Childhood Obesity and the Importance of Rights Discourse: A Way Forward for Public Health Practitioners

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Childhood obesity is a matter of ongoing concern and one that urgently needs to be addressed. Human rights discourse can be a powerful tool in the hands of public health practitioners and can provide another way forward to address this public health concern. The integration of discourses on human rights and children's rights provides a mechanism to construct public health problems - such as childhood obesity - as a legal problem. The importance of human rights discourse in the context of public health issues is in the manner in which it can be utilised outside formal legal structures. Recourse to principles of human rights and children's rights must inform practice and in doing so affect how society at large sees the need to address various public health matters.

Key words: *Childhood Obesity; Human Rights; Legal Framework*

The World Health Organization (WHO) has described obesity as "one of today's most blatantly visible - yet most neglected - public health problems" (WHO 2003). The causes of obesity are considered to be a combination of "sedentary lifestyles and high-fat, energy-dense diets" (WHO 1997). But it is the rate of childhood obesity in particular that has sparked more recent concern. In an analysis of 79 developing countries WHO has identified a rate of 3.3% of children under five years being overweight, or 17.6 million children (WHO 2002a). But the problem is no less prevalent in other countries. The number of Australian children who are overweight or obese is increasing (Age 13 Feb. 2002, 11 Sept. 2002; Goodman et al. pp. 400-01; National Health and Medical Research Council 1997, p. 75).

While the reasons for this increase in childhood obesity are complex, it appears to be accepted that children spend much of their time engaged in sedentary activities such as watching television, surfing the internet, and playing video games which leaves little time for exercise (National Health and Medical Research Council 1997. It is also the case that fewer children are walking to school as parents' fears for their safety lead them to drive their children to school and other engagements rather than encouraging them to walk. In the United States the counter to this phenomenon has been a 'walk-to-school' movement to promote this physical activity as part of a public health initiative (e.g. Centers for Disease Control and Prevention 2003). This has also spread to Australia (Pedestrian Council of Australia 2003).

If there is a clear need to address the risk to public health from a lack of physical activity, then there is an equal lack of clarity about how this should be achieved. As Davis and Jones (1996) point out:

> *Health educators exhort children to be healthy, but in relation to exercise, for example, the hostility of city streets make cycling and walking unattractive and potentially dangerous and the opportunities for independent play and mobility have dramatically declined over the past 20 years* (Davis & Jones 1996, p.109).

Clearly, it is not sufficient simply to educate the public about the need to exercise and eat more carefully. Calls for "multidisciplinary responses" can soon look to be mere rhetoric rather than presenting effective strategies for addressing obesity. Even WHO documents can appear vague in this regard. As one WHO report on obesity in the Pacific states:

> *Traditional approaches to the treatment and prevention of obesity aimed at persuading individuals to eat less and exercise more, have had limited success despite great efforts by both patients and health staff. This has led, in recent years, to a more articulate, 'ecological' approach to the obesity pandemic, which regards obesity as a normal response to an abnormal environment, rather than vice versa. To successfully prevent and reduce the rate of obesity in societies, a multisectoral approach is needed to identify and change the main obesogenic factors in the environment, which contribute to determine high-energy diets and sedentary lifestyles. Obesity prevention and control strategies will then be focused on increasing awareness of these factors among decision-makers, health professionals and the general public, and lead them to plan/implement interventions that will create more favourable environments for healthier diets and lifestyles. These strategies will become part of existing national plans of action for nutrition and healthy island initiatives* (World Health Organization 2002b, p. 5).

But what does this all mean? What process will ensure that such strategies do form part of "national plans of action"? It is also important in this regard to consider how this public health issue is often presented as being about *childhood* obesity. As a group, children are not very powerful. The success of strategies to counteract obesity requires the shifting of power and resources in society. It is thus important to consider whether it is necessary for those concerned with childhood obesity to enlist institutions in society that can challenge the powerful and compel the reallocation of resources towards the health needs of children.

Law is the obvious institution to achieve this aim, but it is how the role of law is perceived that may make a significant difference to its overall effectiveness in addressing childhood obesity. For the "traditional" or "black letter" lawyer the notion that law merely determines the parameters within which others act seems anathema. For them law is the result of a consensus achieved by way of public debate and electoral politics. This narrow and essentially positivist conception of law relegates the role of other professionals, such as public health practitioners, to that of simply enforcing the will of Parliament and the aims of government policy.

But there are alternative ways of understanding the manner in which law is formed and the role it performs in society. In particular, critical legal theorists such as David Kairys (Kairys 1998) question the extent to which the processes of law are rational and judicial decisions divorced from politics. For others such as Foucault, law is not so central in the regulation of society. For him the subtle form of social control exercised by various professions is more important (Foucault 1979). A more critical approach to understanding law, therefore, focuses not merely on the "formal" body of law, but also on the practices, values, conventions and discourses that combine to generate various interpretations and understandings of law. Thus what constitutes "law" is not a simple product of "legal" institutions and "legal" processes. Law is the product of a broad range of social relations.

Childhood Obesity as a Legal Problem

Our aim is to demonstrate how this occurs through an examination of the problem of childhood obesity and how it can be constructed in legal discourse. While this phenomenon has been cast as a social problem, it is not so commonly understood as a legal problem. We suggest that it can be so understood and that the agents who may play the largest part in so shaping it can be public health practitioners given their specialised knowledge relevant to the area. However, in order for this problem to be

translated into legal discourse it is necessary for those practitioners to connect with certain legal discourses, in particular those which surround children's rights. In addition, it is necessary for the discourses on children's rights to be connected with further discourses that connect human rights, transport and public health.

For many public health professionals, law is presented to them as a reactive device that responds to public health issues through such mechanisms as the enforcement of health legislation or by way of individuals taking civil action for breaches of their civil rights. Their role is said to be the enforcement of legislation consistent with guidelines determined by government. In this approach, childhood obesity will only become a legal problem when it is stated to be so by those with power, that is, their political masters. But this analysis ignores completely the expertise that public health and other professionals possess with respect to public health concerns such as obesity. It also denies the manner in which this knowledge can be translated into legal discourse and shape understandings of the law. This is not about public health practitioners lobbying for changes to the law. It is instead about how within current legal discourse there is the potential to argue for changes, which are consistent with public health objectives *and* law. Importantly, what is being referred to here is not the law often identified as "public health law", but those laws which relate to human rights and children's rights, for example, which have an important role to play in creating a framework within which the problem of childhood obesity can be addressed.

Public health practitioners thus need to think laterally when confronted with the problem of childhood obesity and how to address it. Beyond calls for education and increased physical activity there also needs to be consideration given as to how that area of law and legal discourse which speaks to the rights of citizens, may be relevant. As Donnison says, rights are effective tools when challenging the powerful (Donnison 1989). The assertion of legal rights may carry with them the possibility of court orders and compulsion, but even simply to articulate the problem as one which involves issues of human rights might shift thinking to such an extent that behaviour will change. Thus the public health practitioner who can articulate health issues in human rights terms may cause social change, not because of the intervention of lawyers and courts, but because the connection of health issues with human rights affects attitudes and the consequent behaviour of those with the power to bring about fundamental shifts in how things are done.

The recent attempt to sue McDonalds for causing the obesity of the plaintiffs by failing to disclose the contents and effects of the food it sells (*Pelman & Bradley v. McDonald's Restaurants of New York*) is perhaps one example of how legal discourse can be used to transform a public health issue into a legal problem and so aim to shift thinking. While the outcome of this case remains in abeyance, through invoking legal discourse to address childhood obesity it may have already succeeded in not only raising the profile of the problem of childhood obesity, but initiated much thought around the responsibility of fast food chains, advertisers and other powerful groups for childhood obesity. It is from such beginnings that much legal change occurs, no matter any initial failure. Law is simply a tool, not an end in itself.

Thus law can be used as a *proactive* device and set the parameters within which social issues are debated and determined. What we seek to highlight is the manner in which public health practitioners can promote certain objectives in public health by using human rights discourse.

Human Rights and Public Health Practice

It is now accepted that there are various universal human rights that go to the quality

of our lives. For example, the right to a standard of living that protects our health can be regarded as a basic human right (*Universal Declaration of Human Rights*, article 25). So too is freedom of movement, which clearly makes it possible to participate in and enjoy other human rights (Universal *Declaration of Human Rights*, article 13). But there has been little attention paid to how some of these rights sit together. Thus while the right to move freely necessitates the provision of transport infrastructure in order to facilitate the exercise of that right, the manner in which decisions in that regard impact on the right to a healthy environment rarely receives formal consideration. In the main the various state organs and departments that preside over say, decisions in transport planning, do so at some distance from those which have the responsibility for health matters.

These are points which Davis and Jones (1996) also make in relation to the need to consider the effect of the *United Nations Convention on the Rights of the Child* in planning cities around the health needs of children. Their main concern is that children should be included in the decisions that determine how cities are planned so that children's needs with respect to mobility and space are incorporated into city design (see also Simpson 1997). The important point to note is that their argument relies not simply on a policy which notes the benefit of the child's perspective, but on the existence of children's rights - such as the right of children to express their views in all matters that affect them (*United Nations Convention on the Rights of the Child*, article 12), which have been set out in the *United Nations Convention* and ratified by governments. They describe the *Convention* as "a major challenge for the new public health" (Davis & Jones 1996, p. 111). Other articles in the *Convention* also underpin the rights of children to a healthy environment, such as article 24 (right to the enjoyment of the highest attainable standard of health), article 27 (right to an adequate standard of living) and article 31 (the right to leisure and to engage in play). Other rights that children possess under the *Convention* can, it might be argued, be meaningless without a right to a healthy environment. For example, the right to education contained in article 28 would be seriously affected by a lack of commitment to public health. In other words, the right to health can be implied in many of the rights expressed in the *Convention*.

Thus the role of human rights law in this context is that it creates a discourse that begins to draw together disparate threads and make connections that have not always been readily made. It is the articulation of a *right* to a healthy environment that converts the issue of childhood obesity from one that focuses on individual lifestyle choices into the *legal* responsibility of the state. As stated above, factors in the creation of childhood obesity have been said to be a sedentary lifestyle and a decline in walking as a transport option by children. Rights discourse suggests that the right to a healthy environment might require an examination of the manner in which transport options are planned as part of any consideration of the extent to which such planning conforms with - in the case of children - the rights of the child to a healthy environment. In other words, are the human rights of the child to good health protected by decisions made in transport planning? Such linkages have begun to be made in Europe.

Charter on Transport, Environment and Health

Human rights discourse has led to the European Member States of the World Health Organization producing a *Charter on Transport, Environment and Health* that was signed on 16 June 1999 in London. It may be said that the *Charter* is not legally binding on Australia. But such a standpoint would fail to recognise how as part of a legal discourse on human rights it can influence legal and social thought in Australia. Nor

does such a stance fully appreciate the manner in which legal discourse evolves. The foundations of this *Charter* are the same as those upon which human rights recognised in Australian law rest. It is thus important to consider whether the *Charter* represents the first step in a global movement towards regarding obesity as a human rights matter. It also represents a move towards greater detail in explaining how human rights are to be achieved. It is therefore an important document to examine for the manner in which it provides an articulation of the connection between the rights of individuals to health and transport planning as well as strategies to achieve recognition of those rights.

The Charter

The *Charter* states at the outset that its concern is with a broad range of issues that are of ongoing concern for all those who work in the field of public health. The preamble acknowledges the important role that transport plays with respect to "access to goods and services, opportunities for individual mobility and better quality of life, and [that it] plays an important role in the economic and social development of our communities" (WHO 1999, *Charter on Transport, Environment and Health*, preamble, para. 1). But the document then states the concern that "the impacts which decisions about transport have on health and the environment have so far not been fully recognized" (WHO 1999, preamble, para. 2) It then states that "we must ensure that the wellbeing of our communities is put first when preparing and making decisions regarding transport and infrastructure policies" (WHO 1999, preamble, para. 1).

Such statements of intent are fundamental if there is to be a shift away from thinking about transport planning as a matter primarily to do with personal mobility. It is clear that the *Charter* aims to place the health of the community as the paramount consideration in such decision making. This is further reinforced in the rest of the preamble as it recognises that:

1. *Reliance on motorized transport, in particular road transport, continues to increase, resulting in adverse environmental and health effects. These effects may increase in the future if no effective preventive and structural actions are taken;*
2. *Increasing the safety of transport and reducing the health consequences of accidents need to be given high priority;*
3. *Policies on transport, environment and health need to be better coordinated, with a view to integrating them. The potential conflicts between transport and environment health policies will increase at all levels unless effective action is taken now. There is a need to enhance cooperation and coordination between different sectors in central and local governments, as well as between governments, the public and private sector.*
4. *Until now, the health effects of transport have been dealt with separately and without regard for their cumulative effect. Further coordination with and within the health sector is needed;*
5. *Consideration of the health impacts of policies has to be better integrated into approval procedures, impact assessments, and evaluations of the costs and benefits of transport plans, land use planning, and infrastructure programmes and investments;*
6. *Motorized transport, and especially road and air transport users, usually do not face the full environmental and health-related costs, which can create adverse incentives and distortions in the transport market;*
7. *The public is generally not sufficiently informed of the adverse environmental and health effects from motorized transport and the importance of taking individual action to alleviate the problems (*WHO 1999, *Charter on Transport, Environment and Health, preamble,* para. 3(1) - 7*).*

It is evident in these statements that a key focus of the *Charter* is the need for a

multidisciplinary approach to transport planning as it impacts on public health. But it is also a document that rests on fundamental assumptions about the connection between transport policy and its impact on the public health. It evolves from recognition that all citizens can claim a right to a healthy environment and that this places many obligations on the state as a consequence.

The basis of the Charter

The *Charter* details various pieces of evidence to show how transport policy impacts on health. This is annexed to the *Charter*. The document cites the high rate of road accidents within Europe - 2 million accidents with injuries leading to 120,000 deaths and 2.5 million injured people per year. In addition, while road transport accidents lead to most fatalities, 30 to 35% of those deaths are of pedestrians and cyclists. Pedestrians die at twice the rate of car occupants from road accidents (WHO 1999, Annex 1) In other words, certain groups in the community are more vulnerable to injury from road transport and these groups are not necessarily those who are making use of that form of transport when they are affected.

The annex to the *Charter* also notes that about 80,000 adults die in Europe each year from "long-term exposure to traffic-related air pollution". It refers to claims that children who live near roads with heavy vehicle traffic have a 50% higher risk of suffering from respiratory problems than children living in areas with low traffic volumes do. It also refers to research, which suggests that both diesel exhaust exposure and gasoline exhaust exposure may be carcinogenic to humans (WHO 1999, Annex 1).

Traffic noise is also noted as a health problem in the document. Such noise may cause "serious annoyance, speech interference and sleep disturbance". It is also connected with learning disabilities in children, interference with the concentration of people and increased stress and blood pressure. It also notes that "there is emerging evidence of an association between hypertension and ischaemic heart diseases and high levels of noise" (WHO 1999, Annex 1).

Dependence on road transport clearly deters people from engaging in other forms of physical activity to get around, such as walking and cycling. The annex to the *Charter* notes the benefits of walking and cycling for general health as well as its role in reducing the risk of heart disease, diabetes, obesity, hypertension, and high blood pressure. Such exercise also reduces the likelihood of osteoporosis, provides relief from depression and anxiety and assists in the prevention of falls in the elderly (WHO 1999, Annex 1).

The psychosocial effects of traffic are also referred to. The *Charter* notes that people can be socially isolated by high volumes of traffic. This may particularly impact on the elderly where there is evidence of such isolation leading to higher rates of mortality and morbidity. Children also suffer from dependence on road transport:

> *Children who have the opportunity of playing unhindered by street traffic and without the presence of adults have been found to have twice as many social contacts with playmates in the immediate neighbourhood as those who could not leave their residence unaccompanied by adults due to heavy traffic.*
>
> *The fear of accidents is reported by parents as being the main reason for taking children to school by car. This hinders the development of children's independence and reduces their opportunities for social contact. It also has an influence on children's attitudes towards car use and personal mobility in adulthood (*WHO 1999, *Charter on Transport, Environment and Health,* Annex 1*).*

Road traffic accidents may also lead to water and soil pollution where dangerous goods being transported are involved. Transport infrastructure itself generates various noxious substances - exhaust, de-

icing substances, waste (old cars, tyres, batteries), fuel spillage can lead to contamination of soil and ground water and in turn affect the quality of drinking water and agricultural products (WHO 1999, *Charter on Transport, Environment and Health*, Annex 1).

Finally, the *Charter* acknowledges that the various adverse impacts of transport do not fall evenly across society:

> *The impacts of transport on health fall disproportionately on certain groups of the population. Some are more vulnerable to traffic risks, due to old or young age, to illness or disability. Others use modes of transport associated with greater risks (e.g. motorcycles). Some are more exposed because the areas they live, work or move in have higher levels of pollutants and noise (e.g. due to the intensifying effect of specific geographical and topographical conditions and settlement characteristics) or other risks, or restrict cycling and walking. Many disbenefits of transport can accumulate in the same communities, often those that already have the poorest socioeconomic and health status (*WHO 1999, *Charter on Transport, Environment and Health*, Annex 1*).*

While much of this evidence does not directly address the issue of connections between childhood obesity and transport, such linkages are perhaps self-evident. The *Charter* provides many reasons for changing attitudes towards transport in terms of public health, but we would suggest that it creates a context within which arguments for reducing car dependence, and increasing opportunities for children to travel by public transport, cycling or walking can be more readily put. Importantly, these arguments are not put simply in terms of good public health policy, but because the *Charter* flows from a commitment to creating a healthy environment based on human rights.

Thus the *Charter* sets out principles for the development of strategies to address the health implications of transport planning. Essentially these are the principles of sustainable development:

1. *reducing the need for motorized transport by adaptation of land use policies and of urban and regional planning;*
2. *shifting transport to environmentally sound and health-promoting modes;*
3. *implementing best available technologies and best environmental and health standards;*
4. *applying strategic health and environmental indicators and impact assessments, with the involvement of environmental and health authorities;*
5. *relating the costs of transport more closely to mileage travelled and internalizing transport-related environmental and health costs and benefits;*
6. *raising awareness of transport and mobility sustainable for health and the environment. Including efficient driving behaviour;*
7. *applying innovative methodologies and monitoring tools;*
8. *establishing partnerships at international, national, subnational and local levels;*
9. *promoting pilot projects and research programmes on transport sustainable for health and the environment;*
10. *providing information to the public and involving them in relevant decision-making processes (*WHO 1999, *Charter on Transport, Environment and Health*, Part III*).*

The document then details a "plan of action" to implement these strategies. The plan of action includes requirements on the parties to the *Charter* to integrate environment and health considerations into transport and land use policies and plans through such means as the pursuit of:

> *multi-sectoral cooperation and ensure that environment and health requirements are integrated and* [that] *their authorities are both involved in transport-related decision-making processes, such as those on transport, water and land use planning, infrastructure investment programmes and policy decisions* [and also to] *review and where necessary develop further strategies or introduce national action plans to ensure the*

*proper integration of health and environment concerns into transport and land use strategies, in particular, through the further development of National Environmental Health Action Plans, and to promote similar actions at the sub-national and local levels (*WHO 1999, *Charter on Transport, Environment and Health,* Part IVA*).*

The *Charter* supports transport and land use planning which is geared towards the promotion of public health and which will not give private motor transport such pre-eminence. Thus it proposes that government:

- *reduce the need for motorized transport by adapting land use policies and urban and regional development plans to enable people to have easy access to settlements, housing and working areas, and shopping and leisure facilities by cycling, walking and public transport.*
- *raise the attractiveness of public transport, walking and cycling, and promote intermodality between them, not least by prioritizing public transport, walking and cycling in connection with the extension of infrastructure (*WHO 1999, *Charter on Transport, Environment and Health,* Part IVB*).*

With respect to land use planning the *Charter* clearly suggests that public health professionals must be more concerned with the nature of land use planning which occurs in cities. Development plans set the agenda for urban planning and a large part of that process revolves around concerns with traffic flows, traffic noise and creating space for cars. Health issues must be more carefully articulated in such documents and the extent to which they are currently shaped by a meek acceptance of current patterns of motor car use should be of concern to public health officials.

Human rights, children s rights, transport and public health

While the *Charter on Transport, Environment and Health* is clearly not concerned solely with the health needs of children, it nevertheless does provide a framework within which to integrate concern with childhood obesity into the discussion of public health and human rights. It indicates how public health issues, including childhood health matters such as childhood obesity, can be constructed as matters that go to human rights and the legal obligations that should be imposed on the state to recognise those rights. It is a document that provides public health practitioners with another means of articulating the need for better designed cities that promote public health and which, amongst other objectives, aid in the reduction of childhood obesity. The *Charter* examined here, provides an example of how this leads to a detailed exposition of how those rights should be recognised through its articulation of specific policies which require implementation if such rights are to have effect.

Conclusion

The integration of discourses on human rights and children's rights provides a mechanism to construct public health problems - such as childhood obesity - as a legal problem. The significance of this approach is that it is public health practitioners who are able to play a lead role in utilising these discourses to effect change in how public health concerns are addressed. The importance of human rights discourse in the context of public health issues is in the manner in which it can be utilised outside formal legal structures. Recourse to principles of human rights and children's rights must inform practice and in doing so affect how society at large sees the need to address various public health matters. Childhood obesity is a matter of ongoing concern and one that urgently needs to be addressed. Human rights discourse can be a powerful tool in the hands of public health practitioners and can provide another way forward to address this public health concern.

References

Age, 'Fighting the Obese Enemy', 13 February, 2002.

Age, 'Fat epidemic hits Aussie kids', 11 September, 2002.

Centers for Disease Control and Prevention 2003, '"Kidswalk-to-school" program', <www.cdc.gov /nccdphp/dnpa/kidswalk/index.htm>23 April 2003.

Davis, A. & Jones, L.J. 1996, 'Children in the urban environment: An issue for the new public health agenda', *Health and Place*, vol.2, no.2, pp. 107-13.

Donnison, D. 1989, 'Rethinking rights talk', in Markets, Morals and Public Policy, eds L. Orchard & R. Dore, Federation Press, Sydney.

Foucault, M. 1979, *Discipline and Punish: The Birth of the Prison*, Penguin, London.

Goodman, S., Lewis, P.R., Dixon, A.J., & Travers, C. 2002, 'Childhood obesity: Of growing urgency', *Medical Journal of Australia*, vol. 176, 15 April, pp. 400-01.

Kairys, D. ed. 1998, *A Critique of Law: A Progressive Critique*, Basic Books, New York.

National Health and Medical Research Council 1997, *Acting on Australia's Weight: A Strategic Plan for the Prevention of Overweight and Obesity*, Commonwealth of Australia, p. 75.

Pedestrian Council of Australia Year 2003, 'Walk Safely to School Day', <www.walk.com.au/ pedestriancouncil/page.asp>23 April 2003.

Simpson, B. 1997, 'Towards the participation of children and young people in urban planning and design', *Urban Studies*, vol. 34, nos. 5-6, pp. 907-25.

United Nations Convention on the Rights of the Child, 1990, United Nationas General Assembly Resolution 44/25 of 20 November 1989, entered into force 20 September 1990 in accordance with Article 49, <www.unicef.org/crc/crc.htm>

Universal Declaration of Human Rights, 1948, United Nations General Assembly Resolution 217A(III) of 10 December 1948, <www.un.org/overview/rights.html>

World Health Organization 1997, Obesity epidemic puts millions at risk from related diseases, World Health Organization, Press Release, 12 June, <www.who.int/archives/inf-pr-1997/en/pr97-46.html>

World Health Organization 1999, *Charter on Transport, Environment and Health*, EUR/ICP/EHCO 02 02 05/9 Rev.4 09009 - 16 June 1999.

World Health Organization 2002a, '*Childhood nutrition and progress in implementing the International Code of Marketing of Breast-milk Substitutes: Report by the Secretariat*', World Health Organization Fifty-Fifth World Health Assembly A55/14 Provisional agenda item 13.10, 19 March, p. 3, <www.who.int/gb/EB_WHA/PDF/WHA55/ea5514.pdf>

World Health Organization 2002b, *Report of the Workshop on Obesity Prevention and Control Strategies in the Pacific*, Apia, Samoa 26-29 September 2000, Manila, Philippines July 2002, p. 5, <http://www.wpro.who.int/themes_focuses/theme2/focus2/obesityreport.pdf>

World Health Organization, 2003, 'Controlling the global obesity epidemic', <www.who.int /nut/obs.htm>

Cases

Pelman & Bradley v. McDonald's Restaurants of New York, US District Court, Southern District of New York, 22 January, 2003.

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