to be irrespective of the treatment modality. In particular, no difference could be detected between patients irradiated only on the ipsilateral neck and those irradiated on the neck and the upper aerodigestive tract mucosa.

## *Special Session* (Mon, 21 Sep, 14:00–15:00)
## Immunotherapy and vaccination for malignant glioma

**36** INVITED

**Clinical applications – lessons from pediatrics**

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**Background:** The prognosis of patients with high grade glioma (HGG) is poor. We investigate a potential role of active specific immunotherapy to improve the prognosis of these patients.
**Methods:** A cohort comparison trial HGG-IMMUNO-2003 is designed for children and adults to implement immunotherapy with autologous mature dendritic cells loaded with lysate of autologous HGG (DCm-HGG-L) after new resection of the relapsed HGG. By changing per cohort the vaccination schedule and the maturation methodology of the DC, stepwise improvements are aimed.
**Results:** 125 patients with relapsed HGG were treated with new surgery and DC vaccination in 4 consecutive cohorts. Age did not differ in these 4 cohorts nor did the percentage of total resection versus less than total resection. In this group, 28 patients were younger than 20 y. The median PFS and OS in the latter group were 2.5m resp. 16.6m with a 2 y OS of 34.6%. The median PFS and OS for 97 adults with relapsed HGG were 2.6m resp. 8.7m with a 2 y OS of 16.1%. Looking to the subgroup of 88 patients with relapsed GBM who received DC vaccines, about half of the patients got new total resection of their relapsed GBM. Median PFS of 88 patients was 2.5m, median OS was 8.7m, 2 y OS was 16%. The OS of 15 patients <20 y was 14.6m compared to 8.6m in adults, with a 2 y OS of 30.8% versus 13.6%. Extent of resection resulted in significantly improved PFS and OS as well. In adults with relapsed GBM, the median PFS from cohort A to D were 1.94, 1.67, 3.23 and 2.72% with PFS at 2 y of 4% in cohort C and still 15.3% in cohort D. There were no major side effects, and most of the patients were treated in an ambulatory setting. Quality of life measured with the EORTC QoL questionnaire remained stable during vaccination treatment.
**Conclusion:** Our work illustrates feasibility and efficacy of immunotherapy for children and adults with HGG without major toxicity. The younger long-term surviving patients illustrate a level 1c medical evidence of clinical efficacy, while the significant shift in PFS of adults treated with immunotherapy in the consecutive cohorts of patients further illustrate level 2b efficacy. The particular organization of care which we developed to perform DC vaccination, made it possible that patients from several countries had access to the treatment.

## *Special Session* (Mon, 21 Sep, 14:00–15:00)
## Secondary leukaemia following chemo or radiotherapy

**38** INVITED

**Molecular pathogenesis and biology of secondary leukaemias**

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**Background:** Chromosomal translocations leading to the generation of chimaeric oncoproteins play an important role in leukaemogenesis, but mechanisms underlying their formation are largely unclear. Substantial