The Global Cancer Burden 2018: implications for cancer prevention and control

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International Agency for Research on Cancer
Lyon, France
Cancer registration: a foundation to cancer control

Cancer Registries

- Describing occurrence
- Evaluating prevention
- Planning care
- Understanding causation
Cancer registration: increasing political priority

WHO Global Monitoring Framework on NCDs

• Indicator 2 - Cancer incidence, by type of cancer, per 100 000 population

WHA cancer resolution WHA70.12: Cancer prevention and control in the context of an integrated approach

• To collect high-quality population-based incidence and mortality data on cancer, for all age groups by cancer type, including measurements of inequalities, through population-based cancer registries, household surveys and other health information systems in order to guide policies and plans
A global cancer surveillance framework

Adapted from Pineros et al., Epidemiol Rev 2017.
GLOBOCAN 2018

- Presented for 185 countries of the world, for 36 cancer types and for all cancers combined, by age and sex.
- Results available through IARC’s Global Cancer Observatory (GCO) (http://gco.iarc.fr) and a peer-reviewed article in CA: A Cancer Journal for Clinicians.
Global Cancer Burden 2018

Incidence
- Africa: 5.8%
- Americas: 21.0%
- Asia: 57.3%
- Europe: 23.4%
- Oceania: 1.4%

18.1 million new cases

Mortality
- Africa: 7.3%
- Americas: 14.4%
- Asia: 0.7%
- Oceania: 0.7%
- Europe: 20.3%

9.6 million deaths

Prevalence (5 years)
- Africa: 4.4%
- Americas: 26.1%
- Asia: 39.7%
- Europe: 27.7%
- Oceania: 2.1%

43.8 million persons
Men and women developing cancer 2018
Men and women developing cancer 2018

1 in 5 men worldwide develop cancer during their lifetime

1 in 6 women worldwide develop cancer during their lifetime
Men and women developing cancer 2018

Men

1 in 8 men worldwide develop cancer in their lifetime

Women

1 in 11 women worldwide develop cancer in their lifetime

International Agency for Research on Cancer

World Health Organization
Top five cancers: incidence, mortality and 5-year prevalence 2018

Incidence:
- Lung: 53.9%
- Breast: 46.1%
- Colorectum: 4.1%
- Stomach: 2.6%
- Prostate: 1.5%
- Total: 18.1 million new cases

Mortality:
- Lung: 50.6%
- Colorectum: 44.5%
- Stomach: 5.0%
- Liver: 4.3%
- Breast: 3.6%
- Total: 9.6 million deaths

Prevalence (5 years):
- Breast: 44.5%
- Lung: 55.5%
- Colorectum: 43.4%
- Prostate: 40.8%
- Thyroid: 21.2%
- Total: 43.8 million persons
Top five cancers: incidence and mortality, females

**Incidence**
- Breast: 24.2%
- Colorectum: 9.6%
- Lung: 8.4%
- Thyroid: 5.1%
- Cervix uteri: 6.6%
- Other: 28.8%
- NHL: 2.6%
- Liver: 2.8%
- Ovary: 3.4%
- Stomach: 4.1%
- Corpus uteri: 4.4%

**Mortality**
- Breast: 15.0%
- Lung: 13.8%
- Colorectum: 9.5%
- Cervix uteri: 7.5%
- Stomach: 6.5%
- Oesophagus: 3.6%
- Pancreas: 4.9%
- Leukaemia: 3.1%
- Other: 26.1%
- Liver: 5.6%
Most common cancer by country, females 2018
Most common cancer death by country, females 2018
Lung and breast cancer incidence in females, selected populations
Top five cancers: incidence and mortality, males

**Incidence**
- Lung: 14.5%
- Prostate: 13.5%
- Colorectum: 10.9%
- Stomach: 7.2%
- Liver: 6.3%
- Other: 30.6%
- Leukaemia: 2.6%
- Kidney: 2.7%
- NHL: 3.0%
- Oesophagus: 4.2%
- Bladder: 4.5%

**Mortality**
- Lung: 22.0%
- Prostate: 6.7%
- Colorectum: 9.0%
- Other: 23.0%
- Liver: 10.2%
- Stomach: 9.5%
- NHL: 2.7%
- Bladder: 2.8%
- Leukaemia: 3.3%
- Pancreas: 4.2%
- Oesophagus: 6.6%
Most common cancer by country, males 2018
Most common cancer death by country, males 2018

Mortality, males

- Lung (93)
- Liver (20)
- Leukaemia (5)
- Colorectum (3)
- Cæsophagus (2)
- Prostate (46)
- Stomach (10)
- Kaposi sarcoma (4)
- Lip, oral cavity (2)

No data
Not applicable

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data source: Globocan 2018
Map production: IARC
World Health Organization

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International Agency for Research on Cancer

World Health Organization
Cancer is a disease of differences
Cancer is a disease of inequality

Female breast cancer: incidence and mortality rates

Cervical cancer within populations among indigenous and non-indigenous women


Cancer is a growing burden: number of new cancer cases 2018 and 2040 worldwide

2018

18.1 Million

New cases 2018 = 0.5 million

2040

29.4 Million

New cases 2040 (+ demographic changes)
Cancer is a growing burden at all levels of human development.
Cancer is a growing burden at all levels of human development.
Rates and absolute numbers: a story of contrasts

Lung cancer incidence trends

Male lung cancer in the UK
Leading cause of premature death in this century
Registry availability circa 2018
Partnerships: Leveraging expertise through a common purpose

- Servant leadership focused on building country capacity in cancer surveillance
- A set of guiding principles are used to tailor implementation in each setting
Primary cancer prevention

- Around half of cancers could be prevented by applying the knowledge we have;
- The majority of cancers have a lifestyle or environmental cause, so the potential for prevention is much higher
- Many common cancers still of largely unknown aetiology, either globally (e.g. prostate) or regionally (e.g. oesophagus)

Both sexes Adapt prevention to the national or regional situation

Global burden of cancer attributable to infections in 2012 (overall 2.2 million - 15.4% of all cancers)

Plummer et al. 2016 - Lancet 2016 e609-e616

Global burden of cancer attributable to high BMI in 2012 (overall 481 000 - 3.6% of all cancers*)

*of new cancer cases in men and women aged 30 years and older

Females

Arnold M et al., Lancet Oncol, 2014
The continuing need to study the causes - cancers with far more to be discovered

<table>
<thead>
<tr>
<th>Organ sites</th>
<th>Estimated annual no. new cases worldwide</th>
<th>Percent global cancer burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate</td>
<td>345,000</td>
<td>13.1</td>
</tr>
<tr>
<td>Lymphoma and Leukaemia</td>
<td>188,000</td>
<td>7.1</td>
</tr>
<tr>
<td>Colorectal</td>
<td>172,000*</td>
<td>6.5</td>
</tr>
<tr>
<td>Pancreas</td>
<td>79,000</td>
<td>3.0</td>
</tr>
<tr>
<td>Kidney</td>
<td>42,000*</td>
<td>1.6</td>
</tr>
<tr>
<td>Brain</td>
<td>43,000</td>
<td>1.6</td>
</tr>
<tr>
<td>Thyroid</td>
<td>37,000</td>
<td>1.4</td>
</tr>
<tr>
<td>Gallbladder</td>
<td>24,000</td>
<td>1.0</td>
</tr>
<tr>
<td>Total</td>
<td>930,000</td>
<td>35.3</td>
</tr>
</tbody>
</table>

* 50% of total no. cases assigned to the “unknown aetiology” total
WHO “best buys” and other recommended interventions relevant to cancer* - what can be done now

**Primary Prevention**
- Reduce tobacco use
- Reduce the harmful use of alcohol
- Reduce unhealthy diet
- Reduce physical inactivity
- HBV and HPV vaccination

**Secondary Prevention – screening with timely treatment**
- Cervix (VIA, cytology, HPV testing)
- Breast (mammography)
- Colorectal (FOBT)
- Oral (visual inspection, high-risk groups)

**Treatment (stage I and II)**
- Cervix (surgery or radiotherapy +/- chemotherapy)
- Breast (surgery +/- systemic therapy)
- Colorectal (surgery +/- chemotherapy and radiotherapy)
- Palliative care (home-based and hospital care with MDT; access to opiates and essential supportive medicines

*EB 140/27: UPDATED APPENDIX 3 TO THE GLOBAL ACTION PLAN FOR THE PREVENTION AND CONTROL OF NCDs 2013–2020*
Essential Cancer Intervention Package

- Comprehensive tobacco control measures
- HBV and HPV vaccination
- Early diagnosis and treatment of breast cancer and colorectal cancer
- Screen and treat precancerous lesions and early stage cervical cancer
- Treat selected childhood cancers
- Palliative care and pain control
Prevention takes time - *inflation-adjusted price of cigarettes and in cigarette consumption*

**Figure:**

- **A** France
- **B** South Africa


*Jha and Peto 2014; Thun and Jemal, 2006.*
Prevention takes time - *cervical cancer incidence in response to screening, 1980-2040*

**Impact of no intervention vs. effective screening beginning 2017**

- Effective screening implementation: a 50-60% reduction of the projected rates circa 2040
- Prevention of cervical cancer in 8,400 women in Latvia to over 150,000 women in the Russian Federation.

Vaccarella et al, Lancet Oncology 2016
The Global Cancer Burden 2018: implications for cancer prevention and control

- The global cancer burden is growing, with the greatest increases in the low and middle HDI countries
- Patterns of cancer change over time with human development
- A lot can be done now through prevention, early detection and treatment, even in the face of limited resources
- Tailor cancer control measures to regional and national priorities and subject to sustained commitment
Tackling NCDs by 2025 – opportunities for integration of cancer control activities with the NCD agenda

Ms Katie Dain
CEO, NCD Alliance

UICC World Cancer Congress, 2 October, Kuala Lumpur
Outline

1. The context
2. The official deliberations
3. The unofficial take aways
4. Implications & next steps
UN High-Level Meeting on NCDs 2018

First High-level Meeting on NCDs (World Leaders) 2011

Political Declaration

Second High-level Meeting on NCDs (Ministers) 2014

Outcome Document

Third High-level Meeting on NCDs 2018
Why is it important?

• **A global multilateral** process for **global issues**
• All national governments at the highest **political level**
• Elevates health from the **technical to political** realm
• Opportunity to **focus attention, reiterate commitments, review progress**, and agree the **way forward**
• Galvanises **consensus on international cooperation**
• Results in **national political commitments and targets**
What are the lessons learnt?
What is the context? 6 positives

1. **Global awareness** of the scale, burden and threat
2. Longstanding **political leaders**
3. Plethora of **plans, political commitments and targets**
4. NCDs included in **UN Sustainable Development Goals**
5. Evidence base and **consensus on solutions**
6. Stronger **civil society movement**
Tried and tested solutions
NCDs are a smart and strategic investment

“The overarching message is **optimistic**...

...Almost **10 million premature deaths from NCDs can be avoided by 2025** if governments decide, today, to implement the WHO “best buys” for NCDs...

...Doing so will prevent **17 million strokes and heart attacks by 2030** in the poorest countries, and generate **US$ 350 billion** in economic growth...

...Every **US$1 invested** in the proven interventions for NCDs will yield a return of at least **US$7 by 2030**.”
What is the context? 6 negatives

1. Slow and uneven progress globally
2. Countries overwhelmed and paralysed
3. Political inertia and opposition to “new and ambitious”
4. Still pitiful levels of resources
5. Interference of powerful multinationals in public policy
6. Absence of a people’s movement
“The world has yet to fulfil its promise of implementing measures to reduce the risk dying prematurely from NCDs... Political commitments have often not been translated into concrete actions”
Off track to meet the global targets

“More than half of all countries are projected to miss the SDG target 3.4”
Anaemic levels of financing

Source: Joseph L Dieleman et al, *Global Health Development Assistance remained steady in 2013 but did not align with recipients*, Health Affairs, 2014
“Nowhere in public health are the interrelationships between the political and commercial determinants of health more evident than with #NCDs”
#HLM3 #NCDs:
The “official” deliberations
23 Heads of State and Government

55 Ministers of Health
“One idea I have suggested is to establish a Presidential Coalition for NCDs, with an initial 6-12 Heads of State and Government to act as champions for NCDs”
UN Political Declaration on NCDs

Draft resolution submitted by the President of the General Assembly

Political declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases

The General Assembly
Adopts the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases annexed to the present resolution.

ANNEX

Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases

We, Heads of State and Governments and representatives of States and Governments, assembled at the United Nations from 19 to 20 September 2011, to address the prevention and control of non-communicable diseases worldwide, with a particular focus on developing and other challenges and social and economic impacts, particularly for developing countries,

1. Acknowledge that the global burden and threat of non-communicable diseases constitutes one of the major challenges for development in the twenty-first century, which undermines social and economic development throughout the world, and threatens the achievement of internationally agreed development goals.

2. Acknowledge that non-communicable diseases are a threat to the well-being of many Member States, and may lead to increasing inequalities between countries and populations.

3. Recognize the primary role and responsibility of Governments in responding to the challenge of non-communicable diseases and the essential need for the effort
2018 UN Political Declaration: The Good, Bad and Ugly

The Good:
- 13 new commitments (that are insufficient to close the implementation gap and reach SDG 3.4);
- Adds **air pollution and mental health** to make it a “5x5” agenda;
- Reaffirms WHO leadership and coordination role for all work towards SDG 3.4;
- Involvement of **civil society + people living with NCDs** in the NCD response;
- Commits governments to call on private sector to become a meaningful part of the solution;
- Partial focus on accountability.

The Bad:
- Fails to mention co-morbidities for NCDs (despite 2011 reference);
- Lack of **new, time-bound national commitments**;
- Financing for NCDs remains unresolved and hasn’t moved forward since 2011;
- Partial focus on improving NCD access;
- Weak focus on integration and inclusion of NCDs in national public UHC benefit packages;
- No new call to action for **private sector**, and weak language on managing conflicts of interest;
- HLM4 to take place in 2025, which is a long gap.

The Ugly:
- Prioritise **the Best Buys** endorsed at WHA;
- Scale up of **fiscal measures** such as SSB taxation;
- Inclusion of **TRIPS flexibilities** but no comprehensive language on access.
#HLM3 #NCDs: The “unofficial” take aways
A new “5 x 5” approach

Cardiovascular diseases
Chronic respiratory diseases
Cancer
Diabetes
Mental health conditions

Unhealthy diet
Tobacco use
Air pollution
Harmful use of alcohol
Physical inactivity
Political leadership on cancer

300 000
CHILDREN ARE DIAGNOSED GLOBALLY WITH CANCER EACH YEAR

WHO – St Jude’s Children’s Research Hospital Collaboration

We can eliminate cervical cancer as a public health problem through intensified vaccination against HPV, screening and treatment.

WHO global call for action towards elimination of cervical cancer
Alcohol out of the shadows
A movement to divest from tobacco
Rising political capital of UHC

“All roads lead to Universal Health Coverage”

Dr Tedros Adhanom Ghebreyesus, WHO
Civil society not so civil
Commercial determinants out in force

US blocks UN health panel from backing taxes on sugar drinks

By JAMEY KEATEN and MARIA CHENG
Jun. 01, 2018

GENEVA (AP) — The Trump administration has torpedoed a plan to recommend higher taxes on sugary drinks, forcing a World Health Organization panel to back off the U.N. agency's previous call for such taxes as a way to fight obesity, diabetes and other life-threatening conditions.
Financing the Achilles heel

COMMITTMENT

Over the next five years, Norway will commit $360 million to the Global Financing Facility.

NCD Alliance
Accountability a missing link

“We need your continued commitment to tackle this issue and I hope we will meet again soon, long before the next proposed HLM in the year 2025, to hear how your countries have doubled down to reduce the burden of NCDs.

Who set that date? 7 years from now? What on earth were they thinking while people are dying? Just think about that. This is a serious problem that we have to take on right now, and if you or your child were dying of this, you might think about it differently.”
#HLM3 #NCDs: Implications and next steps

WEBINAR, 22 JULY 2015
Journey as important as the outcome
Implications and Next Steps

• The process was as important as the meeting itself ("summit effect");

• Maintain political awareness and leadership on cancer/NCDs post-HLM; HLM is not post-HLM;

• Emphasize evidence and economic arguments behind WHO Best Buys and fiscal policies;

• Leverage the power of civil society advocacy – including by integrating oral health community into the network of national and regional NCD alliances;

• Opportunity of Universal Health Coverage HLM in 2019!

HLM is not a cliff edge!
Keep the momentum up!
Thank you!