

Public health is a social issue

Poverty reduction and achieving a minimum set of development goals are recognised as a global priority. The sense of urgency comes from awareness of the magnitude of suffering, disease, and premature death in the world today that are caused by social factors and widening inequalities.

International initiatives attempting to change this situation include the Commission for Africa, the Millennium Project, and the current G8 and European Union efforts to reduce poverty through debt relief, new financing mechanisms, and increased development aid. A central indicator for the success of these efforts is health status, and much of the work is rightly focused on health programmes. But interventions aimed at reducing disease and saving lives succeed only when they take the social determinants of health adequately into account. Much is known about these determinants from national and international projects and research, but the knowledge is still too fragmentary. That knowledge needs to be more fully developed and widely shared so that it can be used.

The Commission on Social Determinants of Health, which WHO launched in Santiago, Chile, on March 18, has the mandate to meet this need. As detailed by Michael Marmot in today's *Lancet*, the 17 Commissioners are prominent figures in politics, research, and social action (table). They will work for the next 3 years on making practical recommendations about how to improve health by acting on its social determinants. Their findings and information on best practices will be drawn from involvement in national and community experience.

The outcome we are working for is a reorientation of public-health action and policy towards more effective and sustainable approaches. These approaches will be immediately useable in health institutions and programmes at every level, from international bodies such as WHO to national health departments and to community activities. More important than the Commission's report on its work will be the impact on health which that work has. The Commission's findings will take effect by interaction with knowledge networks, building communities of practice, and shaping policy for institutional change. The knowledge networks through which the Commission will work include: early

child-development, priority public-health conditions, health systems, measurement, employment conditions, globalisation, urban settings, and social exclusion.

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Public health itself begins with recognition of the need for favourable social conditions, but the specific nature of those conditions, and the ways in which they can be improved, need to be more clearly and widely known. The Commission marks the start of a major effort to marshal this knowledge for action, which is more urgently needed now than ever before.

Some links between poverty and health seem obvious but in practice they can be complex and paradoxical. As Marmot points out, there are countries with a per-capita gross national product of US\$10 000 which have a higher average life-expectancy than others with a gross national product of over \$30 000, and some social groups within the same country have a life expectancy that is 20 years lower than the national average although their infant mortality rates are low. When the specific causes of such anomalies are known, there is a strong basis for corrective action. Health improves when that action is taken, and health systems are run and financed more effectively. Data on such action and its outcomes are clues to a vast area of neglected opportunity for health.

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Monique Bégin (Canada)	University of Ottawa, Ottawa, Ontario, (former Canadian Minister of National Health and Welfare)
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Mirai Chatterjee (India)	Self-Employed Women's Association (SEWA), Bhadra, Ahmedabad
Manuel Dayrit (Philippines)	Secretary of Health
William Foege (USA)	Emory University, Atlanta, Georgia; Bill & Melinda Gates Foundation Global Health Programme, Seattle, Washington (former Director, US Centers for Disease Control and Prevention)
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Ricardo Lagos (Chile)	President of the Republic of Chile
Stephen Lewis (Canada)	UN Special Envoy for HIV/AIDS in Africa
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Charity Ngilu (Kenya)	Minister of Health
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Table: Members of the Commission on Social Determinants of Health

The social causes of health and disease have been a major concern for WHO since its earliest days, but the ways to work on them have not always been so clear. Brock Chisholm, the first Director-General, argued in the 1950s that because humanity was now in grave danger of destroying itself, it had to learn how to think and act differently. One of his proposals was to revolutionise medical education by basing such education on all the needs of the human organism from the start of his or her existence. These needs included “a healthy mother who knows what she is doing”, and quickly extended to “a whole set of circumstances and services, part of which are her own responsibility, some are her husband’s or some alternate’s, some belong to the local community, and some are national responsibilities, so that she and the baby have a good chance of surviving and being healthy”.¹

Chisholm’s idea was promising but it would have taken many years to translate it into practice and assess

the outcome. Meanwhile, neglect of these factors continues to undermine health efforts. The keys to reducing child mortality in developing countries are social, as are the keys to preventing lung cancer, eradicating poliovirus, and protecting the health of women. The control of HIV/AIDS, tuberculosis, and malaria depends largely on social action based on clear knowledge.

As Marmot points out, citing Geoffrey Rose, we need to know and act on “the causes of the causes” of ill-health. Acting on those causes will make it possible to meet today’s and tomorrow’s health challenges.

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¹ Chisholm B. Thoughts on community development. In: Lectures by Brock Chisholm. Chapel Hill: University of North Carolina, 1959; 30–31.

Breast cancer metastasis: when, where, how?

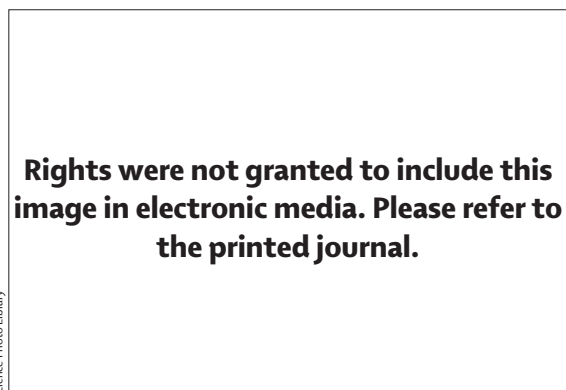
When a woman receives a diagnosis of breast cancer, one of her first thoughts will be “is it curable?” Her physician needs to know the probability that it has spread—to regional nodes or to distant sites—so that he or she can advise on treatment options. For cancer researchers, the million dollar questions are: “How can we know if this particular cancer has metastasised? Can we predict where it has spread? What are the molecular mechanisms underlying these patterns?” Since Stephen Paget reviewed over 700 cases of breast cancer and published his seed-and-soil hypothesis in 1889, we have been

fascinated by differences in both the incidence and distribution of metastases and many have sought answers to these fundamental questions.

Two molecules in particular have attracted attention as possible mediators of metastasis in breast cancer: the *c-erbB2/HER2/neu* oncogene product (a receptor tyrosine kinase similar to the epidermal growth-factor receptor) and the G-protein-coupled receptor CXCR4. Recently, Yan Li and co-workers¹ reported that these two molecules might be partners in crime, not only by increasing the probability of metastasis but also by determining the organs affected.

ErbB2 is overexpressed in 20–30% of breast cancers, and has often been linked with poor prognosis. Tumour cells isolated from blood and bone marrow often overexpress the ErbB2 receptor and are highly motile.² However, some patients harbouring such cells (eg, those with colon cancer) do not develop overt bone metastases, perhaps because a second signal promoting tumour cell survival in these sites is lacking.³

CXCR4 is a chemokine receptor implicated in the homing of haemopoietic cells, but also expressed in some cancers. Müller et al⁴ showed that its ligand, CXCL12, is present in lymph nodes, lungs, bone, and liver,



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Coloured light micrograph of breast cancer cells in vitro