

background. A psychiatric classic established that individuals with schizophrenia can identify others as mad, even when they share the same delusions.¹⁰

Breivik's views on the evils of multiculturalism, immigration, and the threat of Islam mixed in with nonsense about the Knights Templar and so on, are absurd, reprehensible, and abhorrent, but he is not alone. One fears that in the backwoods of Montana or among those who subscribe to what is loosely called "anti Jihadism" are other people like him, who may also have devoted a summer to playing World of Warcraft and believe that Dan Brown writes history. The meticulous way in which he planned his attacks does not speak to the disorganisation of schizophrenia. My colleagues in forensic psychiatry struggle to think of anyone who has had the foresight to bring along a sign stating "sewer cleaning in progress" to avoid drawing attention to the smell of sulphur from the homemade explosives in the back of his vehicle. If a psychiatric parallel is needed, the closest might be the classic case of German school teacher Ernst Wagner, who murdered 15 people in a small village, and was diagnosed with paranoia, or delusional disorder as it is now known.¹¹

The second misconception is that the purpose of psychiatry is to "get people off". In the UK, however, if you commit murder and want to spend as little time in detention as you can, putting forward a mental illness defence may mean that you will spend more—not fewer—years behind bars.¹² And the forensic psychiatry system is not a soft or popular option either. Most offenders have the same prejudices towards mental illness as the general population, and would rather take their chances in prison than be what they call "nutted off". Similarly, it is a commonplace observation among British forensic psychiatrists that those who have experienced both prison

and hospital often prefer the former because "at least they don't try to do your head in". The widespread anger when it seemed that Breivik was going to be sent to hospital rather than prison reminds us that liberal attitudes to mental illness are still often only skin deep.

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- 1 International Advisory Council on the Health Sector Response to the Terrorist Attacks of June 22, 2011. Lessons for better preparedness. Health effort after the acts of terror July 22, 2011 [in Norwegian]. <http://www.helseidirektoratet.no/publikasjoner/lering-for-bedre-beredskap-/Sider/default.aspx> (accessed April 23, 2012).
- 2 Orange R. "Answer hatred with love": how Norway tried to cope with the horror of Anders Breivik. *The Observer* April 15, 2012. <http://www.guardian.co.uk/world/2012/apr/15/anders-breivik-norway-cope-horror> (accessed April 23, 2012).
- 3 Rettspsykiatrisk erklæring Breivik, Anders f. 130279 [in Norwegian]. http://pub.tv2.no/multimedia/TV2/archive/00927/Breivik_rapport_927719a.pdf (accessed April 23, 2012).
- 4 Anda LG. Norwegian disbelief at Breivik's insanity. Nov 29, 2011. BBC News World. <http://www.bbc.co.uk/news/world-15954370> (accessed April 23, 2012).
- 5 Jenkins P. Serial murder in England 1940–1985. *J Crim Justice* 1988; **16**: 1–15.
- 6 Norwegian Ministry of Health and Care Services. Mental health services in Norway. Prevention—treatment—care. 2009. <http://www.regjeringen.no/upload/kilde/hod/red/2005/0011/ddd/pdfv/233840-mentalhealthweb.pdf> (accessed April 23, 2012).
- 7 Bondevik K. Depression and recovery. Interview with Kjell Magne Bondevik by Sarah Mitchell. *J Ment Health* 2010; **19**: 369–72.
- 8 Grøndahl P. Scandinavian forensic psychiatric practices: an overview and evaluation. *Nord J Psychiatry* 2005; **59**: 92–102.
- 9 Korsvold K. The Norwegian system can produce many exonerations. *Aftenposten* April 13, 2012 [in Norwegian]. <http://www.aftenposten.no/nyheter/iriks/22juli/-Det-norske-systemet-kan-gi-mange-feilaktige-frifinnelser-6803402.html> (accessed April 23, 2012).
- 10 Rokeach M. *The three christs of Ypsilanti*. Knopf: New York, 1964.
- 11 Gaupp R. Die wissenschaftliche Bedeutung des "Falles Wagner". *Munchener Medizinische Wochenschrift* 1914; **61**: 633–37. Translated by Marshall H. In: Hirsch S, Shepherd M, eds. *Themes and variations in European psychiatry: an anthology*. Bristol: John Wright, 1974.
- 12 Grounds A. The transfer of sentenced prisoners to hospital 1960–83: a study in one special hospital. *Br J Criminol* 1991; **31**: 54–71.

Seizing the opportunities of adolescent health

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Economic and social change have brought great opportunities and threats to adolescent health for rich and poor nations alike. The health transition, together with changes in adolescent social roles, has shifted the burden from childhood infectious diseases towards adolescent injuries and health-jeopardising behaviours in all but the poorest countries. Fortunately, research has clarified many determinants of these behaviours, and wide-ranging

prevention approaches to minimise harm and promote health have been identified. The challenge is how to increase use of efficacious policies and programmes worldwide, while recognising that communities and nations differ and need to make local decisions. Likewise, there is a need to understand that adolescent health contributes to adult health and can deliver economic dividends to nations that invest wisely in adolescent health.^{1,2}

There are two challenges common to any broad agenda such as the *Lancet* Series on Adolescent Health:³⁻⁶ gaining and maintaining attention in the face of competing concerns, and persuading influential parties that problems can be prevented. Our Call to Action is predicated upon compelling reasons to invest in adolescent health worldwide, and the specific steps that should be taken to assure optimum outcomes for adolescents and their communities.

The Series strongly supports the growing momentum of adolescent-focused initiatives, arguing that investment in adolescent health is essential. In its 2011 assessment of the state of the world's children, UNICEF promoted such investment because it is right in principle; it protects investments in childhood health; it accelerates the achievement of goals related to equity, alleviation of poverty, and sex discrimination; it helps equip young people to face ongoing and emerging challenges; and because adolescents will inhabit both the present and future.⁷ Adolescence is central to global health goals for physical, mental, sexual, and reproductive health, reductions in injuries, incidence of HIV, and chronic substance misuse. At least 70% of premature adult deaths reflect behaviours started or reinforced during adolescence. The burgeoning challenge of non-communicable diseases linked to obesity, physical inactivity, early elevations in blood pressure, tobacco and substance use, and mental disorders^{8,9} pose worldwide threats to health, since two-thirds of deaths are linked to non-communicable diseases.¹⁰

In addition to its contribution to worldwide morbidity and mortality, the growing burden of non-communicable diseases is also a major cause of health inequalities and an impediment to achievement of health and development goals.¹¹ The link between adolescent and adult health suggests that evidence-based investments in healthy adolescent development have enormous implications for future global health. About half of the world's population is now younger than 25 years, with substantial proportions in low-income and middle-income countries.¹² How nations harness the contribution of their adolescents and young adults will determine their futures, in terms of economic success and quality of life. Put simply, failure to invest in the second decade of life, despite the availability of proven and promising prevention and health promotion strategies,³⁻⁵

will jeopardise earlier investments in maternal and child health, substantially erode the quality and length of human life, and escalate human suffering, inequity, and social instability.^{2,10,13,14}

Building a worldwide agenda for adolescent health needs an escalation in the visibility of young people and an understanding of challenges to their health and development. It needs implementation of strategies that will ensure a successful transition to adulthood. Systematic measurement of adolescents' health is integral to increasing their visibility. Better worldwide data collection is needed, with the capacity to disaggregate data to make the health of adolescents and young adults more visible. The formulation and use of standardised measures across datasets should include the social determinants of health, with adequate assessment of both risk and protective factors to permit ongoing monitoring of the antecedents of health behaviours as young people mature.¹⁵ Such measures enhance national efforts by assessing local determinants that help communities focus preventive action on the most important local inhibitors of adolescent health and development.

These improved data and monitoring systems should be used to issue national reports on adolescent health and development. These reports should include indices of health and the social contexts that affect health in adolescence (eg, health-service access and use, educational attainment, and workforce participation), and be incorporated into country planning

Panel: Goals for the alignment of programmes and policies with evidence

- With UN technical assistance, assure at least 30% of countries produce their own reports on adolescent health and development
- Develop a database of efficacious preventive policies and programmes across behaviour problems and health outcomes, the structural and intermediate determinants they address, and corresponding target populations
- Constitute a high-level UN committee to coordinate data collection systems across UN agencies on adolescent health and development, culminating in a comprehensive update on the health and wellbeing of adolescents worldwide
- Across UN agencies and global funders, invest at least 10% of adolescent health funds on evidence-based programmes
- Through WHO collaboration with the academic community and non-governmental sectors, develop and disseminate regional adolescent health training programmes to ensure all nations have access to web-based or direct training in provision of youth-friendly health services and efficacious prevention policies and programmes
- Include developmentally appropriate strategies and measures of adolescent health and health determinants in major global health agendas
- Use digital and social networking media to develop better mechanisms to engage adolescents directly in initiatives affecting their health and wellbeing

and assessment mechanisms that assess progress toward national goals for health, social, and economic development. The use of adolescent health measures will then enable adolescent health to be an explicit part of global health agendas; this should entail the setting of specific, measurable, and evaluable targets for improved health and reduced risk taking, and the means by which these will be achieved. These means should include shifts in taxation and employment policies aimed at encouraging adolescents' school completion and successful entry into the workforce, given the effect of these determinants on adolescent and adult health.¹⁶

Organisations with expertise in adolescent health and their funders should promote a tangible target for use of effective programmes. We propose shifting 10% of total funding for children and adolescents to efficacious preventive interventions in communities and schools within 5 years. These allocations should be audited and reported to promote continued momentum toward maximisation of returns on investment. These efforts will entail community capacity-building to mobilise local constituencies to focus on adolescent health, to assess local need through measurement of behaviour problems, risk taking, and protective factors, and to match priorities with programmes. Efficacious community capacity-building interventions to promote adolescent health exist.⁵

These efforts should include provision of youth-friendly primary care services, which use the models promulgated by WHO and other organisations.^{17,18} This will need assurance of access to virtual and on-site training programmes focused on effective adolescent clinical care (eg, via European Training in Effective Adolescent Care and Health).³ Translational research should be done to monitor the effect of interventions and youth-friendly services in new contexts to contribute to knowledge of diffusion, adaptation, impact, sustainability, and scale.¹⁹ In addition to health programmes, this would include other strategies, including improved preparation for and access to secondary and post-secondary education and job training.¹⁶

The ingredients that promote and sustain healthy adolescent development are known and implementable.²⁰ Many interventions that prevent or reduce specific health-jeopardising behaviours also have a salutary effect on other behaviours by acting upon shared risk and protective factors.³ This Series provides

clarity about what constitutes appropriate investment in the health and future of adolescents, grounded in evidence about what works. We have an unparalleled opportunity to align programmes and policies with that evidence. As realistic steps in that direction, we propose a list of goals for the next 5 years (panel).

Today's adolescents face unprecedented changes in the world's social and physical environments. These changes are transforming adolescent development and, in so doing, changing the prospects for health now and in the future. The proposed investments in adolescent health will become investments not only in economic productivity and effective social functioning, but also in worldwide population health. Our young people, and all of us, will benefit.

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- 1 Little AW, Green A. Successful globalisation, education and sustainable development. *Int J Educ Dev* 2009; **29**: 166-74.
- 2 World Bank. World Development Report 2007: development and the next generation. Washington, DC: The World Bank, 2006.
- 3 Sawyer SM, Afifi RA, Bearinger LH, et al. Adolescence: a foundation for future health. *Lancet* 2012; published online April 25. DOI:10.1016/S0140-6736(12)60072-5.
- 4 Viner RM, Ozer EM, Denny S, et al. Adolescence and the social determinants of health. *Lancet* 2012; published online April 25. DOI:10.1016/S0140-6736(12)60149-4.
- 5 Catalano RF, Fagan AA, Gavin LE, et al. Worldwide application of prevention science in adolescent health. *Lancet* 2012; published online April 25. DOI:10.1016/S0140-6736(12)60238-4.
- 6 Patton GC, Coffey C, Cappa C, et al. Health of the world's adolescents: a synthesis of internationally comparable data. *Lancet* 2012; published online April 25. DOI:10.1016/S0140-6736(12)60203-7.
- 7 UNICEF. The state of the world's children 2011—adolescence: an age of opportunity. New York, NY: United Nations Children's Fund, 2011.
- 8 Boutayeb A, Boutayeb S. The burden of non communicable diseases in developing countries. *Int J Equity Health* 2005; **4**: 2.
- 9 Din-Dzietham R, Liu M, Bielo V, Shamsa F. High blood pressure trends in children and adolescents in national surveys, 1963-2002. *Circulation* 2007; **116**: 1488-96.
- 10 Beaglehole R, Bonita R, Horton R, et al. Priority actions for the non-communicable disease crisis. *Lancet* 2011; **377**: 1438-47.
- 11 Patton GC, Coffey C, Sawyer SM, et al. Global patterns of mortality in young people: a systematic analysis of population health data. *Lancet* 2009; **374**: 881-92.
- 12 Resnick, MD, Bowes G. Us and them: worldwide health issues for adolescents. *Lancet* 2007; **369**: 1058-60.

13 Knowles JC, Behrman JR. The economic returns to investing in youth in developing countries: a review of the literature. Washington, DC: The World Bank, 2005.

14 Lloyd CB, ed. Growing up global: the changing transitions to adulthood in developing countries: panel on transitions to adulthood in developing countries. Washington, DC: National Academies Press, 2005.

15 Johnson MK, Crosnoe R, Elder GH Jr. Insights on adolescence from a life course perspective. *J Res Adolesc* 2011; **21**: 273–80.

16 Aratani U, Schwarz SW, Skinner C. The economic impact of adolescent health promotion policies and programs. *Adolesc Med State Art Rev* 2011; **22**: 367–86.

17 Lawrence RS, Gootman JA, Sim LJ, eds. Adolescent health services: missing opportunities. Washington, DC: The National Academies Press, 2009.

18 Tylee A, Haller DM, Graham T, Churchill R, Sanci LA. Youth-friendly primary-care services: how are we doing and what more needs to be done? *Lancet* 2007; **369**: 1565–73.

19 Wilson KM, Brady TJ, Lesesne C. An organizing framework for translation in public health: the Knowledge to Action Framework. *Prev Chronic Dis* 2011; **8**: A46.

20 Resnick MD. Res ipsa loquitur—“the thing speaks for itself”: so why isn’t evidence enough for enactment? *Fam Community Health* 2008; **31** (suppl 1): S5–14.

Adolescent health in the 21st century



Several factors have contributed to the social construct of adolescence as a distinct period of life, including the rise in education (and with it age segregation), social media, and urbanisation.¹ But adolescence also has a biological basis. Many of the behaviours we associate with the teenage years (eg, risk taking) are evident in other species,² and we know that brain maturation in human beings is not complete until about age 25 years. As young people enter adolescence they bring with them resources and vulnerabilities, both biological (genetics, epigenetics, natural endowments) and environmental (national and local policies, as well as community, school, workplace, peers, neighbourhood, and family influences). Consequently, an ecological or life-course framework is crucial to understanding adolescent trajectories (figure).³

In high-income countries and, increasingly, low-income and middle-income countries, birth rates have declined while child survival has increased. Hence, there is a larger cohort of adolescents and young people today (just under 2 billion) than ever before, of whom 86% live in low-income and middle-income countries.⁴ This should mean that healthier young people are coming of age and entering the workforce, adding to a nation’s wealth. However, in many low-income and middle-income countries this dividend has yet to be realised. Impeding this realisation are factors that include disparities in access to resources and services by ethnic origin, region of residence, socioeconomic status, and sex. Furthermore, as young people migrate to urban centres seeking often unavailable education and work, there is a growing population of disenfranchised young people adding to, rather than alleviating, the economic and social burdens.⁵

Today’s young people are growing up in contexts of rapid urbanisation, increased educational demands, globalisation, and increased access to worldwide infor-

mation through the internet and social media. Urbanisation is predominantly a feature of low-income and middle-income countries, and disproportionately it is young people who are migrating to urban centres. However, unless there are radical improvements in urban governance and investments, most migrants will

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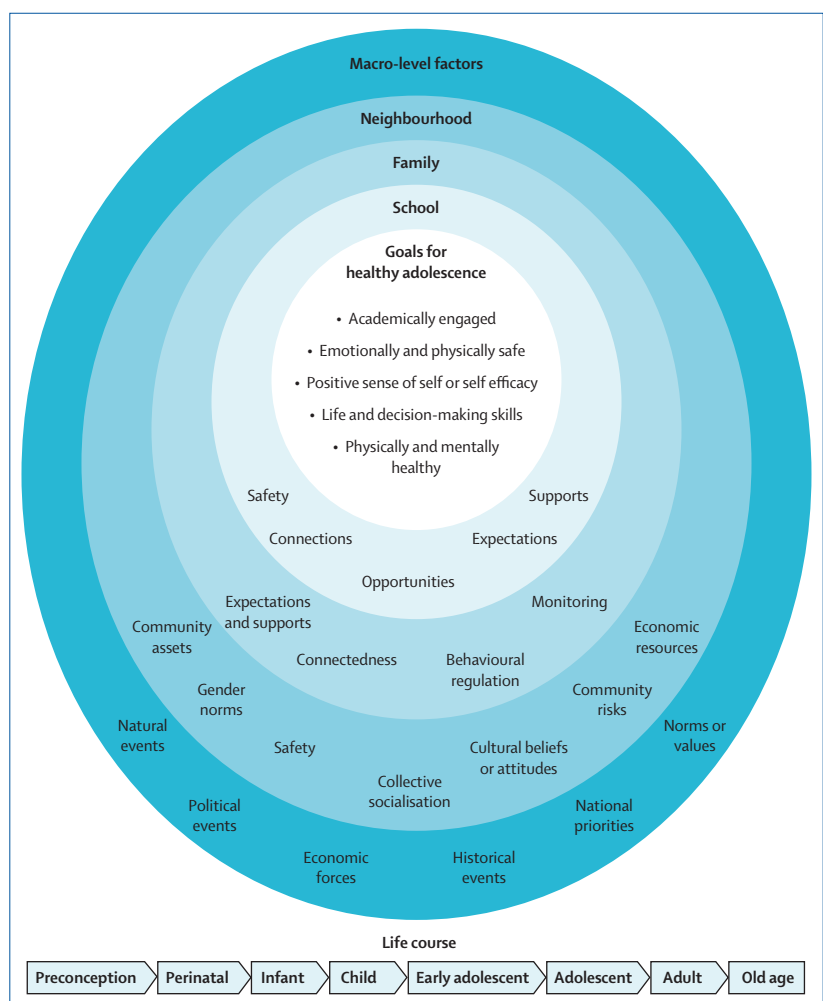


Figure: An ecological framework for adolescent health