Income inequality and health status: a nursing issue

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KEY WORDS

socio-economic, nursing, population health, inequality

ABSTRACT

Objective
To review the association between income inequality and health status, and consider an appropriate nursing response.

Primary Argument
Nursing has a rich heritage of advocating for a healthy society established on a foundation of social justice. The future legitimacy and success of public health nursing depends on recognising and appropriately addressing the social, economic and political determinants of health in the populations served. There is an incontrovertible association between population health status, absolute income levels and income inequality. Thus, along with other social determinants of health, income differentials within populations must be a fundamental consideration when planning and delivering nursing services. Ensuring that federal and state health policy explicitly addresses this key issue remains an important challenge for the nursing profession, the public health system and the Australian community.

Conclusions
Higher mortality and worse health status occur in societies with higher income inequality. The relationship between income inequality and health appears to be determined both by relative access to resources for health gain and relative social position. The association between greater income equality and improved health may be explained by improved social cohesion. As social factors are at the root of much of health inequality, this knowledge needs to invoke political action and advocacy from the nursing profession to promote the development of healthy public policy.

Including indicators of income inequality when planning and monitoring nursing services will enable services to measure to what extent they are based on the principle of social justice.

INTRODUCTION

Nursing has a rich heritage of nurses serving as advocates for a healthy society based on the principle of social justice (Drevdahl et al 2001). The role of public health nursing in many countries, including Australia, is varied but the focus on the populations' health is central to its role (WHO 2001). This role includes action in the areas of preventative health services and public policy. The future legitimacy and success of public health nursing depends on recognising and appropriately addressing the social, economic and political determinants of health in the populations served. Most notably, the relationship between income and population health status should not be neglected.

The link between population health status and socioeconomic status has long been recognised. Many diseases are more common and life expectancy is shorter at the lower rungs of the social ladder in each society (WHO 2003).

The World Health Organisation (2003) describes the main social determinants of health as: social exclusion; the social gradient; stress; a good start in life; employment; social support; addiction; nutrition; and healthy transport. Social exclusion is inextricably linked with income inequality. In this paper, this association is reviewed, and the contributions of relative social position and community social cohesion considered. The implications for the planning and delivery of equitable nursing services are discussed.

Mortality, health status and income inequality

The association between socio-economic status and mortality rates has been established for many years and validated in many countries (WHO 2003), including Australia, where McMichael (1985) found that male mortality rates in the 1970's had an inverse relationship with social class. In New Zealand, males aged 15-64 years in the lowest socio-economic group had a mortality rate 3.5 times higher than those in the highest socio-economic group during the 1970's and 1980's (Marshall et al 1993). Scotland had higher mortality rates than England and Wales in 1980-1982, with greater Scottish deprivation identified as the key determinant of this difference (Carstairs and Morris, 1989).

The Population Health Forum, a group of academics and other people who work to build a healthier society, argue that the greatest health hazard is the economic gap between the rich and the poor (Population Health Forum 2007). More than a decade ago reports indicated that income inequality rather than absolute income was the most important factor underlying the profound and increasing mortality differentials in Scotland (McLoone and Boddy 1994), the USA and Britain (Davey-Smith and Egger 1993).

The effect of income inequality on population health status continues to be described. Recently, manual workers were found to be at a higher risk of death than non-manual workers when they live in areas with higher income inequality within Sweden (Henriksson et al 2007). Poverty and income inequality correlated with teenage pregnancy rates (Crosby and Holtgrave 2006). The risk of suicide in young adults has also been associated with income inequality (Miller et al 2005). In an ecological study of 21 developed countries, Pickett et al (2005) found that obesity, calorie consumption and diabetes mortality were associated with income inequality. The effects of income inequality were also seen at a young age, with 11 year old children in countries with high income inequality reporting more episodes of drunkenness than the same age group in countries with low income inequality (Elgar et al 2005).

Even in Italy, a country where health care and education are universally available and a strong social safety net exists, income inequality had an independent and more powerful effect on life expectancy at birth than did individual income and educational attainment (De Vogli et al 2005).

In an analysis of combined Canadian and USA data, Ross et al (2000) found that income inequality was a significant explanatory variable of mortality, with a 1% increase in the share of income to the poorer half of working age-group households modelled to reduce mortality by nearly 21 deaths per 100,000 per year.

Although some commentators still question the relationship between income inequality and population health, a recent authoritative review of the evidence (Wilkinson and Pickett 2006), including 168 analyses in published 155 reports, found that a large majority (70 per cent) of these analyses conclude that poorer health was experienced in societies where income differences were bigger. According to Wilkinson and Pickett (2006) many of the studies that showed no association were measuring inequality in small populations with a limited range of social class differences and thus were unable to show the association.

In a review of the social determinants of health, the World Health Organisation (2003) concluded that relative poverty, as well as absolute poverty and social exclusion, had major impacts on health. The distribution of income and inequality of its distribution is the main factor defining relative poverty. Relative poverty denies people access to housing, education, transport and other societal benefits. Being treated as less than equal and being excluded from society can lead to poorer health experience (WHO 2003).

How income inequality results in poorer health is not fully understood. Explanations include the effect that income inequality has on negative emotions and stress behaviours, an innate dislike of inequality (Godoy et al 2006), the influence of invidious social comparisons, and a reduction of social capital (Zimmerman and Bell 2006). The level of environmental disorder and quality of the built environment are also important factors and primarily explained the effect of income inequality on overdose deaths in New York City (Nandi et al 2006). In a study by Siahpush et al (2006) the psychological effects of income inequality in Melbourne, Australia, were clearly demonstrated, with smoking being associated with a higher level of perceived income inequality, lower perception of relative material well-being and living in a community with a lower degree of trust and safety.

The greater the length of time that people live in disadvantaged circumstances, the more likely their health will be worse (WHO 2003). It appears that this effect is cumulative over an individual's lifespan, with childhood and adult social and economic conditions combining to determine health experience (Langenberg 2005). Thus the disconcerting trend of increasing income inequality in many countries does not bode well for future health equality (Shaw et al 2005). Wilkinson (1997a) considers that the processes of social stratification explain the link between income inequality and health, a relationship that is further clarified by an understanding of the role of social cohesion (Wilkinson 1997b). Labonte (1999) describes social cohesion as the palpable and powerful "gluey stuff that binds individuals to groups, groups to organisations, citizens to societies". Wilkinson (2002, 1997b) argues that social cohesion and health deteriorate simultaneously with increasing income inequality. Income equality's link with better health has been directly attributed to greater social cohesion (Wilkinson 1997a).

The Nursing Perspective

This important link between income inequality, social disadvantage and poor health status deserves careful consideration and action by the 21st century nursing profession.

It is well recognised that health systems are not conventionally organised to deliver more or better health services to people at the bottom of the class structure, but if this is addressed, marked improvements in health status are possible. This call for justice is supported by evidence that health risks are reduced by favourable changes in organisational justice (Kivimaki et al 2004). Drevdahl et al (2001) suggest that nursing practice must apply justice as a key principle to resolve the tension between the health of individuals and the health of populations. It is easy to focus on the health of individuals and neglect the socio-economic struggles at population level. Improved access and quality of schooling, health care, social welfare and working conditions were identified by Lynch et al (2000) as the principal areas where strategic investments would improve population health. Nursing has a central role in advocating for these investments.

As social factors are at the root of much of health inequality, health status is of concern to policy makers in every sector, not solely those in the public health

sector and this concern needs to invoke political action (Baum 2005, Marmot 2005).

The WHO (2003) has argued that developments in the policy areas of wages and salaries, protection from discrimination and social exclusion, removal of barriers to health care services and reductions in social stratification are required. Advocacy by nurses individually and as professional collectives for government policy to address these issues could result in important changes to reduce income inequality and improve the health of the population.

The World Health Organisation (2007) put forward ten principles for policy action that are helpful for guiding nursing action. Inherent in these principles is the concept of levelling up and not levelling down, that is bringing up the level of the groups of people who are worse off to that of the groups who are better off. This approach requires focusing on people in poverty and narrowing the health divide.

Drevdahl et al (2001) argue that nurses, together with other health professionals, must create a climate where socio-economic differentials are unacceptable, and thus remain true to our heritage of advocating for a healthy society. Including a measure of income inequality in the populations served could be incorporated in the planning, delivery and monitoring of all nursing services. This should resonate well with the Australian community, which has indicated broad support for reducing the gap between the rich and poor (Newspoll Market Research 2000).

CONCLUSIONS

Higher mortality and worse health status occur in societies with higher income inequality. The relationship between income inequality and health appears to be determined both by relative access to resources for health gain and relative social position. The association between greater income equality and improved health may be explained by improved social cohesion. As social factors are at the root of much health inequality, this knowledge needs to invoke political action and advocacy from the nursing profession to promote the development of healthy public policy. A measure of income inequality should be used when planning and monitoring nursing services.

REFERENCES

Baum, F. 2005. Wealth and health: the need for more strategic public health research. *Journal of Epidemiology and Community Health,* 59(7):542–545.

Carstairs, V. and Morris, R. 1989. Deprivation: explaining differences in mortality between Scotland and England and Wales. *British Medical Journal*, 299(6704):886-889.

Crosby R.A. and Holtgrave D.R. 2006. The protective value of social capital against teen pregnancy: a state-level analysis. *Journal of Adolescent Health*, 38(5):556-559.

Davey Smith, G. and Egger, M. 1993. Socioeconomic differentials in wealth and health. *British Medical Journal*, 307(6912):1085-1086.

De Vogli R., Mistry R., Gnesotto R. and Cornia G.A. 2005. Has the relation between income inequality and life expectancy disappeared? Evidence from Italy and top industrialised countries. *Journal of Epidemiology and Community Health*, 59(7):158-162.

Drevdahl, D., Kneipp, S.M., Canales, M. and Dorcy, K.S. 2001. Reinvesting in social justice: a capital idea for public health nursing. *Advances in Nursing Science*, 24(2):19-31.

Elgar F.J., Roberts C., Parry-Langdon N. and Boyce W. 2005. Income inequality and alcohol use: a multilevel analysis of drinking and drunkenness in adolescents in 34 countries. *European Journal of Public Health*, 15(3): 245-250.

Godoy R.A., Reyes-Garcia V., McDade T., Huanca T., Leonard W.R., Tanner S. and Vadez V. 2006. Does village inequality in modern income harm the psyche? Anger, fear, sadness, and alcohol consumption in a pre-industrial society. *Social Science and Medicine*, 63(2):359-372.

Henriksson G., Allebeck P., Weitoft G.R. and Thelle D. 2007. Are manual workers at higher risk of death than non-manual employees when living in Swedish municipalities with higher income inequality? *European Journal of Public Health*, 17(2):139-144.

Kivimaki, M., Ferrie, J.E., Head, J., Shipley, M.J., Vahtera, J. and Marmot, M.G. 2004. Organisational justice and change in justice as predictors of employee health: the Whitehall II study. *Journal of Epidemiology and Community Health*, 58(11):931-937.

Labonte, R. 1999. Social Capital and community development: practitioner exempor. *Australian and New Zealand Journal of Public Health,* 23(4):424-429.

Langenberg, C., Shipley, M.J., Batty, G.D. and Marmot, M.G. 2005. Adult socioeconomic position and the association between height and coronary heart disease mortality: findings from 33 years of follow-up in the Whitehall study. *American Journal of Public Health*, 95(4):628-632.

Lynch, J.W., Davey Smith, G., Kaplan, G.A. and House, J.S. 2000. Income inequality and mortality: importance to health of individual income, psychosocial environment, or material conditions. *British Medical Journal*, 320(7423):1200-1204.

Marmot, M. 2005. Social determinants of health inequalities. *Lancet*, 65(9464):1099-1104.

Marshall, S.W., Kawachi, I., Pearce, N. and Borman, B. 1993. Social class differences in mortality from diseases amenable to

medical intervention in New Zealand. *International Journal of Epidemiology*, 22(2):255-261.

McLoone, P. and Boddy, F.A. 1994. Deprivation and mortality in Scotland, 1981 and 1991. *British Medical Journal,* 309(6967):1465-1470.

McMichael, A.J. 1985. Social class (as estimated by occupational prestige) and mortality in Australian males in the 1970's. *Community Health Studies*, 9(3):220-230.

Miller J.R., Piper T.M., Ahern J., Tracy M., Tardiff K.J., Vlahov D. and Galea S. Income inequality and risk of suicide in New York City neighbourhoods: a multi-level case-control study. 2005. *Suicide and Life-threatening Behaviour*, 35(4):448-459.

Nandi A., Galea S., Ahern J., Bucciarelli A., Vlahov D. and Tardiff K. 2006. What explains the association between neighbourhood-level income inequality and the risk of fatal overdoses in New York City? *Social Science and Medicine*, 63(3):662-674.

Newspoll Market Research. 2000. *Quality of Life Survey*. Newspoll Market Research http://www.newspoll.com.au (accessed 25 Oct 2007).

Pickett K.E., Kelly S., Brunner E., Lobstein T. and Wilkinson R.G. 2005. Wider income gaps, wider waistbands? An ecological study of obesity and income inequality. *Journal of Epidemiology and Community Health*, 59(8):670-674.

Population Health Forum, University of Washington. *Advocating for action toward a healthier society.* http://depts.washington.edu/eqhlth/ (accessed 24 Oct 2007).

Ross, N.A., Wolfson, M.C., Dunn, J.R., Berthelot, J., Kaplan, G.A. and Lynch, J.W. 2000. Relation between income inequality and mortality in Canada and in the United States: cross sectional assessment using census data and vital statistics. *British Medical Journal*, 320(7239):898-902.

Siapush M., Borland R., Taylor J., Singh G.K., Ansari Z. and Serraglio A. 2006. The association of smoking with perception of income inequality, relative material well-being and social capital. *Social Science and Medicine*, 63(11):2801-2812.

Wilkinson, R.G. 1997a. Socioeconomic determinants of health: Health inequalities: relative or absolute material standards? *British Medical Journal,* 314(7080):591-595.

Wilkinson, R.G. 1997b. Income, inequality and social cohesion. *American Journal of Public Health,* 87(9):1504-1506.

Wilkinson, R. 2002. Commentary: Liberty, fraternity, equality. *International Journal of Epidemiology*, 31(3):538-543.

World Health Organisation. 2001. *Public health nursing: past and future - a review of the literature*. http://www.euro.who.int/document/e74237.pdf. Edgecombe G. Denmark.

World Health Organisation. 2003. *Social determinants of health: the solid facts* (2nd ed). R. Wilkinson and M. Marmot (ed), Denmark.

World Health Organisation. 2007. *Levelling up (part 1): a discussion paper on concepts and principles for tackling social inequities in health.* M. Whitehead M and G. Dahlgren (ed), Denmark.

Zimmerman F.J. and Bell J.F. 2006. Income inequality and physical and mental health: testing associations consistent with proposed causal pathways. *Journal of Epidemiology and Community Health,* 60(6):513-521.