

Chapter 13

Future challenges

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This chapter seeks to draw together some of the overarching themes from this report. We identify certain areas that are likely to provide an ongoing challenge to our ambitions to ensure the very best health for children.

Burden of disease

Child obesity

While many aspects of the burden of childhood disease show long-term improvements, obesity is an area providing a relatively new and evolving challenge. Although it is covered extensively elsewhere in this report, it would be remiss not to mention obesity. Chapter 3 of this report analyses our current understanding of the cost of obesity and presents an estimate of the long-term societal costs of child obesity as £596–686 million a year in England. As the chapter identifies, there is evidence that childhood obesity continues to rise steadily, and there are worrying trends, particularly that obesity is persisting most strongly among those of low socio-economic status. Chapter 3 outlines the known factors associated with obesity and the complications of obesity both in childhood and in later life. As the chapter identifies, there are effective strategies – taking a universal approach and combining multiple place-based interventions; and targeted approaches;^{1,2,3,4,5,6,7} national-level policy around food and drink will also be important.

The data are therefore increasingly clear about the prevalence of obesity, the consequences in health and financial terms, and the nature of successful interventions. The challenge for the next period is to take this evidence and ensure that it is implemented at scale in order to harvest the benefit of the interventions. Perhaps the greatest effort needed is to halt a potentially widening social divide in obesity.

Mental Health

A further area highlighted in this report that is likely to remain of considerable importance is that of mental health, and indeed more generally, wellbeing in children and young people.

It is increasingly clear how the foundations of good mental health are formed in childhood and adolescence and there are interventions to maintain wellbeing and reduce the risk of mental health problems; however, the challenge is doing so at scale in an economical manner. And where prevention fails, mental health services need to step in, and ensuring that these are adequately resourced is a continuing challenge.

Infection/immunisation

The Annual Report of the Chief Medical Officer Volume Two, 2011 focused on infection and antimicrobial resistance. A number of areas gave cause for concern in childhood: developing antimicrobial resistance, tuberculosis, hepatitis B and C, invasive group A streptococcal infections, strains of *Staphylococcus aureus* producing Panton-Valentine leukocidin toxin, and meningococcal and pneumococcal disease. In adolescence, concern shifted to sexually transmitted diseases.

Additionally, uptake of immunisations was noted to be critical to prevention of disease.

The year 2013 sees the expansion of childhood vaccination programmes to incorporate rotavirus and influenza. Rotavirus is thought to cause around half of all gastroenteritis in children under 5 and is the most common cause of gastroenteritis leading to hospital admission in children. Influenza, although a common upper respiratory illness, can cause severe problems in children, particularly those under 6 months. It is hoped that the introduction of vaccination for children aged between 2 and 17, in a phased manner, will substantially reduce influenza-related illness, GP consultations, hospital admissions and deaths. 2013 also sees 2 and 3 year olds being offered a nasal influenza vaccination for the first time. Alongside these novel introductions are alterations to the current vaccination schedule to account for new information, for example changes to the timing of meningococcal immunisation.⁸

As diseases are countered with new or improved vaccination, perhaps the area of challenge facing healthcare professionals is two-fold. First, how to ensure that strong messages about the advantages of vaccination reach those who need to hear them, and second, how to ensure that the health and care system responds to altered delivery needs. The changes required to ensure that amendments to the childhood vaccination programme occur are considerable and I appreciate the burden that this places on healthcare professionals. The impact of success will be profound and, indeed, may well lead to altered service needs as some diseases wane and others take their place.

Rare diseases

Rare diseases, when considered as a group, are not uncommon; more than 3.5 million people in the UK have a "rare" disease. More than 50% of those with a rare disease are children and young people. 30% of those with a rare disease will die before they reach the age of 5. Improved testing and genetic knowledge continue to expand our understanding of these diseases, but crucially policy and healthcare delivery need to keep up with the evolving science. The imminent publication of a UK Strategy for Rare Diseases is an important step. The Strategy highlights the importance of rare diseases as a healthcare issue and the need to promote collaborative working between patients, healthcare professionals, researchers and industry. This collaboration needs to happen at all levels; locally, nationally and internationally. The work will be supported by initiatives such as the creation of the Rare Diseases Advisory Group which will help to steer NHS England policy in this area.

Perhaps the biggest challenge here is ensuring speedier diagnosis for those suffering. Nearly half of those with a rare condition report waiting more than one year for a final diagnosis, and a similar figure had an incorrect diagnosis before the correct one was made. Healthcare needs to ensure those working within the system are sufficiently trained, and supported with technology, both to identify such disease and to assist families in navigating the system.

Another important aspect in the approach to rare diseases is the world-leading work, being led by Genomics England Limited, to sequence 100,000 whole genomes. The inclusion of rare diseases, as one of the first phase key priorities, is a considerable step forward for rare diseases research and treatment development. Analysis of data from whole genome sequencing will increase our understanding of rare diseases, especially in those cases where a diagnosis has been hard to define. When linked to other NHS clinical and patient data, this has the potential to provide yet more detailed insight into the causes of rare diseases, and to progress possible therapies for rare diseases.

Transition

Chapter 7 of this report focuses on adolescence. A core challenge is the transition from childhood to young adulthood i.e. moving from paediatric to adult services, and for many, moving away from home. In addition, many significant personal changes may be occurring at this stage in the life course. As the chapter identifies, poor transitions can have a deleterious effect on health outcomes. Given how much disease of adulthood starts in adolescence (for example, 75% of adult mental health problems begin before 18), transitions are very significant for many young people.

There are models of good practice. For example, some cancer services have chosen to manage transitions by amalgamating young adult and adult services, while other specialties run transition clinics. Further evidence is required to identify what works best, and in which particular situation.

Technology

Many of the chapters in this report have noted the potential for new technology to enhance the ability of the healthcare system to manage disease, whether through improved data records such as those developing within hospitals, or patient- or family-held patient records, such as the current Electronic Red Book Pilot. Concerns over the protection of these data have rightly been examined as the programmes develop. Improved data herald an exciting era for the NHS, one where communication between professionals is dramatically better, and where population-level research becomes possible. The development of more transparent data sets will mean real changes in the information that is available to the public and researchers e.g. the imminent release of care.data, the Clinical Practice Research Datalink and information about individual healthcare performance.

Alongside the data security challenge comes the challenge of how to ensure that new systems do not increase the burden on healthcare professionals. Similarly, data without interpretation are unlikely to be of benefit to the public.

These technologies are very much healthcare system orientated, but the exponential rise of 'apps' and healthcare devices is creating the potential for an entirely different type of participation in healthcare by patients and their families. Whether it be through home monitoring of long-term diseases or remote assessment of vital signs, the creation

of high-technology but increasingly low-cost solutions is a monumental opportunity which healthcare is embracing. One such example is SXT Health; this search tool is run by clinicians and allows individuals to anonymously identify their nearest sexual health clinic, thus increasing access.⁹ Future developments may include remote access to testing and counselling, potentially widening access still further.

A further new technology is e-cigarettes. A recent MHRA review identified that there were concerns about their safety and efficacy.¹⁰ Internationally there are anxieties about these products potentially being marketed to children and young people, a worry heightened by the addition of flavours such as bubble gum to these products. This unease is supported by evidence from the US Centers for Disease Control and Prevention, which shows that ecigarette use in teenagers in the USA doubled between 2011 and 2012. In addition, 1 in 5 middle school students who reported ever using e-cigarettes said that they had never tried conventional cigarettes.^{11,12,13} This raises concern that there may be young people for whom e-cigarettes could be an entry point to use of conventional tobacco products, including cigarettes.

Cyber-bullying/pornography

It is sad to note that teenagers have committed suicide, apparently due to negative experiences of social media or internet use. There is concern among professionals working with children that there is increased access of pornography by children, and indeed that children and young people may be increasingly involved in pornography. This report has extensively examined the importance of wellbeing and good mental health in young people. Clearly, an important future challenge will be how to balance the potential of social media for enhancing connectedness and wellbeing with the risk of exploitation of particularly vulnerable young people. Part of the solution lies, as with other areas of building resilience, in ensuring that young people develop protective skills. Some of these come from family-based communication, some from peer-to-peer support systems, but the role of the health and social care system and schools needs to be enhanced. This is a fast changing area and one where careful monitoring is important, combining our responsibilities to protect children with an acknowledgement of new and evolving ways in which our children communicate.

Workforce

Meeting standards

A considerable challenge for child health services has been laid out by the recent identification of core standards for healthcare organisations providing paediatric services by the Royal College of Paediatrics and Child Health (RCPCH), and by the accompanying audit of whether organisations are meeting these standards. The headlines from these data show that just under a quarter of children admitted to hospital do not see a paediatrician above or at the middle grade level within 4 hours of admission. Similarly, only 88% of children and young people see a consultant paediatrician within 24 hours of admission. Low levels of consultant

presence at peak times underpin these omissions, due to shortfalls of staffing. These findings led the RCPCH to call for reconfiguration of children's services, which I support.¹⁴ This work should also be examined in the light of the findings of the Atlas of Variation in Healthcare for Children and Young People (see Annex of this report), i.e. considerable variation in both process and outcome data. These findings occurred against the recent background of judicial reviews and stoppages for reconfigurations. The future for the creation of safe healthcare environments that meet professional standards and maintain public support is an area that is likely to become more relevant as resources become even tighter in the NHS. Strategic clinical networks, working alongside professional bodies, commissioners, patient groups and public representatives, will be key to finding local solutions.

Alongside reconfiguring services will be the need to deliver services differently. The current rigid lines between primary and secondary care are increasingly being tested in attempts to better provide the right care to children and young people when it is needed. This may be hospital-based specialists working alongside GPs, or in alternative settings such as schools. Similarly, as general practice evolves it may be that the concept of GP specialists – those who either lead on domains for practices (or groups of practices) or who have sub-interests – becomes more common. Changing parts of these systems requires large-scale evaluations in varied settings. The case study "Connecting care for children's health" in Chapter 2 of this report is just such an example.

An adequately trained workforce

Underpinning the changes to service delivery laid out in the previous section is a need to ensure that the workforce continues to provide healthcare which is robust and evidence based. In a world where new evidence is accruing with great alacrity, this presents a considerable challenge. Bringing together training through Health Education England and local outposts provides opportunities to address this. So too there is need to ensure that during primary training the importance of life-long learning is stressed, and then underpinned through career-long assessment of professional competencies.

Determinants of disease

Chapter 2 of this report outlines clearly the role that social determinants beyond health play in shaping the health of individuals – these are perhaps the greatest challenges facing the improvement of child health, because they are not within the domain of health at all but rather within broader public policy. Hence not losing sight of what is happening to inequalities, child poverty and the most vulnerable in our society will remain paramount to our goal of promoting health for all children.

References

1. Greater London Authority. Childhood obesity in London. London: Greater London Authority Intelligence Unit 2011.
2. House of Commons Select Committee on Health. Obesity. Volume 1. London: House of Commons, 2004.
3. Wang Y, McPherson K, Marsh T, Gortmaker S, Brown M. Health and economic burden of the projected obesity trends in the USA and the UK. *Lancet* 2011;378:815-25.
4. Wang Y, Wu Y, Wilson R, Bleich S, Cheskin L, Weston C, et al. Childhood obesity, prevention programs: comparative effectiveness review and meta-analysis. Rockville: MD: Agency for Healthcare Research and Quality., 2013.
5. Waters E, de Silva-Sanigorski A, Hall B, Brown T, Campbell K, Gao Y, et al. Interventions for preventing obesity in children. *Cochrane Database Syst Rev* 2011;12:CD001871.
6. Bovbjerg M, Amador C, Uphoff A. Breastfeeding and Childhood Obesity: Where Do We Go From Here? *JAMA Pediatr* 2013;doi: 10.1001/jamapediatrics.2013.2854. [Epub ahead of print].
7. Reilly J. Evidence-based obesity prevention in childhood and adolescence: critique of recent etiological studies, preventive interventions, and policies. *Adv Nutr* 2012;3:636S-41S.
8. Public Health England. Immunisation against infectious disease: the green book
9. www.gov.uk/government/organisations/public-health-england/series/immunisation-against-infectious-disease-the-green-book
10. <http://sxt.org.uk/>
11. MHRA. Commission on Human Medicines Working Group on Nicotine Containing Products (NCPs). Quality, safety and efficacy of unlicensed NCPs <http://www.mhra.gov.uk/home/groups/comms-ic/documents/websiteresources/con286839.pdf>
12. Centers for Disease Control and Prevention. National Youth Tobacco Survey (NYTS) www.cdc.gov/tobacco/data_statistics/surveys/nyts
13. Centers for Disease Control and Prevention. Notes from the Field: Electronic Cigarette Use Among Middle and High School Students — United States, 2011–2012 http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6235a6.htm?s_cid=mm6235a6_w
14. Facing the Future: Standards for Paediatric Care, December 2010; Back to Facing the Future, April 2013; both RCPCH, www.rcpch.ac.uk/facingthefuture