



Towards a more positive view of healthcare in Ireland

Alf Nicholson¹

Received: 25 April 2018 / Accepted: 26 April 2018 / Published online: 31 May 2018
© Royal Academy of Medicine in Ireland 2018

Abstract

Ireland has a population of just over one million children, the highest birth rate in the European Union, significant income inequalities and an increasing non-national population. Our under five mortality figures have shown a steady decline to 3.6 per 1000 and are amongst the best in the world. Examples of high-quality healthcare results include neonatal intensive care outcomes, paediatric cancer survival rates, surgical outcomes in congenital heart disease, improved survival in cystic fibrosis and renal transplantation results. Positivity alone is not enough and I propose a 10-point plan for future healthcare for children and young people. We should first and foremost aim for health not care and prevention plays a key role. Parents and families should play an active role in decisions around their children's health and should be aware of results of treatment. Care should be delivered as close to home as possible and we should strengthen both primary and community care and provide additional support to general practitioners to manage childhood illness closer to home. We need to plan for new morbidities such as type 1 diabetes, obesity, mental health issues and inflammatory bowel disease. General paediatrics is a key enabler of better healthcare for children. We should advocate for a future system focussed on quality, reducing geographical variation and supporting local care, thereby keeping children out of hospital as much as possible.

Keywords Child health · Integrated care · National key performance indicators · Strategy going forward in Ireland

Ireland has a population of just over one million children, the highest birth rate in the European Union, significant income inequalities and an increasing non-national population. Figure 1 shows our under 5 mortality rates in comparison with other countries and it shows a remarkable improvement with our current rate being just 3.6 per 1000 and this is considerably better than both the UK and USA and one of the best in the world. Likewise, our Child well-being index[1] shows that over a 5-year period, Ireland has risen four places up to eighth position in the EU—again a considerable achievement.

There are numerous examples of high quality healthcare results relating to children and I now wish to cite a number of them.

Our neonatal outcomes have improved beyond recognition over the past 25 years and these improvements have been mirrored internationally. We have improved resuscitation efforts, greatly improved neonatal survival figures down to as low as 24-week gestation, the advent of head cooling and now a 24 h neonatal transport system with

over 600 sick newborns being transported nationally with a dedicated team and ambulance [2] Our head and body cooling outcomes are currently being studied and all neonatal outcomes for very low birth weight infants are currently entered into the Vermont database to enable us to compare our results internationally (Fig. 2).

Paediatric cancer care is an excellent example of a 'hub and spoke' model that works with tertiary specialist care in Dublin, a linked unit in Cork and all other paediatric departments linked to the Dublin centre via a series of guidelines and care pathways for all paediatric oncology scenarios. The results have been published by Walsh et al.[3] and show that the outcomes are no different no matter where the child is from or what their sociodemographic status is and that overall results compare very favourably with the best centres in Europe.

Congenital heart disease affects 8 per 1000 children and is inherited in a polygenic inheritance pattern. More and more diagnoses are being made antenatally and the current rate of antenatal diagnosis is 45%. This number will rise once the Maternity Strategy (2017) is implemented whereby all mothers will have anomaly scans at 20 weeks gestation. This affords the possibility of delivering an infant with congenital heart disease in Dublin with a rapid post natal transfer to the National Cardiac Centre for further treatment. Surgical outcomes are entered into the NICOR database[4] which

✉ Alf Nicholson
Alf.Nicholson@cuh.ie

¹ RCSI Department of Paediatrics, Temple Street Children's University Hospital, Dublin, Ireland

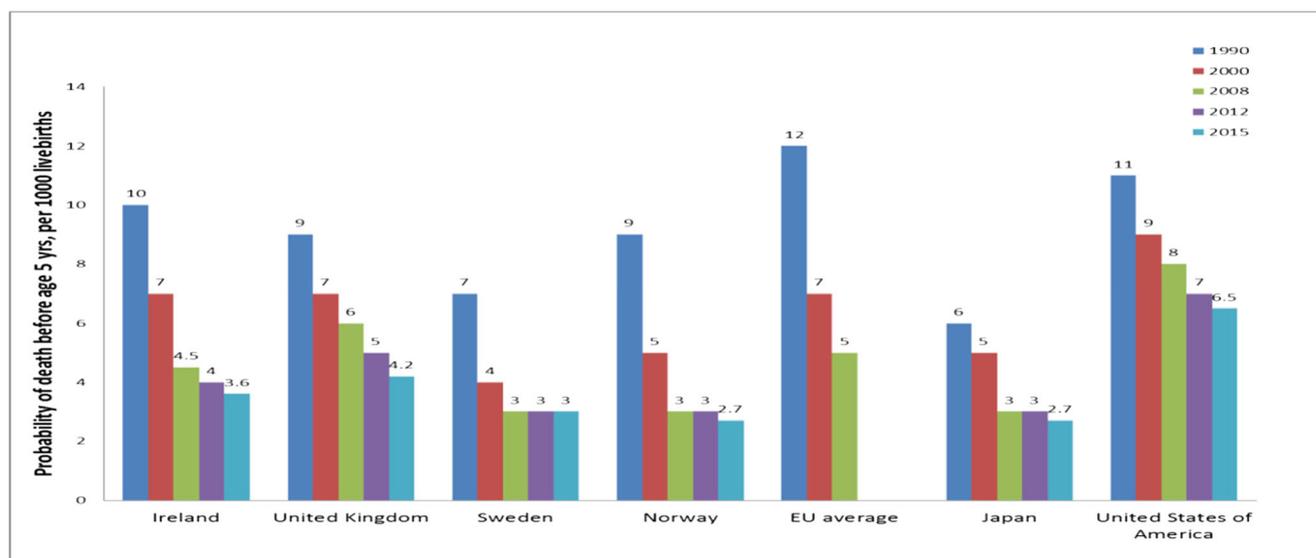


Fig. 1 Under five mortality rates in selected countries

reflects surgical outcomes for all units and the unit in Dublin has excellent surgical outcomes and is the third busiest in the British Isles. Survival to 25 years of age for conditions such as Fallot's Tetralogy is now over 98%.

Renal transplantation results in Dublin are exemplary with 100% patient survival over the past 14 years and 80% graft survival over the same period—this compares very favourably with large US centres and reflects the strong multidisciplinary team effort, excellent paediatric intensive care and surgical skill of the transplant surgeons and dedication of paediatric nephrologists.

Type 1 diabetes care is complex, especially in under 5-year-olds who generally are offered insulin pump therapy. The field is rapidly changing and there is no doubt that good diabetes control (i.e. Hb A1C less than 7.5%) is associated with reduced complications. Some but not all of our centres are achieving this figure and we need to give additional funding to ensure all units have a full multidisciplinary team to offer an optimal service to this ever-growing population.

Positivity and optimism alone is not sufficient and thus we need to have a plan to further improve services to ensure that

we build on our strengths and ensure a properly funded, efficient, child and family-friendly service.

The ideal child health service is one that understands children, young people and their families' specific needs and is designed to address them with access to high quality paediatric expertise in hospital and the community with linked up timely information, communication, data and care processes. It should allow for continuous quality improvement and for health education for children, young people and families[5].

Ten steps to greatly improve child healthcare delivery in Ireland

1. Aim for health not care

A key element of a modern healthcare system for children and adolescents is to focus on parenting and prevention. Newborn screening involves a detailed clinical examination, pulse oximetry to detect subtle desaturations associated with cyanotic congenital heart disease, hip examination and hip ultrasound for high risk cases, newborn hearing screening to detect sensorineural hearing loss, screening for inborn errors of

Fig. 2 Administration of surfactant to a preterm infant



metabolism, hypothyroidism and cystic fibrosis by means of heel prick testing and developmental screening in the first year of life. The ‘Back to Sleep’ campaign, avoidance of co-sleeping and parental smoking, has led to a dramatic decline in Sudden Infant Death Syndrome (SIDS) in Ireland. Immunisation programmes have ensured that most ‘killer’ infections are no longer seen in Europe but require high uptake rates of over 95% to confer herd immunity [6–8]. To ensure disease eradication, sustained immunisation rates over 95% are required. Vaccine scares have occurred over the years, not least pertussis vaccine (1970s), MMR (1989) and most recently the HPV vaccine. Human papillomavirus infection is responsible for most cervical cancer in women and kills up to 70 women per year in Ireland and is preventable via the HPV vaccine. Obesity in childhood has increased in most western countries including Ireland and strategies to tackle this issue are complex and multifactorial focussing on family meals, school lunches and exercise programmes, a sugar tax and restricting screen time. In essence, tackling obesity rates will require a concerted national effort.

It is in injury prevention research [9–18] that I have focussed the majority of my research and again considerable progress has been made. In essence, the disease model is appropriate for injuries whereby we define their epidemiology, design countermeasures and see how effective they are by data collection. We have studied in detail road-related injuries and, by means of a multisectoral national effort, have demonstrated a

startling decline in road-related deaths whereby some 471 lives have been saved over the past 25 years; i.e. there has been an over 80% reduction in road-related deaths in children and adolescents over the past quarter of a century (see Figs. 3, 4, and 5).

Adolescent health and well-being is a work in progress and requires attention to transition that is safe and structured, mental health issues such as depression and anxiety, deliberate self-harm, chronic disabling fatigue and eating disorders. We need to ensure that we focus on this age group whose unique health needs have not been met to date.

2. Involve and empower patients and families

Parents, children and young people need readily accessible information (e.g. www.ifan.ie or www.asthma.ie) that enables and empowers them to ensure better patient outcomes. Patients and families should have access to easy to digest accurate and evidence-based information of their child’s condition and should be an active participant in healthcare decisions.

3. Be transparent—patients and families should know your results

Outcomes including neonatal survival and neonatal morbidity including complications of prematurity should be

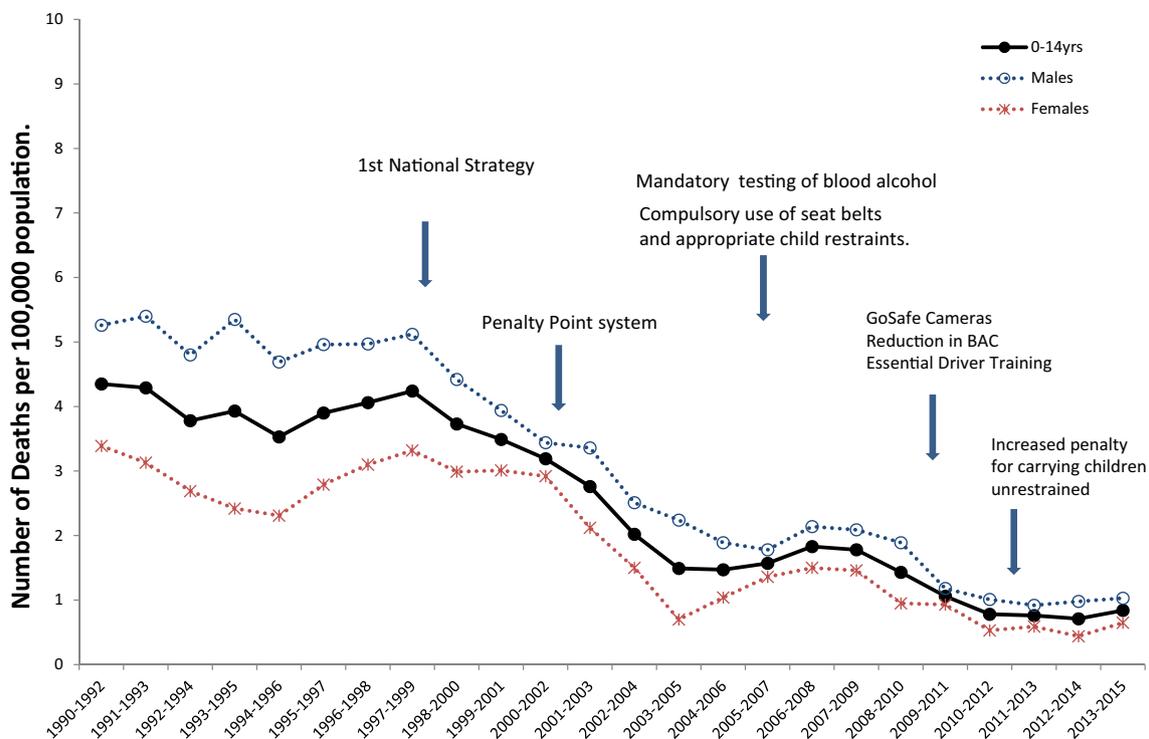


Fig. 3 Annual trend in land transport fatalities in the 1-14yrs population in Ireland 1990-2015

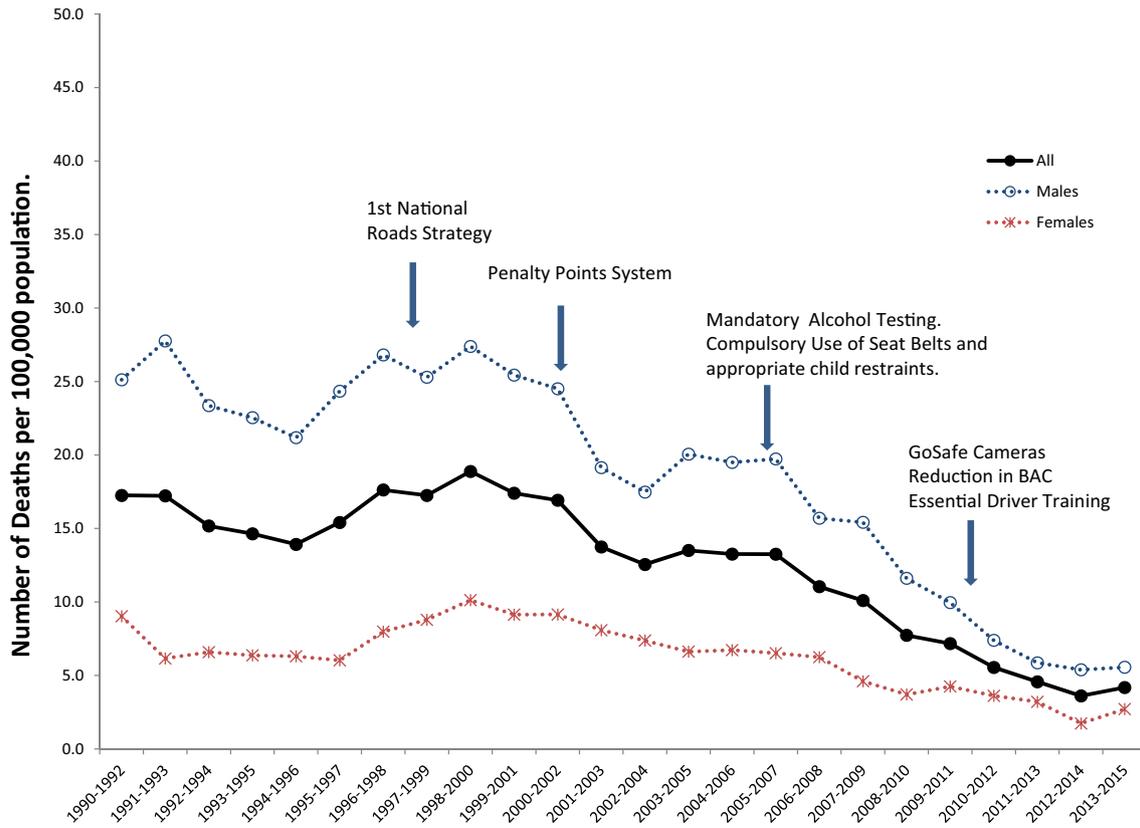


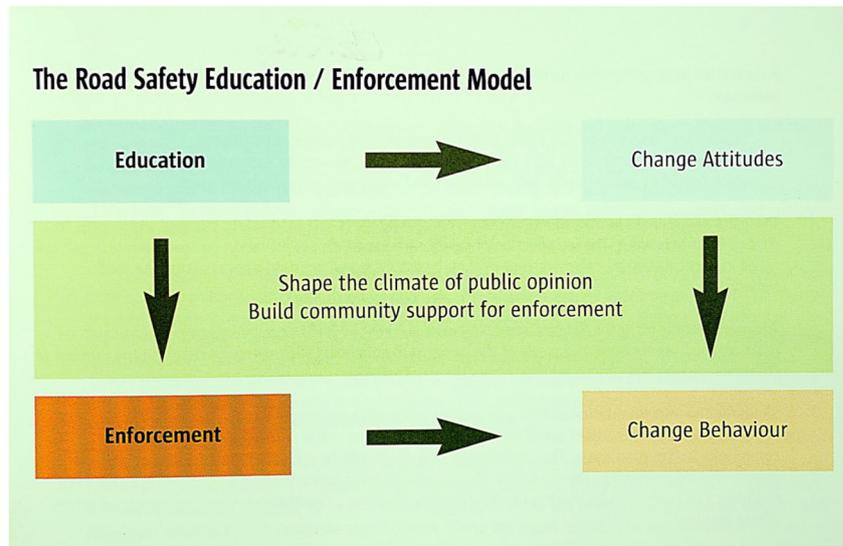
Fig. 4 Annual trend in land transport fatalities in the 15-19yrs population in Ireland 1990-2015

readily available to families. Parents should be able to access surgical outcomes statistics, outcomes of paediatric intensive care, craniofacial, cleft and neurosurgical results with comparisons across the UK and the EU. Parents should play a central role if their child is sick in hospital in contributing to alerting staff to potential deterioration reflecting parental concern in Paediatric Early Warning Score [19].

4. Establish a structure and stick with it

The future direction should be to provide as much care as close to home as possible, and to achieve this, we must strengthen both primary and community care of children and adolescents. We must learn from international experience and work together across disciplines throughout the country to

Fig. 5 The road safety education/enforcement model



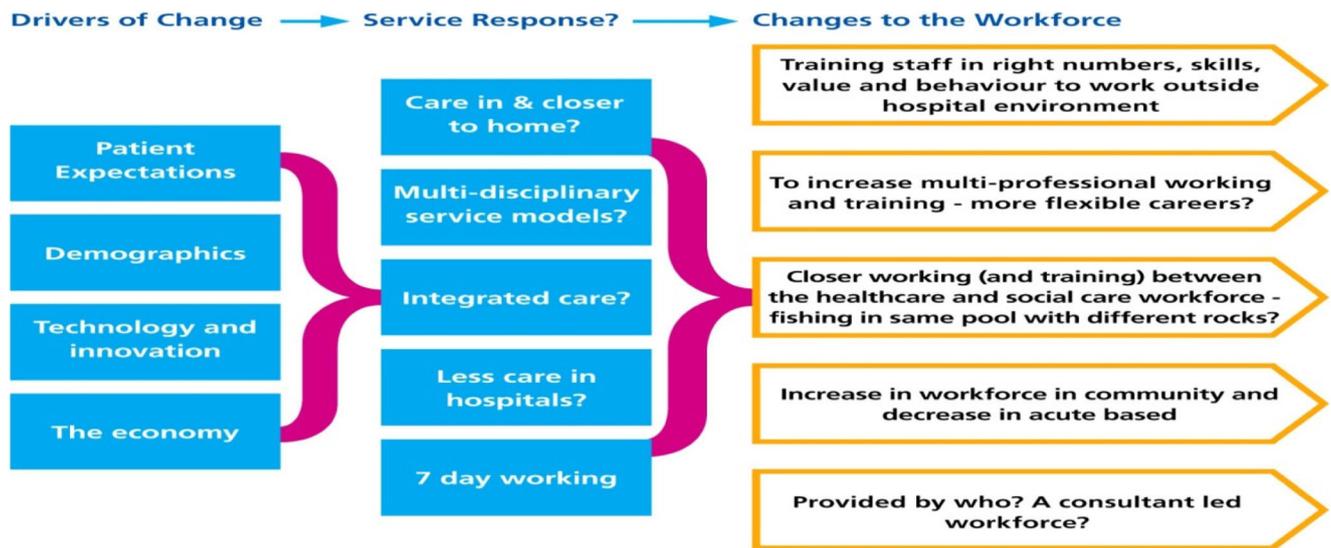


Fig. 6 A future workforce

develop a child health service that meets the current and future needs of our children. We need to strengthen links between primary and secondary care and provide additional support to general practitioners to manage childhood illness closer to home. Currently, rates of hospitalisation vary across the country and are too high in many places. We need to appropriately plan for new morbidities such as increasing incidence of obesity, diabetes and inflammatory bowel disease, the surge in atopic disease and allergy, and a growing need for childhood disability and child and adolescent mental health services.

The key components of this model of care [20] are:

- Infrastructure (urgent and emergency care, inpatient and outpatient facilities)
- Staffing (doctors, nurses, health and social care professionals and others)

- Processes (standardisation of care pathways nationally)
- Outcomes (developing robust key performance indicators and outcome measures)

We have set out clear guidance on categorisation of neonatal and paediatric units so that local, regional and tertiary paediatric units can understand their roles, how they interface with each other, and the population that they serve. The model of care strongly advocates a *hub and spoke* model for paediatric services, facilitating delivery of the majority of care locally with outreach from tertiary paediatric subspecialties to the regional units. The development of general paediatric services [21] is a key enabler of this model of care. General paediatricians see the undifferentiated child and provide a vital interface between primary and community care, the emergency department and the hospital. Subspecialist support should be available if required in a timely manner, and the general paediatrician will act as a *gatekeeper* to accessing

Standardised Pathways of Care



Fig. 7. Standardised pathways of care

subspecialist services. We would like to see more general paediatricians developing areas of special interest, with outpatient clinics in these areas in conjunction with outreach from the tertiary service.

5. Develop an integrated approach

In implementing the model of care, it is important to move away from traditional silos and to implement all aspects in an integrated approach spanning the acute hospital service (which traditionally takes up a significant portion of the overall budget), primary and community care, health promotion, social care and mental health. We have established a governance structure and are developing a costed implementation strategy to implement in an integrated way, focussing on the patient journey and involving parents and children from the start.

6. Increase consultant productivity and promote flexible careers

The future workforce needs to change to meet future demands. Flexibility is a key element as is teamwork whereby nursing will have an expanded role with more advanced nurse practitioners and clinical nurse specialists, a greater role for maternal and child health public health nurses, a future role for community doctors with an interest in child health and greater integration of HSCP roles. Service delivery requires more consultants on the frontline and a changed ration of consultants to trainees in favour of consultants [21, 22]. Consultants need to be closely linked to primary care and general practice and provide advice by a variety of means including electronic advice and ‘hotlines’ (Fig. 6).

7. Invest heavily in general practice and primary care and make it attractive to be a GP

A major investment is required in general practice to ensure it is designed for the future. Large primary care centres, GPs with a special skill or interest, involvement of practice nurses and HSCPs and access to diagnostics are essential elements of this evolution which will require significant additional funding. GPs need to play a key role in managing chronic illness [19] (Fig. 7).

8. Train for the future not the past and blend training across HCP (healthcare professional) groups

We do need a modernised approach to undergraduate education with a greater cross-over and shared learning between nursing, HSCPs and medicine. An agreed national curriculum for paediatrics will ensure that in essence, the same content will be delivered across universities is, I believe, the way forward. Simulation

teaching is helpful for clinical skills and procedures but patient contact needs to be maintained.

9. Heal any divisions between the HCPs, the managers and the political system

Health funding is always an issue and one of the duties of the medical profession will be to ensure a reduction in waste. In the US, up to 50% of healthcare expenditure is felt to be waste and we need to reduce waste (duplication of investigations, unnecessary tests, unnecessary admissions or prolonged stays) in our system. Towards 2026 [23] is an excellent document highlighting the RCPI view as to how healthcare should evolve and the points raised in this article are quite consistent with the 2026 vision. The Joint Oireachtas Committee on the Future of Healthcare (Slaintecare) has been published in 2017 and is a visionary but very costly solution to our healthcare issues[24, 25]. What families and patients want is timely and fair access based on need and a system that is relatively easy to navigate in and out of. That is exactly what we all wish for and every effort should be made to fund this properly as I believe significant additional funding is required.

10. Be brave, positive and resilient. You will not succeed otherwise

After over 30 years working in the Irish healthcare system in paediatrics, I am proud of the very significant progress made. I would urge us all to continue to focus on health promotion and the support of vulnerable families[26], be open about our results which are mostly excellent and plan for the future and not the past. Building a new children’s hospital and developing a national integrated network of care that is of high quality and equitable with a focus on keeping children out of hospital and as close to home as possible is eminently achievable. Our children deserve no less.

References

1. UNICEF 2013 .Modified child wellbeing index report cards 7 and 11
2. Murphy J et al (2016). Neonatal model of care
3. Walsh PM et al (2011) *Eur J Cancer* . Childhood cancer survival (Ireland) by deprivation category, 1994-2005
4. National Congenital Heart Disease Audit Report (NICOR) 2012–2015
5. Nuffield Trust 2015 . The ideal child health model
6. Breslin N, Moore C, Ho G, Nicholson AJ (2011) Vaccine-preventable illness in childhood. *J Irish Coll Pract* 28(4):44–46
7. (2011) Making Europe a better place for our children . *Paediatric Pulmonology and Allergology*; 1: 103–106
8. Nicholson AJ, Ramet J (2012) Improving immunisation uptake across Europe. *IMJ* 105(8):280–282

9. Walsh J, Trace F, Nicholson AJ (2005) Childhood pedestrian injuries in Ireland—are sociodemographic factors important? *Archiv Dis Child* 90(suppl 11):A1–A8 A74
10. Breathnach C, Finan E, Nicholson AJ (2004) Improving car safety in preschool children—impact of an educational intervention at the antenatal clinic. *Archiv Dis Child* 89(suppl1):A40–A41 A40
11. Dempsey E, Nicholson AJ (2000) Accident and emergency department injury surveillance—using locally relevant information to steer injury prevention initiatives. *Archiv Dis Child* 82(suppl1):A36
12. Ndukwe I, Nicholson AJ (2006) Home injury patterns in pre-school children—are they age-specific? *Archiv Dis Child* 91(suppl1):A88
13. Nicholson AJ, Van Esso D, Malcic I, Biver A (2007) Creating a safer Europe for children. *Paediatrics* 70:87–92 with accompanying editorial commentary by NSpencer) *Paediatrics* 2007 ; 70: 85–86
14. Fitzpatrick P, Nicholson AJ (2010) Global status report on road safety—time for action. *IMJ* 103(1):30
15. Donnelly J, Bimpeh Y, Trace F, Waters A, Nicholson AJ (2011) Progress in reducing road-related deaths and injuries in Irish children. *Archiv Dis Child* 96(1):A6
16. Murphy A, Nicholson AJ (2011) Baby walkers in Europe—time to consider a ban. *IMJ* 104(3):69
17. Collins NC, Molcho M, Carney P, Mc Evoy L, Geoghegan L, Phillips J, Nicholson AJ (2012) Are boys and girls that different? An analysis of traumatic brain injury in children. *Emerg Med J*. <https://doi.org/10.1136/emered-2011-200496>
18. Yates J, Mc Kay M, Nicholson AJ (2012) Patterns of scald injuries in children—has anything changed ? *IMJ* 104(9):263–265
19. NCEC 2016 Paediatric Early Warning Score
20. 2017A national model of care for paediatric healthcare services in Ireland
21. Parfrey S 2014 Daring to practice low-cost medicine in a high-tech era . *NEJM* :e 21(1)
22. Quinonez R et al (2017) When technology creates overdiagnosis. *BMJ* 358:j3850
23. (2016) RCPI Towards 2026 . A future direction for Irish healthcare
24. An analysis of Irish health expenditure. Health Service Executive August 2017
25. Houses of the Oireachtas Committee on the Future of Healthcare Slaintecare Report May 2017
26. The impact of early childhood on future health . Position paper of the Faculty of Public Health Medicine . May 2017