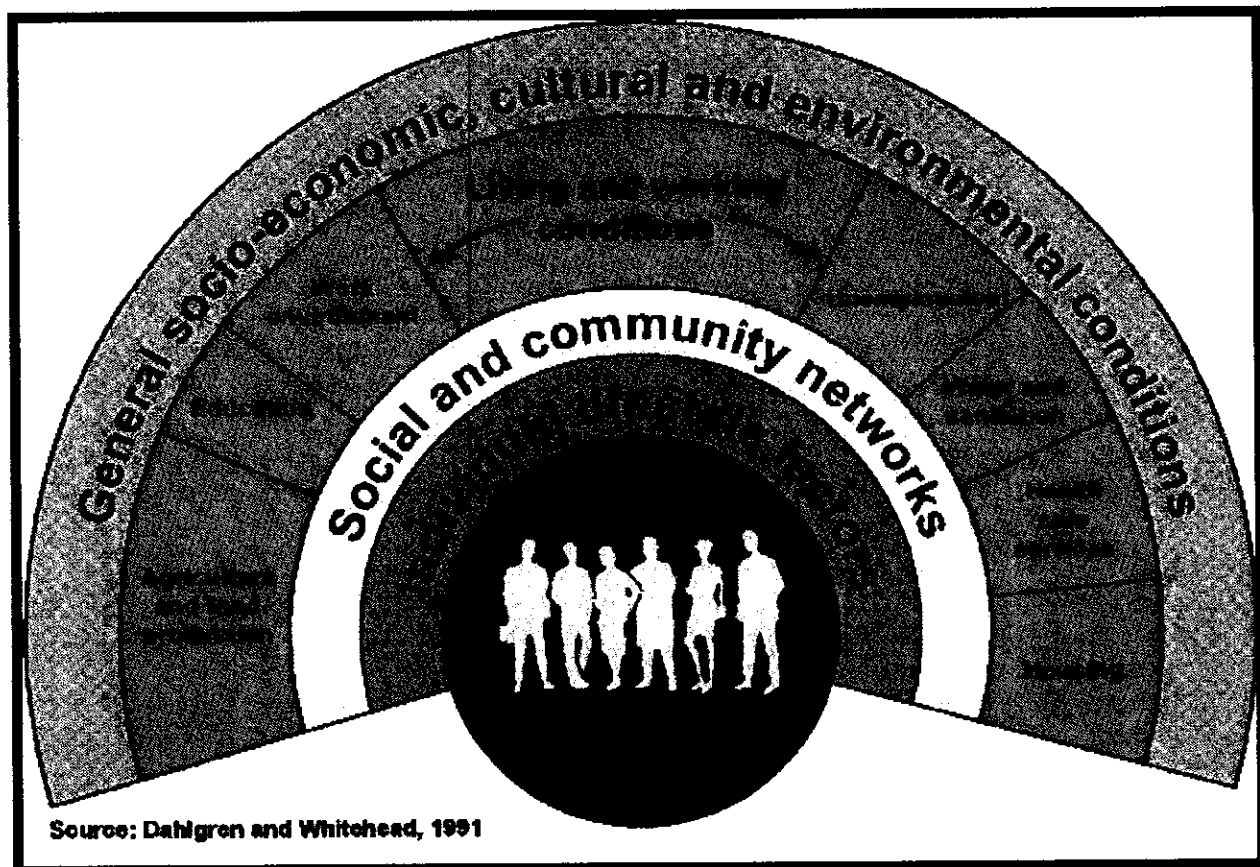


## UNDERSTANDING SOCIAL DETERMINANTS OF HEALTH

### THE DALGREN AND WHITEHEAD (1991) "POLICY RAINBOW"

The Policy Rainbow describes the layers of influence on an individual's potential for health. Whitehead described these factors as those that are fixed (core non modifiable factors), such as age, sex and genetic, and a set of potentially modifiable factors expressed as a series of layers of influence including: personal lifestyle, the physical and social environment and wider socio-economic, cultural and environmental conditions. The Dahlgren and Whitehead model has been useful in providing a framework for raising questions about the size of the contribution of each of the layers to health, the feasibility of changing specific factors and the complementary action that would be required to influence linked factors in other layers. This framework has helped researchers to construct a hypothesis about the determinants of health, to explore the relative influence of these determinants on different health outcomes and the interactions between the various determinants. For example, in the U.S. the relative impacts that the various domains of health determinants have on early death demonstrate that only 10% of your health outcome is based on medical care, and have been estimated as follows:

- 30% from genetic predispositions
- 15% from social circumstances
- 5% from environmental exposures
- 40% from behavioral patterns
- 10% from medical care



## BARTON AND GRANT 2006 "THE HEALTH MAP"

"The Health Map" model of the determinants of health from Barton and Grant, 2006, based on the Dahlgren and Whitehead 1991 concept.



The health map has been designed as a dynamic tool that provides a basis for dialogue and provokes inquiry. It has been deliberately composed to provide a focus for collaboration across practitioner professions – such as planners, public health, service providers, ecologists, urban designers and across topics: transport, air quality, community development, economic development. People are at the heart of the map, reflecting not only the focus on health, but also the anthropogenic definition of sustainable development. All the different facets of a human settlement are reflected in the series of spheres which move through social, economic, and environmental variables. The settlement is set within its bioregion and the global ecosystem on which it ultimately depends. Broader cultural, economic and political forces which impact on well-being are represented. Thus all the elements of the original Whitehead and Dahlgren diagram of the determinants of health are included, spread out to reflect the ecosystem of the local human habitat. The urban development process, and more particularly the design and planning of settlements, reside in one sphere – the built environment. Thus planners can see their place in determining health. In direct terms, they can affect the quality of that environment, for example, housing. But the importance of the model is that it can be used to analyze the knock-on effects which are often much more significant in terms of health. Take a new road, for example, the pattern of human activity – travel behavior and destinations – is changed. Activity in turn impacts on the local natural environment (e.g. air pollution) and the global ecosystem (greenhouse emissions). It also affects local economic efficiency and people's lifestyle choices (the likelihood of walking or driving). Lifestyle changes may well impact on the pattern of social networks. It is apparent that every sphere representing health determinants – except the inherited characteristics - is impacted to a certain extent. The model can help distinguish these processes and contribute to sustainability and health impact assessment.