# **Chapter 6: Policy options on reducing inequalities in health**

## Introduction

This chapter considers the contemporary policy context of resource allocation strategies for tackling health inequalities. It highlights and discusses key policy initiatives and strategies and considers the significance of these for the National Assembly's aim of reducing inequalities in health in Wales.

Debate continues over the potential of policy to address inequalities that stem from structural socio-economic inequalities at a wider level. Whitehead *et al* (2000) argue that preventive and curative health services have a role to play in promoting the health of disadvantaged groups. At the same time, the relationship between health and the broader policy context is increasingly seen as crucial to understanding and tackling health inequalities. The World Health Organisation (WHO) maintains that reducing inequalities requires inter-sectoral action to overcome the limited impact of action within health services (WHO, 1996).

Policies to reduce inequalities in health in the UK have been developed in the context of widening economic and social inequalities during the 1980s and 1990s. The present UK government has launched a number of initiatives on social security, employment and education that target help to the poorest sections of society and focus particularly on poverty in childhood. On the other hand, other UK social security measures can be seen to have the opposite effect. Townsend (2000) points, for example, to the abolition of the link between social security benefits and earnings, restraints on the value of Child Benefit, the abolition of lone parent allowances and earning-related addition to Incapacity Benefit and the promotion of means-tested benefits over universal social insurance and non-contributory benefits. He argues that policies affecting income should be examined for their impact on the structural distribution of income and the consequences for people's health (Townsend, 2000, pxvii).

A further important point is that the effects of inter-sectoral action to tackle the root causes of health inequalities are more long-term. There is evidence that strategies to improve equity in health care provision can make a difference in the shorter term, particularly where resources are directed at particular groups (Abel-Smith *et al*, 1995; Whitehead *et al*, 2000). For example, strategies to improve access of particular groups to maternity or child health services can have a relatively short-term effect on health status.

A third point is that strategies within the health care system can incorporate services outside the system. A stronger public health orientation in health policy enables the broader determinants of health to be taken into account in the deployment of resources (Raphael, 2000). Commissioning powers in public health can be used to secure, for example, environmental or community services.

## Aspects of inequalities (see also Chapter 1)

Inequalities in health and in access to health care are experienced differently between and within social groupings and classes. Key aspects include: *Geographical*: These include urban and rural variations and the type and levels of inequalities within regions. Geographical factors are also relevant to policies on decentralisation of decision-making and the involvement of local people in the policy process.

*Socio-economic*: Various measures of socio-economic status, including education and housing, have been developed to expand on occupational class differences shown in the 1980 Black Report (Townsend and Davidson, 1982).

*Ethnic/cultural*: These include monitoring of variations in health of and the use of services by different ethnic and cultural groups, improving cultural awareness and race equality strategies in the health care system and measures to improve services of concern to particular minority groups such as sickle cell anaemia and thalassaemia.

*Gender*: Gender-based variations in health status and gender equity in health care are key considerations. At a broader level, the impact of changes in family structure and employment patterns on the health of men and women needs to be taken into account.

*Age*: Demographic and morbidity trends across Europe have resulted in a concentration of mortality in older age groups and higher levels of chronic illness among older people, leading to concern over escalating demand and costs. There is evidence of discrimination against older people and of rationing of particular services on the grounds of age.

#### *Relationship between factors*

There is a considerable degree of overlap between the above factors. For example, policies on improving maternal health need to take into account equity of access to health care for women in minority ethnic groups and women who live in housing estates occupied predominantly by poorer families. Thus, the development of strategic action to achieve tangible and measurable outcomes is a complex task, requiring both short and long-term perspectives.

There are also differences within and tensions between the above factors in terms of policy priorities. For example, the Acheson Report recommends placing a high priority on policies aimed at improving health and reducing inequalities between women of child-bearing age, expectant mothers and young children (DoH, 1998b). At the same time, there is rising demand to meet the needs of older, chronically sick people.

#### *Life course perspectives*

A further important issue to consider is the influence of factors over the whole life course – for example, the effect of poverty and deprivation in childhood on health in old age. The relationship between socio-economic factors and health over the life course is complex and a snap-shot of socio-economic status and health in adulthood produces only a partial picture. Benzeval *et al* (2000) identify 'income potential' and 'health capital' as potential mechanisms that link childhood and adult health. Income potential includes the accumulation of skills and education that affect adult employment capacity and, hence, socio-economic status. Health capital includes physical and psycho-social resources inherited and acquired in childhood that influence health in later life. The long-term consequences of childhood and early

adulthood experiences, including formal education and family and community life, must be taken into account in developing policies to reduce inequalities over the life course (Benzeval *et al*, 2000).

## The international policy context

## Global perspectives

The World Health Organisation's definition (WHO, 1974) of health as "... not merely the absence of disease, but a state of complete physical, mental, spiritual and social wellbeing" whilst open to criticism as utopian, reminds us that inequalities in health cannot be understood by reference to mortality and morbidity statistics alone. It begs the question of how health is understood, measured and defined in policy-making. The WHO has subsequently developed its social model of health, referring to health as a "resource for everyday life" and as "a positive concept emphasising social and personal resources as well as physical capabilities" (WHO, 1984). The basic guiding principles of the Healthy Cities Programme, for example, are the reduction of inequalities in health, working to achieve social development and a commitment to sustainable development (WHO, 1997).

In its Health 21 programme (which replaced Health for All 2000), the WHO continues to emphasise:

- Equity, promoting equal opportunities for health and health care, including action to combat poverty and social exclusion and measures to improve the health of minority ethnic groups,
- Community participation, promoting the capacity of local people to participate in action for health and decisions affecting their communities,
- Intersectoral collaboration, *including action for health by a range of governmental and non-governmental organisations, the private and commercial sectors*
- Sustainable development, *including environmental strategies*, *such as energy efficient transport and housing*.

## European health policies

The *Health for All 2000* programme has influenced policy in many countries and there is now widespread acceptance of its basic philosophical approach among governments in Europe (see for example *Saving Lives: Our Healthier Nation*, 1999, in the UK). It is also important to consider also how the ideas of the *Health for All 2000* programme may continue indirectly to influence policy through community groups and voluntary organisations that are active in environmental and health-related activities. The Healthy Cities network, for example, has significant influence on community health projects that goes beyond the participating cities.

European governments vary in terms of the priority given to reducing inequalities. Germany, for example, showed little enthusiasm for the *Health for All 2000* initiative. Primary care continues to be in a relatively weak position in Germany, although there is a high priority among policy-makers and the public on accessibility to services. In Norway, a similarly high priority is placed on improving access to health care. Specifically, investment has expanded the range of services available to older people,

people with mental health problems and people with learning disabilities have (European Observatory on Health Care Systems, 2000).

Macroeconomic policies in all European countries are geared towards developing economic competitiveness and maintaining tight controls on public spending, including spending on health care. The WHO's Regional Office for Europe notes the pressures on health care reform and the challenge of balancing the moral imperative of *"maintaining solidarity and the social good character of health care"* on the one hand and the fiscal imperative of *"pursuing cost control"* on the other (WHO, 1996, p4).

British health policy reflects these pressures, as the expectations of the public for improved health services and equity of access need to be balanced against the economic imperative of containing costs. However, where a high priority is placed on reducing inequalities it can be argued that additional costs should not be regarded as inefficiency but as a necessary aspect of achieving a policy goal.

Common trends in health policies identified by WHO Regional Office for Europe are:

- Re-examination of the structure of governance in health care systems and the relationship between state and market.
- Decentralisation of service provision both geographically and from state to private sector.
- Greater choice and involvement of service users and citizens in health care planning and provision.
- The evolving role of public health and awareness of health promoting activity outside health care systems.

#### (WHO, 1996)

None of these trends *explicitly* addresses inequalities in health, although they influence the range of possible strategies for tackling them. For example, the promotion of local partnerships is influenced by the changing role of the private sector. The promotion of public and primary health care interests is strongly associated with reducing inequalities. However, policy aspirations and statements on developing primary-led health services and strengthening public health functions are frequently not matched by action (Barker and Chalmers, 2000).

There are differences between countries in the extent to which health policies aim to improve overall standards of health rather than focus on inequalities in particular (Shaw *et al*, 1999). Achieving a balance between these two aims can be problematic, particularly in the context of rising consumer influence in health provision. Policies can also have unexpected results, for example, promoting screening and immunisation programmes across the board may in fact lead to increased levels of inequalities since higher income groups may make greater use of them (Abel-Smith *et al*, 1995).

#### The UK context

Health policy at the UK level continues to emphasise efficiency and effectiveness in the NHS whilst placing renewed emphasis on equity. Klein (2000) argues that the consequences of contemporary policy are likely to include heightened public expectations that will be difficult to balance against pressure to keep costs down. This tension is evident in the UK NHS Plan that stresses the importance of meeting public expectations for health care but stops short of covering the costs of long term care for older people. This decision has been roundly condemned by organisations of and for older people, such as Age Concern, and is contrary to the recommendations of the Royal commission on Long Term Care (Royal Commission on Long Term Care, 1999). It also contrasts with the decision of the Scottish Parliament on long term care for older people (Pollock, 2001).

The introduction of Primary Care Groups and Trusts is an important initiative to promote a primary-led service and to enhance the roles of a range of professionals at the operational level. At the same time the reduced role of Health Authorities demonstrates a centralisation of strategic planning and monitoring of standards. These organisational reforms have implications for the implementation of strategies to tackle inequalities in health and inequities in health care and the scope of action at the local level.

### Evidence of inequalities in health

Contemporary health policies draw on evidence from a number of studies from the Black Report (1979) to the Acheson report (1998). Key findings include:

- The strength of the evidence of the links between socio-economic disadvantage and deprivation and poor health
- The broad scope of policies relevant to reducing inequalities
- The importance of long- and short-term strategies
- The role of primary health services in improving the health of the worst off.
- The inadequacy of attention to the health needs of ethnic minority groups
- The importance of up-to-date and accurate data on health at the local level.

Thus, the important connection between socio-economic and health inequalities is now more firmly established. Speaking at the Royal College of Physicians in February 2001, the Secretary of State for Health, Alan Milburn argued for the vicious cycle of ill health, unemployment and poverty to be broken (DoH, 2001). The European Observatory on health care systems notes the British approach as a significant shift (European Observatory on Health, 1999).

#### Resource allocation

Since the foundation of the NHS, equitable allocation of resources, particularly between regions, has been a challenge for policy makers almost throughout its history. In 1975, the Resource Allocation Working Party (RAWP) established a weighted capitation formula to address regional inequalities in health and ensure an equitable distribution of resources according to need. The Black Report (Townsend and Davidson, 1992) endorsed the underlying principles of the RAWP formula but identifies three inadequacies:

- 1. Inadequate and inconsistent application of both the principles and the methodology of the formula.
- 2. Inadequate measure of need in the formula itself. Attention was drawn to housing indicators, such as overcrowding that were omitted.

3. Inadequate attention to the use as well as the level of resources allocated in any region.

In its analysis of health inequalities following the Black Report, *The Health Divide* (Whitehead, 1992) draws attention variations within regions and to sub-regional areas of deprivation that were actually worse off under the revised weighted capitation system introduced under the Conservative Government in 1992.

The Review of RAWP established in 1985, intended to fine-tune the RAWP formula, marked an important step in developing policy decisions on resource allocation based on empirical data on levels and types of need rather than on informed judgements.

*The Acheson Report* (DOH, 1998b) makes four specific recommendations (38.1-38.4) on resource allocation:

- 1. A "*pace of change*" policy to enable health authorities furthest from their capitation targets to make faster progress.
- 2. An extension of the "*needs based weighting*" principle to non-cash limited GMS resources and an assessment of the size and effectiveness of deprivation payments.
- 3. A review of the size and effectiveness of the Hospital and Community Health Services formula and consideration of a stronger focus on health promotion and primary health care.
- 4. A review of the relationship of the private sector to the NHS, with a suggestion that this compounds existing inequalities.

The Acheson Report also recommends that Directors of Public Health produce regular 'equity profiles' and triennial audits of progress towards achieving objectives of reducing inequalities in health. It also focuses on local partnerships to reduce inequalities and recommends that there should be a "*duty of partnership between the NHS Executive and regional government to ensure that these partnerships work effectively*" (DoH, 1998b Para, 39.1).

#### Key initiatives in reducing inequalities in health

The UK Government has introduced a number of measures that aim to reduce inequalities in health. The 1998 Green Paper, *Our Healthier Nation* (DoH, 1998a), and the White Paper, *Saving Lives: Our Healthier Nation* (DoH, 1999a), identify the following key aims:

• *"To improve the health of the population as a whole, by increasing the length of people's lives and the number of years people spend free of illness;* 

• *To improve the health of the worst off in society and to narrow the health gap*" (DoH, 1998a, p5).

The *NHS Plan* (DoH, 2000) states as the ninth of its ten core principles:

The NHS will focus efforts on preventing, as well as treating, ill-health. Recognising that good health also depends upon social, environmental and economic factors such as deprivation, housing, education and nutrition, the NHS will work with other public services to intervene not *just after but before ill health occurs. It will work with others to reduce inequalities.* (DoH, 2000, p5)

The Modernisation Agency, to be established as part of the NHS Plan, will have as one of its responsibilities, to:

Support a 'healthy communities' collaborative to develop effective ways of improving health particularly in the most deprived areas. (DoH, 2000, p61)

This strategy demonstrates commitment to multi-sector, locally based partnership arrangements that are targeted on geographically defined areas of greatest poverty. These themes emerge frequently in UK health policy documents. An innovative approach to implementing central strategies at the local level is 'earned autonomy'. The allocation of resources to health authorities classified as 'green', 'yellow' or red' will be linked to their achievement of centrally determined national targets.

In his address to the Royal College of Physicians on 28<sup>th</sup> February 2001, the Rt Hon Alan Milburn, set two health inequality targets. Despite many pledges of commitment to the tackling and reduction health inequalities in Britain this was the first time that specific targets had been set. These targets were:

- By 2010, to reduce by at least 10% the gap in infant mortality between manual groups and the population as a whole. The national infant mortality rate was expected to fall for the first time below five deaths per thousand live births by 2006 and to result in approximately 3000 children's lives being saved by 2010.
- to reduce the difference in life expectancy between areas with the lowest life expectancy and the national average. Starting with Health Authorities, by 2010, the gap between the fifth of areas with the lowest life expectancy at birth and the population as a whole will have been reduced by at least 10%.

Tackling health inequalities among children is also highlighted by the Children and Young People's Unit in *Tomorrow's Future* (2001). The initiatives which are aimed at this are

- The Healthy Schools Programme
- The National Healthy School Standard
- The Health Visitor and School Nurse Development Programme
- The National School Fruit Scheme
- The Welfare Foods Scheme
- The Personal, Social and Health Education framework
- Health Action Zones

as well as various aspects of the *NHS Plan*, published in July 2000, such as the Children's Taskforce and the new National Service Framework for Children's Services.

A recent initiative in Scotland (15<sup>th</sup> March 2001) has been the launch of health profiles for every constituency in Scotland

(<u>www.show.scot.nhs.uk/phis/constituencyprofiles</u>). These profiles contain information on healthcare and illness, prosperity and poverty, crime and safety, deaths, physical functioning, educational attainment and lifestyle behaviour. The aim of making such data available to MSPs and others is to engage decision makers at parliamentary level in an ongoing analysis which will lead to action to improve health.

There have thus been a number of recent events which have added further to the tackling of health inequalities in Britain.

#### The Action Committee on Resource Allocation

The Action Committee on Resource Allocation (ACRA) was established in 1998. Their first report was published in July 1999, with a list of initial recommendations (ACRA, 1999). It covers a wide range of policy spheres, including income and living standards (tackling low income and social exclusion, in particular), education, employment, housing crime, transport and public health measures. A crucial underlying principle is that resources should be targeted at those in greatest need.

The ACRA Committee draws a distinction between 'avoidable' and 'unavoidable' inequalities. The term *unavoidable inequalities* suggests unfairness about variations in health but a limited capacity to do anything about them, whilst *avoidable inequalities* suggests that policy action can make a difference. Avoidable inequalities, or inequities, are more amenable to action within the health care system but action at a broader level (through employment strategies in particular) is proposed in contemporary British policies, so that 'unavoidable inequalities' are also tackled.

## The evidence base of policy

The objective of raising standards in health care relies on new initiatives in data gathering (such as patient surveys) and is linked to the aim of reducing inequalities.

Outcome measures may be seen as an instrument for monitoring inequalities. For example, the National Service Framework on coronary heart disease requires health authorities to produce local health needs profiles and plans for tackling inequalities.

The implementation of Health Improvement Programmes, the NHS Performance Assessment Framework and the establishment of NICE are all identified as having a role to play in reducing inequalities, since the quality of health care received across the board will be subjected to monitoring and evaluation. However, Jacobson (2000, p109) notes that the NHS Performance Assessment Framework, whilst identifying important aspects of regional variations is insufficient in itself to monitor inequalities of treatment outcome because it fails to take ethnic and socio-economic factors into account.

#### Health impact assessment

Health impact assessments have been increasingly encouraged at the international and UK level. Assessing the impact on health of a range of economic, environmental and social policies is regarded as an effective tool in addressing health inequalities and ensuring that action is likely to have the desired effect. The Acheson Report (DoH, 1998b) recommends that as part of health impact assessment:

"all policies likely to have a direct or indirect effect on health should be evaluated in terms of their impact on health inequalities, and should be formulated I such a way that by favouring the less well off they will, wherever possible, reduce such inequalities" (Recommendation 1)

However, there are problems in making health impact assessments, not least of which is the difficulty of making accurate measurements of health impact and of taking into account macro- and micro-level factors. For example, the range of variables involved in measuring health would make it very difficult to assess the impact of an initiative such as Sure Start on the health of children. As Whitehead et al (2000) point out, the same initiative might have a differential effect on different groups and there are practical and political difficulties in identifying the impact of policies on the health of people. Variations between people mean that the impact of a single policy on one person will be very different from its impact on another. Additionally, the reliability of evidence on the impact of policies is sometimes open to question. For policymakers, this can be a stumbling block. Whitehead et al (2000) call for a broad range of methodologies, both quantitative and qualitative, to measure multiple outcomes with a range of different population groups. This includes small-scale as well as large-scale studies and evidence from lay perspectives as well as clinical. The present framework for researching policy impact focuses on the different 'pathways' between social position and health consequences. Policies may influence:

- 1. individuals' social position (eg education)
- 2. exposure to health hazards (*eg* housing, occupational health)
- 3. the effect of being exposed to a hazardous factor (*eg* social security benefits for disadvantaged groups)
- 4. the impact of being ill (*eg* access to healthcare services)

Their comparative study of the UK and Sweden concludes that the impact of policies on health inequalities should be evaluated at micro- and macro-level and take into account the complexities of the social context of policies.

Health impact assessments and health inequalities impact assessments are, therefore, important instruments for policy-makers but are relatively undeveloped. The framework of Whitehead *et al* (2000) is an important contribution, since it clarifies the links between broad aims of policies and the concrete realities of individuals' everyday lives and ways of measuring these.

#### Partnership

UK Government policies on health improvement and reducing inequalities make frequent reference to partnership. Partnerships are particularly central to public health and primary care policies. The *NHS Plan* (2000) refers to new single, integrated public health groups and (by 2002) a Healthy Communities Collaborative. Health Improvement Programmes (HimPS), introduced in the 1999 White Paper, are an important strategy for engaging local community and private sector bodies in local plans to improve health. The 26 Health Action Zones (HAZ) are more particularly targeted at raising levels of health in the country's most deprived areas through the promotion of collaborative working between the NHS, local government, local industry and voluntary organisations.

#### Targeting

Saving Lives, Our Healthier Nation targets key areas of high mortality and morbidity: cancer, coronary heart disease and stroke, accidents and mental health. Mortality and morbidity levels are highest among poorer groups in the population. The previous government's *Health of the Nation Strategy* focused on the same four areas but the current strategy has revised targets for improvements, following the principle of 'levelling up' in order to reduce health inequalities. Similarly, *Modernising Health and Social Services* (1998) targets particular areas for action. These include strategies to reduce unwanted teenage pregnancies, ensure fair access to services for black and ethnic minority groups, reducing smoking, increasing childhood immunization rates and reducing drug dependency.

In Saving Lives: Our Healthier Nation there is a commitment to improving the health of black and minority ethnic groups but there is no specific targeting of resources for minority ethnic communities. Reference is made to the appropriateness for ethnic minorities, of the wider principle of targeting of resources at those in greatest need. The NHS Plan (2000) emphasises the needs of children, through an expansion of Sure Start, the creation of the Children's Fund, and reform of the Welfare Foods Programme, as well as improved antenatal and neonatal screening.

#### Access to services (see also Chapter 7)

The *NHS Plan* announced the establishment of the Medical Education Standards Board, which is seen as an instrument for tackling the inverse care law. It will monitor the distribution of medical staff. In addition, 200 new Personal Medical Services schemes will provide incentives for staff to work in disadvantaged areas (DoH, 2000, pp13, 11). The impact of these initiatives will be influenced by market forces factors in employment patterns.

The Health Plan also announced the development of freely available translation and interpreting service through NHS Direct by 2003 and the development of accessible advice and information materials on cancer and dental services in particular.

#### The implications for Wales

The Welsh Health Plan sets a high priority on tackling inequalities, reflecting the trends and issues outlined above of pluralism and partnership in promoting health and tackling inequalities. Improving equity in access to health care is a priority for action and a life course perspective adopted.

#### The scope of policies in Wales

Relationships between levels of government and the relative powers of European, UK-wide, national and local government bodies have implications particularly for long-term strategies focused on the wider determinants of health. UK-wide employment and social security strategies, for example, will have an impact on the socio-economic status of people in Wales and, in turn, will affect Welsh strategies to reduce health inequalities.

Current high levels of congruence between policy aims at different levels should mean that the Assembly's priorities are supported. In addition, the Assembly is committed to international collaboration and the use of international comparisons in developing benchmarks for services in Wales (National Assembly for Wales, 2001).

Health Impact Assessments are an important instrument in monitoring the effects of a policies on health and health inequalities. The flow of information between governments and agencies at different levels in the policy system should be improved by more accurate and focused data. In Wales, health impact assessment is regarded as an important tool to be used by a range of public, private and community bodies and the Assembly has committed itself to developing this tool through awareness-raising, training, support and guidance (National Assembly for Wales, 1999).

#### Public Health and health promotion

Health Improvement Programmes constitute the framework for the Assembly's strategies to improve health and reduce inequalities (Hutt, 2000). These enable wide focus on the social, economic and personal dimensions of health and inequality. The Health Plan for Wales stresses the importance of health promotion and public health and draws attention specifically to the existence of a strong health promotion team. A review of the public health function in Wales is proposed and this should enable the Assembly to assess more clearly how the public health function can be effectively utilised in strategies to reduce inequalities. The potential of contracting as a tool for promoting inter-sectoral involvement in targeted health promotion might be considered in this review.

### Reorganised health care system: decentralisation and partnerships

The proposed abolition of the Health Authorities in Wales and the strengthened roles of Local Health Groups and the National Assembly have implications for strategic planning and priority setting as well as for the implementation of policies. The challenge for the Assembly, as in other European countries, will be to manage a decentralised system with a strong strategic and regulatory function at Assembly level.

The Assembly's initiative to modify the research and development strategy and to set up a separate funding stream to focus particularly on Assembly priorities is an important factor in shaping the agenda at the local level. The concept of 'earned autonomy' outlined in the British Government's *NHS Plan* is an innovative approach to managing this tension. The recommendation of the Acheson Committee to develop 'pace of change' policy might also be taken into account in targeting resource at local groups that are furthest from their targets.

## Partnerships at the local level

Local Health Groups are the focus for reducing inequalities and for developing multisectoral approaches. Partnership is a central theme in developing LHGs, drawing in social services, voluntary organisations and the private sector to promote health and reduce inequalities. The capacity of local partnerships to deliver the desired health outcomes will be tested through pilot schemes. An important issue for evaluation of the pilots will be the distribution of staff in different parts of Wales and the implications of this for equitable access to services.

The Public Involvement Framework outlined in the Health Plan for Wales proposes a wide-ranging role for the public in planning and decision-making, scrutiny of health

services, access to information and exercising rights of complaints and redress. In the context of increased community and consumer activity, it is important to consider the impact of partnership on community groups and organisations that have traditionally played an advocacy role on behalf of patients. Advocacy and partnership are not always compatible and groups may experience conflicting demands that affect their functioning.

In Wales, as in other parts of Europe, perhaps the greatest challenge will be to implement effectively policies on health promotion and public health in the context of continued medical advances that raise expectations and demands for treatment. The envisaged involvement of the public in health care represents a major cultural shift and a challenge to professionals and policy-makers. The likelihood of conflict over resource allocation will increase as the public voice becomes more influential and Local Health Groups and the National Assembly will need to take this into account in developing long- and short-term strategies to reduce inequalities.