Basic principles and components of cancer control

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Prevention and control of cancer

- Cancer: Second leading cause of death globally
- Accounted for 8.2 million deaths in 2012
- 4.3 million premature deaths from cancer worldwide
  - 75% of these in low- and middle-income countries
Estimated Cancer Mortality Worldwide in 2012: Women
The overall age standardized cancer incidence rate is almost 25% higher in men than in women, with rates of 205 and 165 per 100,000, respectively.
Prevention of cancer

• Between 30-50% of all cancer cases preventable
• Prevention offers the most cost-effective long-term strategy for the control of cancer
• Prevention is an action or a set of actions designed to stop something before it actually occurs
• In public health the scope is much broader
What Makes Us Healthy

- Genetics: 20%
- Environment: 20%
- Healthy Behaviors: 50%

What We Spend On Being Healthy

- Medical Services: 88%
- Healthy Behaviors: 4%
- Other: 8%
Public health aims at providing maximum benefits to a large number of people.

**Public Health Model**
- Primary focus on population.
- Public service ethic, tempered by concerns for the individual.
- Emphasis on prevention and health promotion for the whole community.
- Paradigm employs a spectrum of interventions aimed at the environment, human behavior and lifestyle, and medical care.

**Medical Model**
- Primary focus on the individual.
- Personal service ethic, conditioned by awareness of social responsibilities.
- Emphasis on diagnosis, treatment, and care for the whole patient.
- Paradigm places predominant emphasis on medical care.
Cancer control aims to reduce incidence, morbidity and mortality of cancer and to improve the quality of life of cancer patients in a defined population through the systematic implementation of evidence-based interventions for the four basic components of cancer control: *Prevention, early detection, diagnosis and treatment* and *palliative care*.
Prevention

• Tobacco, alcohol, physical inactivity, unhealthy diet, overweight/ obesity: risk factors - common for most NCDs

• Other important cancer risks include
  – Physical carcinogens: UV/ ionizing radiation
  – Chemical carcinogens: Benzo(a)pyrene, formaldehyde, aflatoxins, asbestos
  – Biological carcinogens: viruses, bacteria, parasites
Figure 1. Contribution of selected risk factors to all cancer deaths, worldwide, in high-income countries, and in low- and middle-income countries

Source: based on data from Danaei et al., 2005.
Some interventions...

- Tobacco: 22% of global cancer deaths
  - Tobacco control
- Infections: 20% of cancer deaths in low and middle income countries
  - Vaccines available for HBV and HPV
- Early detection of cancers and prompt treatment
- Screening
- Palliative care
• Cancer prevention to be planned in the context of other chronic disease prevention programs

• Many effective interventions to reduce cancer risk-appropriate for resource-constrained settings
Basic principles of cancer control

- Leadership
- Involve stakeholders
- Create partnerships
- Evidence based decision making
- Respond to needs
- Stepwise approach
- Systematic approach
- Seek continuous improvement
WHO stepwise framework - Planning

Step 1: Where are we
• Present state of cancer problem and cancer control services

Step 2: Where do we want to be
• Formulate and adopt policy: target population, objectives, interventions

Step 3: How do we get there
• Strategies and approaches to get there
WHO stepwise framework - Implementation

**Step 1**
- **CORE**
  - Interventions feasible now - with existing resources

**Step 2**
- **EXPANDED**
  - Interventions feasible in medium term with increase or reallocation of resources

**Step 3**
- **DESIRABLE**
  - Interventions beyond reach of current resources if and when become available
What works in prevention…

Two alternative approaches

High risk approach: interventions targeted to people with high risk

Population approach: entire population regardless of individual risk or potential benefit

Prioritize Core risk factors and core interventions like tobacco, physical inactivity, Hep B vaccination, Reduction of environmental exposure
Key Messages

• Integrated and comprehensive strategy = efficient and equitable use of limited resources

• Goal-oriented, people centric, participatory plan = better implementation possible

• Lower resource settings: plan which is realistic, considers gradual implementation of few affordable, cost-effective and priority interventions= better chance of moving into implementation