

Current Breast Cancer Screening from Public Health Perspective

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Why public health perspective?

- Population vs individual health benefits
- Equity

Should population based
breast screening be
implemented?



International criteria

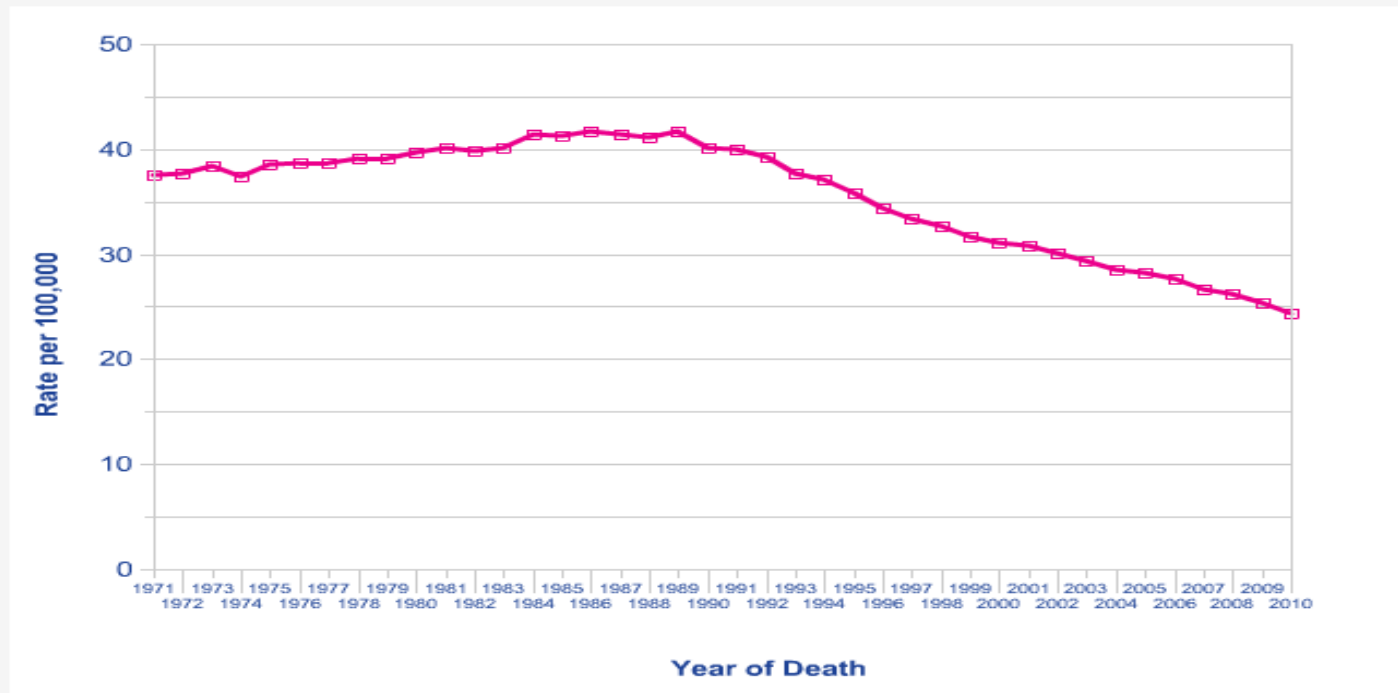
(Wilson and Jungner, WHO 1968)

- ❑ The condition sought should be an important health problem.
- ❑ There should be an accepted treatment for patients with recognized disease.
- ❑ Facilities for diagnosis and treatment should be available.
- ❑ There should be a recognizable latent or early symptomatic stage.
- ❑ There should be a suitable test or examination.
- ❑ The test should be acceptable to the population.
- ❑ The natural history of the condition, including development from latent to declared disease, should be adequately understood.
- ❑ There should be an agreed policy on whom to treat as patients.
- ❑ The cost of case-finding (including diagnosis and treatment of patients diagnosed) should be economically balanced in relation to possible expenditure on medical care as a whole.
- ❑ Case-finding should be a continuing process and not a “once and for all” project.

The condition sought should be an important health problem

- ❑ The age-standardized incidence rate was 54.8 per 100000 standard population
- ❑ Third leading cause of cancer deaths among female in Hong Kong
- ❑ In 2011, a total of 552 women died from this cancer, accounting for 10.4% of all cancer deaths in females
- ❑ In the past 31 years, the age-standardized death rate of female breast cancer had no significant trend.

Figure 2.2: Breast Cancer (C50), European Age-Standardised Mortality Rates, Females, UK, 1971-2010



<http://www.cancerresearchuk.org/cancer-info/cancerstats/types/breast/mortality/uk-breast-cancer-mortality-statistics>

Breast screening in Asia and Hong Kong

- ❑ Study (1998, Abdullah *et al.*): 28% of women have ever had mammogram and 44% have ever had breast self-examination
- ❑ Study (2005, Chua *et al.*): The majority (82%) of those who had heard of mammographic screening believed that it could detect early breast cancers and reduce mortality, however, only 58% of these women would participate in yearly screening and clinical breast examination despite acknowledging the potential benefits; major reason: lack of time and the cost
- ❑ Average waiting time for screening mammography in Hong Kong provided by NGOs: 12 to 18 months

Assessing Hong Kong's case using Wilson's criteria

W & J criteria	Mammographic screening
1) The condition being screened for should be an important health problem	Age standardized rate were 52.1
2) The natural history of the condition should be well understood	The natural history includes genetic predeterminants as well as lifestyle factors Breast cancer patients with identifiable genes: less than 10% of all breast cancer patients Primary prevention: not successful as problem of obesity, late marriage advances Development from stage 0 to stage IV.

Assessing Hong Kong's case using Wilson's criteria

3) There should be a detectable early stage	There is 30% chance that ductal carcinoma-in-situ that it will develop into invasive disease																				
4) Treatment at an early stage should be of more benefit than at a later stage	<p>Cochrane review: 15 to 20% reduction in mortality,</p> <table border="1" data-bbox="653 582 1818 1025"> <thead> <tr> <th>Stage</th> <th>5 year survival (%)</th> <th>stage</th> <th>5 year survival(%)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>93</td> <td>IIIA</td> <td>67</td> </tr> <tr> <td>I</td> <td>88</td> <td>IIIB</td> <td>41</td> </tr> <tr> <td>IIA</td> <td>81</td> <td>IIIC</td> <td>49</td> </tr> <tr> <td>IIB</td> <td>74</td> <td>IV</td> <td>15</td> </tr> </tbody> </table> <p style="text-align: right;">American Cancer society 2013</p> <p>Improvement of quality of life</p>	Stage	5 year survival (%)	stage	5 year survival(%)	0	93	IIIA	67	I	88	IIIB	41	IIA	81	IIIC	49	IIB	74	IV	15
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5) A suitable test should be devised for the early stage	Sensitivity and specificity (mammogram) in Chinese: 84.3% & 94.9%. Technological performance comparable to Western countries																				

Assessing Hong Kong's case using Wilson's criteria

W & J criteria	Mammographic screening
6) The test should be acceptable	Population health survey: 17.3% of women aged 35 and above had ever had mammography and the numbers attending well women clinic is increasing. More work needs to be done with women in on attitudes towards and acceptability of breast cancer screening.
7) Intervals for repeating the test should be determined	NHS: once every 3 year; Singapore: once every 2 years
8) Adequate health service provision should be made for the extra clinical workload resulting from screening	Facilities both available in public and private are currently inadequate but could be constructed in the newly developing models of primary care ,drawing on lessons from other countries

Assessing Hong Kong's case using Wilson's criteria

<p>9) The risks, both physical and psychological, should be less than the benefits</p>	<p>Risk of a radiation induced fatal breast cancer is 0.007%. Biopsy related complication such as bleeding, pain, haematoma and wound infection, most are minor and easily resolvable. Issues of over treatment of DCIS, psychological stress of false positive requires multidisciplinary approach</p>
<p>10) The costs should be balanced against the benefits</p>	<p>There is only cost effectiveness data from modeling and opportunistic screening, no CE data with RCT in our locality There is no assessment of the societal willingness to pay</p>

Recommendations on Breast Cancer Screening from the Cancer Expert Working Group On Cancer Prevention and Screening (2005)

- There is ***currently insufficient evidence*** in Hong Kong to ***recommend CBE or routine mammography screening*** to asymptomatic women in the population

Recommendations on Breast Cancer Screening from the Cancer Expert Working Group On Cancer Prevention and Screening (2010)

- *The Working Group advises that there is **insufficient evidence** to **recommend for or against routine mammography** screening for the general female population in Hong Kong*

Can we sit and wait for the evidence
with the increasing incidence of breast
cancer?

**Women should be given an
INFORMED CHOICE!**

Benefits of randomised controlled trial of an structured screening service in Hong Kong

- Health technology assessment
 - Effectiveness of technology
 - Who will be benefited
 - The cost
 - Comparison of the alternatives (such as ultrasound)
 - Social and ethical consideration
- Breast awareness
- Tight quality control assurance system
- Multidisciplinary team
- Community involvement
- Equity
- Provide adequate information for the government to consider and plan before the implementation of a population based screening