

AUTHOR QUERIES

- AQ1: The following citations do not have the complete reference details: Frisira et al., 2024; Deng et al., 2024; Malm, 2021. Please provide the complete reference or consider deleting the citation or rephrasing the text to remove the citation.
- AQ2: Please check the sentence 'Here, manipulating school ...' for clarity.
- AQ3: Please check whether the edits made to the sentence 'When the Scottish Government ...' are correct.
- AQ4: Please provide expansions for SQA, NHS, and GP.
- AQ5: Please check the sentence 'Quantitative studies using ...' for clarity.

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CONCLUSION

5.1. SUMMARY OF KEY FINDINGS

This book has documented a significant but under-recognised public health issue affecting hundreds of thousands of Scottish children: the compounding effects of relative age within a cohort and extended school cohorts of up to 19 months. Across four preceding chapters, we have established that this is not merely an educational concern but a matter of fundamental health equity with consequences that extend across the lifespan.

Chapter 1 clarified the problem through systematic analysis of Scotland's educational system. Scotland's current practice – presenting early school commencement as the default despite the Education (Scotland) Act (1980) designating the August after turning five as the legal commencement age – has created conditions for extended cohorts virtually unique internationally. Deferral rates are highest among white, affluent families and boys, meaning that children who remain in extended 19-month cohorts are disproportionately from deprived communities, minority ethnic backgrounds, and girls. This is a pattern exemplifying Lucas' (2001) Effectively Maintained Inequities (EMI) framework.

Chapter 2 synthesised the international evidence base through systematic review. The findings were unequivocal: relative age within a cohort is associated with significant effects across multiple domains – elevated anxiety, depression, self-esteem deficits, and suicide risk in mental health (Matsubayashi & Ueda, 2015; Rose & Barlow, 2024); higher injury rates in sports and physical education (Straccioli et al., 2016); substantial ADHD over-diagnosis consistent across multiple countries (Frisira et al., 2024; AQ1 Holland & Sayal, 2019); persistent academic attainment disadvantages from primary through secondary school (Bedard & Dhuey, 2006; Deng et al.,

2024); reduced sports participation and lifelong physical activity engagement (Lynch & Soukup, 2016); and lower leadership selection and earnings in adulthood (Kuhn & Weinberger, 2005).

Critically, the evidence base for standard 12-month cohorts is substantial and consistent. The evidence for extended cohorts, while more limited, suggests that harms are amplified. Studies from the United States and New South Wales, Australia, where extended cohorts are common, demonstrate worse outcomes for the youngest children, with effects that are particularly pronounced for girls, children from deprived communities, and minority ethnic groups (Bassok & Reardon, 2013; Jenkins & Fortner, 2025; Solli, 2017). The absence of direct Scottish evidence on the health effects of 19-month cohorts represents a significant gap, but the precautionary principle applies: the scale of potential harm, combined with the clear evidence of demographic inequity in deferral patterns, justifies urgent action even in the absence of complete local data.

Chapter 3 developed nine evidence-based policy recommendations addressing both extended cohorts and within-cohort RAEs. The primary recommendation – making the legal commencement age the default with funded deferral available for all August- to February-born children – would compress cohorts towards 12 months while ensuring no child is disadvantaged by inability to access deferral. This is supported by existing legal frameworks, 2023 funding extensions, and pilot evidence from several local authorities (Scottish Government Statistics, 2023). Complementary recommendations address within-cohort effects through awareness-raising, age-adjusted scoring, and sport-specific interventions, including rotating cut-off dates and bio-banding.

Chapter 4 analysed barriers and facilitators to implementation using the Supporting the Use of Research Evidence (SURE) Collaboration (2011) framework. The primary barriers are cultural and political rather than legal, financial, or logistical. The misrepresentation of the law – presenting early commencement as the default – is deeply embedded in institutional practice. The implementation strategy addresses these barriers through stakeholder engagement, clear communication emphasising equity and evidence, phased implementation building on existing pilots, and robust monitoring and evaluation.

Across these four chapters, several key findings emerge:

1. RAE is a significant, consistent public health issue affecting mental health, physical health, neurodevelopmental diagnosis, academic attainment, physical activity, and psychosocial development; acting on entire populations to create systematic disadvantages for children born in certain months.

2. Scotland's 19-month extended cohorts amplify these harms beyond international norms, with evidence from comparable jurisdictions suggesting magnified effects, particularly for already disadvantaged groups.
3. Demographic bias in deferral means the most disadvantaged children bear the greatest burden: deferral rates are highest among white, affluent families and boys, leaving deprived, minority ethnic, and female children disproportionately in extended cohorts.
4. The evidence base justifies urgent policy action. The precautionary principle applies: international evidence is substantial and consistent, extended cohort evidence is concerning, and demographic inequity in deferral is documented.
5. The nine policy recommendations form a coherent, evidence-based, mutually reinforcing package: pragmatic, feasible, and aligned with existing legal and policy frameworks.
6. The implementation strategy is feasible: legal authority exists under the Education (Scotland) Act (1980), childcare funding has been extended to all August- to February-born children, and pilot programmes have demonstrated feasibility. Primary remaining barriers are cultural and political.

5.2. THE PUBLIC HEALTH IMPERATIVE

It is essential to frame RAEs and extended cohorts explicitly as a public health issue, not merely an educational one. The harms documented in this book, mental health problems including anxiety, depression, and suicide; ADHD over-diagnosis and inappropriate medication; physical injuries in school sport; academic disadvantage leading to reduced educational attainment; reduced physical activity participation with lifelong health consequences; and diminished leadership opportunities affecting career trajectories and earnings, represent a significant and preventable burden of ill-health.

Public health is concerned with the health of populations and with addressing the social determinants of health, the conditions in which people are born, grow, live, work, and age. Relative age within a cohort is a structural feature of the educational system that creates systematic health disadvantage for children born in certain months. It is, in effect, a social determinant of health that has been largely invisible to public health practitioners and policymakers.

The magnitude of the public health burden is substantial. In Scotland, over 700,000 children attend school (Scottish Government Statistics, 2023). Every child is assigned a position within their cohort based on birth month; a factor entirely beyond their control or their families' control. Those born in the later months of the cohort year experience systematic disadvantage across multiple domains. When cohorts extend to 19 months, as they routinely do in Scotland, the disadvantage is amplified. When deferral is accessible primarily to advantaged families, the disadvantage is concentrated among those already facing multiple adversities. This is not a small problem affecting a marginal population; it is a large problem affecting the entire population, with the greatest harms falling on those least able to bear them.

The precautionary principle is a cornerstone of public health practice. It holds that when an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically. The precautionary principle is particularly relevant when potential harms are serious, when vulnerable populations are at risk, and when preventive action is feasible and proportionate.

All of these conditions apply to RAEs and extended cohorts in Scotland. The potential harms – mental health problems, inappropriate medication, physical injury, educational disadvantage, reduced physical activity, diminished life opportunities – are serious. Vulnerable populations, children from deprived communities, minority ethnic backgrounds, and girls, are disproportionately at risk. Preventive action, making the legal commencement age the default, ensuring universal access to funded deferral, and implementing age-adjusted scoring and sport-specific interventions, is feasible, proportionate, and aligned with existing legal and policy frameworks.

Moreover, the existing policy framework already supports the recommended change. The Education (Scotland) Act (1980) designates the August after turning five as the legal commencement age. The recommended reform is not a new imposition but a correction, a realignment of practice with law. The misrepresentation of the law, presenting early commencement (August after turning four by the end of the previous February) as the default, has created the conditions for extended cohorts and demographic inequity. Correcting this misrepresentation is not merely a technical adjustment; it is a matter of legal accuracy, institutional integrity, and health equity.

The misrepresentation must be corrected as a matter of urgency. Currently, local authority websites, school communications, and government guidance present early commencement as the default, with deferral framed as an exception requiring justification. This framing is inconsistent with the Act and creates a powerful normative pressure towards early commencement. Parents

who might otherwise choose to defer, particularly those from less advantaged backgrounds who may be less confident in navigating educational bureaucracy, are discouraged from doing so. The result is that deferral becomes a privilege accessed primarily by those with the knowledge, confidence, and resources to challenge the default, thereby widening inequities.

Correcting the misrepresentation requires clear, consistent communication across all institutional levels. Local authority websites, school enrolment materials, and government guidance must state clearly that the legal commencement age is the August after turning five, that children born between August and February are legally correct to ‘defer’, and that funded childcare is available to support this ‘deferral’ to the legal commencement age. Early commencement (August after turning four – by the end of the previous February) should be presented as an option available to families who judge it appropriate for their child, not as the default from which deferral represents a deviation, and it must be a fully informed active decision.

This reframing is not merely semantic. It has profound implications for how families understand their choices, for how schools and local authorities structure their communications and processes, and ultimately for the demographic composition of cohorts and the distribution of RAEs. By aligning communication with law, we can create conditions for more equitable access to deferral, more compressed cohorts, and reduced health inequities.

5.3. THE WINDOW OF OPPORTUNITY

The current moment is uniquely favourable for reform. Several factors have converged to create a window of opportunity that may not remain open indefinitely:

Legal authority. The Education (Scotland) Act (1980) already designates the August after turning five as the legal commencement age. The recommended reform does not require new legislation; it requires alignment of practice with the existing law. This substantially reduces the political and administrative barriers to implementation.

Funding. The Scottish Government (2012, 2023) introduced funding for an additional year of childcare for January- to February-born children in 2014 and extended this to all August- to February-born children in 2023. This removes the primary financial barrier to deferral for families and for local authorities. The funding mechanism is in place; the remaining task is to ensure that families are aware of it and that access is genuinely universal rather than concentrated among advantaged groups.

Pilot evidence. Several local authorities have implemented pilot programmes in which the legal commencement age is presented as the default, with funded deferral available for all eligible children. These pilots have demonstrated feasibility, with high uptake of deferral, compressed cohorts, and positive feedback from families and schools (Scottish Government Statistics, 2023). The pilots provide proof of concept and a model for wider implementation.

Political context. Scotland has a strong policy commitment to educational equity, enshrined in frameworks such as Getting It Right for Every Child (GIRFEC) and the Curriculum for Excellence (Education Scotland, 2019; Scottish Government, 2012). The Scottish Government has prioritised closing the attainment gap between children from deprived and affluent backgrounds. Addressing RAEs and extended cohorts aligns directly with these priorities. The reform can be framed as an equity measure, ensuring that all children, regardless of birth month or family background, have fair opportunities to thrive.

Transition opportunity. Current deferral rates are high and rising, particularly among advantaged groups. In some local authorities, deferral rates for August- to February-born children exceed 50% (Scottish Government Statistics, 2023). This creates a natural transition period. As more families choose to defer, cohorts are already compressing. Making the legal commencement age the default would accelerate and formalise this process, ensuring that compression occurs equitably rather than being driven by differential access among advantaged families.

However, the window may close. If deferral rates continue to rise in an unregulated manner, driven by advantaged families, the transition becomes more complex. Cohorts may become bimodal, with a concentration of advantaged children deferring and disadvantaged children remaining in younger cohorts, thereby exacerbating rather than reducing inequities. If the political moment passes – if attention shifts to other priorities, if opposition from lobby groups gains traction, if institutional inertia prevails – the opportunity for reform may be lost.

Action is needed now. The legal framework is in place. The funding is in place. The pilot evidence is in place. The political commitment to equity is in place. What is needed is political will, clear communication, stakeholder engagement, and phased implementation. The recommendations developed in this book provide a roadmap. The evidence base is sufficient. The moment has arrived.

5.4. BROADER IMPLICATIONS

The analysis presented in this book has implications that extend beyond the specific context of Scottish education policy.

5.4.1. Implications for Public Health Policy

RAEs demonstrate how structural features of the educational system create health inequities. Relative age within a cohort is a social determinant largely invisible to public health: determined by the interaction of birth month (a biological fact) with cohort cut-off dates and width (policy decisions), it creates systematic disadvantages in mental health, physical health, neurodevelopmental diagnosis, and health behaviours such as physical activity participation. It is a social determinant that is imposed on children – one that is modifiable – therefore morally and ethically must be mitigated.

Public health practitioners must engage with educational policy. Schools are settings where children spend a substantial proportion of their waking hours during critical developmental periods. Educational policies, including seemingly technical decisions about cohort cut-off dates, cohort width, and school starting age, have profound health consequences. Public health agencies should be represented in educational policy discussions, should advocate for health equity considerations in educational decision-making, and should support research on the health effects of educational structures.

5.4.2. Implications for Educational Equity

Scotland's deferral pattern exemplifies EMI (Lucas, 2001): when educational expansion makes a level nearly universal, advantaged families maintain advantage through qualitative differences. Here, manipulating school entry timing to secure relative age advantage. When deferral required privately funded childcare, only the most affluent could access it. When the Scottish Government (2023) funded an additional year for January- to February-born children (Children and Young People (Scotland) Act, 2014) and then for all August- to February-born children, deferral became more accessible, but the uptake remained highly stratified by socio-economic status, ethnicity, and gender. Advantaged families – those with greater knowledge of the system, greater confidence in navigating bureaucracy, and greater awareness of RAEs – deferred at high rates. Disadvantaged families, despite being eligible for the same funding, deferred at much lower rates. AQ2

The result is that the younger children within extended cohorts are now composed disproportionately of disadvantaged children. These children experience the compounded disadvantages of being relatively young within extended cohorts, while their advantaged peers have secured relative age advantage through deferral. This is EMI in action: a policy intended to AQ3

promote equity (funded childcare) has been captured by advantaged families to maintain advantage, thereby widening rather than narrowing gaps.

Addressing EMI requires structural reform, not merely expanded access. Making the legal commencement age the default, with funded deferral available for all who need it, changes the structure. It compresses cohorts, reduces the magnitude of RAEs, and ensures that deferral is a genuine choice based on individual child readiness rather than a mechanism for securing competitive advantage.

5.4.3. Implications for Child Development

The concept of ‘school readiness’ must be reconceptualised. Current discourse frames readiness as a property of the child, implicitly pathologising those deemed not ready and obscuring the role of the setting. A more appropriate question is: Is the setting that is intended for that age group of children ready for the child? If a substantial proportion of children at the designated age are deemed not ready, the problem lies with the setting, not the child. The solution is not to exclude or delay children; it is to adapt the setting – play-based learning offers differentiated instruction and supportive environments for this purpose.

Scotland’s Curriculum for Excellence emphasises play-based learning in Early Years including Primary 1 (Education Scotland, 2019), representing a move towards setting readiness. However, high deferral rates among advantaged families suggest this message has not fully penetrated parental perceptions. Clearer communication about the age-appropriateness of Primary 1 is needed to shift discourse from child readiness to setting readiness.

5.4.4. Implications for Safeguarding

Physical mismatch in extended cohorts creates foreseeable injury risk: a safeguarding issue requiring recognition. When Primary 1 children range from 4 years 6 months to 6 years 1 month, the physical differences are substantial: an average six-year-old is 12% heavier and 7% taller than an average five-year-old (Malm, 2021), creating injury risk in both contact and non-contact play and sports. Schools and sport governing bodies have a duty of care to protect children from this foreseeable harm. Evidence from the United States demonstrates elevated injury rates among relatively younger children in school sport even among 12-month cohorts (Straccolini et al., 2016). Safeguarding

frameworks must recognise relative age and physical mismatch as risk factors and must implement appropriate mitigations, including age-adjusted groupings for physical education, bio-banding for sport, and monitoring of injury rates by birth month. The risk of emotional injury through dominance patterns, exclusion, bullying, and loss of self-esteem must also not be underestimated.

5.4.5. Implications for ADHD and Neurodevelopmental Diagnosis

Birth month effects on ADHD diagnosis are substantial, consistent across countries, and persist from initial referral through to medication (Albanesi, 2019; Dhuey & Lipscomb, 2008; Holland & Sayal, 2019). In high-diagnosis countries (the United States, Canada, Iceland), relatively younger children are 30%–60% more likely to be diagnosed and medicated; effects are smaller but significant in the United Kingdom and Nordic countries. These findings suggest that a meaningful proportion of ADHD diagnoses may represent developmental immaturity rather than genuine neurodevelopmental disorder. A child who is 11 months younger than their classmates may appear inattentive, impulsive, or hyperactive relative to age-based norms, but this may reflect normal developmental variation within the age span of the cohort rather than pathology. When such children are diagnosed with ADHD and medicated, they are labelled with a chronic condition, exposed to medication with potential side effects, and may experience stigma and reduced expectations.

This has profound implications for children, families, and healthcare systems. For children, an inappropriate diagnosis may become a self-fulfilling prophecy, shaping identity and expectations. For families, it may create unnecessary anxiety, guilt, and the burden of management. For healthcare systems, it represents overdiagnosis and overtreatment, with associated costs and harms.

The solution is not to deny ADHD diagnoses to relatively younger children; some genuinely have ADHD and require support. The solution is to incorporate relative age into diagnostic assessment. Clinicians should be aware of birth month effects, should consider whether observed behaviours may reflect developmental immaturity, and should use age-adjusted norms where available. There should be no statistically significant variation in ADHD diagnosis based on month of birth, but care must be taken with the interpretation of Scottish data, as position within a cohort cannot be determined from month of birth alone due to the 7-month overlap, where a child may be in different positions within two different cohorts. Diagnostic guidelines should explicitly address relative age. Training for clinicians should include education on

RAEs. And at a population level, compressing cohorts and implementing age-adjusted scoring in schools may reduce the referral of developmentally immature children for ADHD assessment.

5.5. LESSONS FOR OTHER JURISDICTIONS

Scotland's experience with extended cohorts and RAEs offers lessons for other countries.

5.5.1. The Dangers of Allowing Custom to Override Law

Scotland's current situation arose because custom – presenting early commencement as the default – diverged from law, which designates the August after turning five as the legal commencement age. Over time, custom became normalised and resistant to change, creating confusion, inequity, and harm.

Other jurisdictions should ensure educational practice aligns with legal frameworks, that divergence is explicitly authorised, and that custom does not silently override law. When law and practice diverge, the divergence should be debated and either formalised or corrected through practice change.

5.5.2. The Importance of Equity Analysis in Funding Decisions

Scotland's decision to fund an additional year of childcare for 'deferred' children removed a significant financial barrier, but without accompanying equity analysis and targeted communication, the uptake remains stratified by socio-economic status, ethnicity, and gender. Funding alone does not ensure equity. Other jurisdictions should conduct equity impact assessments, monitor uptake by demographic group, and implement targeted outreach to ensure that disadvantaged families are not left behind.

5.5.3. The Need for Demographic Monitoring of Deferral Rates

Scotland's demographic data on deferral, showing stark differences by socio-economic status, ethnicity, and gender, have been essential for understanding the equity implications of current policy and for building the case for reform. However, these data are not routinely collected or published in all jurisdictions.

Other jurisdictions should implement routine monitoring of deferral rates (or equivalent practices such as ‘redshirting’ in the United States) by demographic group, should publish these data transparently, and should use it to inform policy decisions.

5.5.4. The Value of Pilot Schemes in Building Evidence for Reform

Scotland’s pilot programmes in several local authorities have provided valuable evidence on the feasibility of making the legal commencement age the default, on the uptake of funded deferral, and on the experiences of families and schools. This evidence has been essential for building confidence in the proposed reform and for addressing concerns about implementation.

Other jurisdictions considering similar reforms should implement pilot schemes, should evaluate them rigorously, and should use the evidence to refine policy and build support for wider implementation.

5.5.5. The Importance of Stakeholder Engagement in Successful Implementation

Poland’s experience with lowering the school starting age offers a cautionary tale. In 2014, Poland lowered the compulsory school starting age from seven to six, with the intention of improving educational outcomes. The reform was implemented rapidly, without adequate stakeholder engagement or preparation of schools and teachers. It faced significant opposition from parents and educators, was perceived as imposed from above, and was ultimately reversed (Wojniak & Majorek, 2018). The reversal created further disruption and confusion.

Scotland’s approach, building on pilot evidence, engaging stakeholders, communicating clearly about the rationale and evidence base, and implementing in a phased manner, offers a more promising model. Successful implementation requires not only sound policy but also stakeholder buy-in, institutional readiness, and public understanding.

5.5.6. Lessons for Countries With Extended Cohorts

Countries with extended cohorts, including many US states and New South Wales, Australia, face similar challenges: ‘redshirting’ is common, stratified

by socio-economic status and race, and concentrates harms among disadvantaged children (Bassok & Reardon, 2013; Jenkins & Fortner, 2025; Solli, 2017).

Scotland's reform, making the legal commencement age the default, ensuring universal access to funded deferral for those who need it, and implementing complementary measures to address within-cohort effects, could provide a model for these jurisdictions. The key principles are align practice with law, compress cohorts, ensure equity in access to deferral, and address within-cohort effects through age-adjusted assessment and sport-specific interventions.

5.5.7. Lessons for Countries with Strict Cut-offs

Countries with strict cut-offs and 12-month cohorts – including Japan and most of Europe – have lower RAEs than Scotland but still experience significant within-cohort effects. They can learn from Scotland's complementary interventions: awareness-raising among teachers, parents, and coaches; age-adjusted scoring in formative assessments; and sport-specific measures such as rotating cut-off dates and bio-banding.

No system can eliminate RAEs entirely – as Liu and Li (2016) observe, 'there has to be' a cut-off date somewhere. But systems can minimise the magnitude of effects and mitigate their consequences through thoughtful policy design and implementation.

5.6. FUTURE RESEARCH PRIORITIES

While the evidence base on RAEs in 12-month cohorts is substantial, significant gaps remain, particularly regarding extended cohorts and the Scottish context specifically.

5.6.1. Direct Health Effects of Extended Cohorts in Scotland

The most urgent research priority is longitudinal studies examining mental health (anxiety, depression, self-esteem, suicide), physical health (injuries, physical activity, obesity), neurodevelopmental diagnoses (ADHD, autism spectrum disorder), and health behaviours (substance use, risky behaviours) by birth month and cohort composition.

Scotland is ideally positioned for such studies, with excellent data linkage infrastructure, including linked educational, health, and social care records (Rose & Barlow, 2024). Birth month is recorded in administrative data. Cohort composition varies across local authorities and over time, providing natural experiments. Longitudinal cohort studies such as Growing Up in Scotland provide rich data on child development and family context.

5.6.2. Demographic Analysis

Quantitative studies using existing administrative data – SQA examination results, school assessment data, and sport participation data linked to birth month (with care to ensure the child appears in the correct 19-month cohort) – and demographic characteristics. They should employ regression discontinuity designs or other quasi-experimental methods to isolate the causal effect of relative age from other factors. AQ4
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5.6.3. Qualitative Research

Qualitative research is needed to understand the experiences and perceptions of children, parents, teachers, and coaches regarding RAEs and school starting age decisions. Such research would illuminate the mechanisms through which RAEs operate, would identify barriers and facilitators to policy implementation, and would ensure that policy is informed by lived experience.

5.6.4. Child and Adolescent Mental Health Services (CAMHS) Data Analysis

Scotland's CAMHS hold uniquely valuable administrative data on referrals, diagnoses, and treatment pathways that have not yet been systematically analysed by birth month or cohort position. Linking CAMHS records to school enrolment data and birth registers would allow researchers to test directly whether relatively younger children – particularly those in extended cohorts – are disproportionately referred for, and diagnosed with, conditions such as ADHD, anxiety, and conduct disorder. Such analysis would provide the first robust Scottish evidence on the relationship between cohort position and mental health service use and would offer a powerful basis for clinical guidance on age-adjusted assessment within CAMHS practice.

5.6.5. Physical Injury Data Analysis

Scotland's national injury surveillance systems, including hospital admissions data held by Public Health Scotland and sports injury records held by governing bodies, offer an underexplored resource for examining whether relatively younger children sustain higher rates of physical injury in educational and sporting contexts. Research linking injury data to birth month and school cohort composition could establish whether the physical maturation gap between the oldest and youngest children in extended cohorts translates into measurable differences in injury incidence and severity. This analysis is particularly relevant in the context of organised youth sport, where children of significantly different developmental stages are routinely competing against one another and where governing bodies have both the data and the mandate to act on findings.

While higher rates of injury have been demonstrated among the youngest in 12-month cohorts (Stracciolini et al., 2016), no such assessment has been conducted in Scotland's extended 19-month cohorts. The governing body for rugby, Scottish Rugby Union, permits two-year age spreads throughout junior competition, and many schools still compose their first XV rugby sides from the last three extended years of secondary school. Considering 19-month cohorts and the absence of formalised means for grouping (such as bio-banding), physical mismatch during periods of significant growth and maturational differences is exacerbated.

5.6.6. Recording of Age Within a Cohort

A foundational requirement for all future research in this area is the consistent and systematic recording of a child's age within a cohort, not merely their chronological age or date of birth, across administrative datasets in education, health, and sport. While date of birth is generally captured, the derived variable of cohort position (i.e. the child's relative age within their school year group) is rarely computed or stored, making large-scale analysis unnecessarily difficult. Researchers, data custodians, and the Scottish Government should work together to establish a standard methodology for calculating and recording cohort position, enabling it to be used as a routine analytical variable in national datasets and linked record studies.

5.6.7. Scotland as a Natural Laboratory

Scotland's particular combination of policy characteristics makes it an exceptionally valuable natural laboratory for studying RAEs. The coexistence

of a fixed August cut-off date, a tradition of parental deferral, significant variation in local authority deferral rates, and the ongoing policy debate about school starting age creates a range of natural experiments that are rare in international comparative research. Variation in cohort composition across local authorities and over time – driven by differing deferral rates – provides quasi-experimental conditions in which the causal effects of extended cohort membership can be estimated with greater confidence than is possible in systems with uniform cohorts. Researchers should exploit this variation systematically, using difference-in-differences, regression discontinuity, and instrumental variable approaches to generate causal evidence that can directly inform Scottish policy.

5.7. CALL TO ACTION

The evidence presented across this book is clear, consistent, and compelling. RAEs are not an abstract academic curiosity; they are a structural source of preventable harm affecting hundreds of thousands of Scottish children, concentrated most heavily among those who are already disadvantaged. The conditions for reform are in place. What is now required is the will to act, and that will must be distributed across every institution and individual with a stake in children's lives.

5.7.1. Scottish Government

The Scottish Government bears the primary responsibility for reform. It must formally designate the legal commencement age as the default for school entry, ending the practice of presenting early commencement as standard. This requires issuing clear national guidance to local authorities and schools, updating the statutory framework where necessary, and ensuring that funded early learning and childcare is universally available for all children exercising their right to begin school at the legal age. The Scottish Government should also commission the programme of record-linkage research needed to generate direct Scottish evidence on the health consequences of extended cohorts. They should embed relative age monitoring within existing data collection systems covering education, health, and sport. Above all, the government must treat this as the public health and equity issue it is, not a marginal administrative question but a matter of fundamental fairness for every child born in Scotland.

5.7.2. Scottish Parliament

The Scottish Parliament has a vital scrutiny and advocacy role. Members of the Scottish Parliament from all parties should seek briefings on the evidence base and press the government to act with urgency. Parliamentary questions, committee inquiries, and cross-party working groups can all serve to maintain political pressure and ensure that the window of opportunity is not allowed to close. The Parliament should hold the government to account for progress against the nine recommendations set out in Chapter 3. Furthermore, they should ensure that monitoring data are reported transparently and regularly. The United Nations Convention on the Rights of the Child (Incorporation) (Scotland) Act 2024 provides a powerful legal framework within which Parliament can frame the rights of relatively younger children to equitable education and health outcomes.

5.7.3. Education Scotland

Education Scotland must translate national policy intent into professional practice. This means developing and delivering high-quality continuing professional development on RAEs for all primary teachers, early years practitioners, and school leaders, not as a one-off exercise but as an embedded component of professional learning. Education Scotland should update curriculum guidance, school readiness frameworks, and assessment materials to reflect the evidence on developmental variation and the inappropriateness of using early developmental assessments as predictors of long-term potential. It should support schools in implementing age-adjusted assessment approaches and in communicating with parents about relative age in ways that are accessible, empathetic, and evidence based. As the national body responsible for the quality of Scottish education, Education Scotland has both the authority and the obligation to ensure that every professional working with young children understands how birth month shapes the outcomes they observe.

5.7.4. NHS Scotland and Public Health Scotland

NHS Scotland and Public Health Scotland must recognise RAEs as a public health issue and act accordingly. This means integrating awareness of relative age into clinical guidance for GPs, paediatricians, and CAMHS practitioners,

particularly in relation to ADHD assessment and diagnosis, where the evidence of over-diagnosis among relatively younger children is now robust. It means ensuring that health visitors, school nurses, and community health teams are equipped to provide accurate information to families navigating decisions about school starting age. Public Health Scotland should publish a formal review of the public health evidence on RAEs and extended cohorts in Scotland, making the case for action in terms that resonate with health policymakers and practitioners. NHS Scotland should support the record-linkage research programme needed to generate direct Scottish evidence and should monitor ADHD diagnosis rates, mental health presentations, and physical injury data by birth month and cohort position as a matter of routine public health surveillance.

5.7.5. Local Authorities

Local authorities are the critical link between national policy and school-level practice. Directors of education and their teams must implement national guidance with consistency and rigour, ensuring that schools are not inadvertently presenting early commencement as the default or discouraging families from exercising their legal right to defer. Local authorities should use existing data – school roll data, deferral statistics, demographic information – to identify which children are most at risk from extended cohort membership and to target support accordingly. They should share learning across schools, facilitate peer networks for headteachers navigating the transition, and ensure that the resource implications of reform are managed equitably across schools serving different communities. Local authorities that have already piloted later-entry approaches should document and disseminate their learning, contributing to the national evidence base and demonstrating to more hesitant authorities that reform is both feasible and beneficial.

5.7.6. Schools

Schools and the headteachers, teachers, and early years practitioners within them are where the evidence meets the child. Every teacher who understands that the child struggling at the back of the class may simply be the youngest in an extended cohort is a teacher who can respond with support rather than a lowered expectation. Schools should implement age-adjusted assessment approaches, ensure that streaming and setting decisions are not made on the basis of relative age artefacts, and communicate openly with parents

about how birth month may be influencing the progress they observe. School sport programmes should adopt age-banding or bio-banding approaches where feasible, ensuring that relatively younger children are not systematically excluded from participation or talent identification. Pastoral care systems should be alert to the elevated risk of anxiety, low self-esteem, and ADHD misdiagnosis among the youngest children in each cohort. The culture of every school should reflect the understanding that developmental variation is normal, that birth month is not destiny, and that every child deserves to be assessed against their own potential rather than against peers who may be nearly two years older.

5.7.7. Sport Governing Bodies

Sport governing bodies have both an opportunity and an obligation to act. The evidence that relatively younger athletes are systematically under-selected, under-developed, and more likely to be injured and more likely to drop out of sport is now well-established across dozens of sports and multiple countries. Governing bodies should review their age-grouping policies, consider the adoption of rotating cut-off dates, bio-banding, and multi-age grouping approaches, and ensure that talent identification processes are adjusted for relative age. They should work with coaches and club officials to raise awareness of RAE and its consequences. They should monitor participation and selection data by birth month to assess whether interventions are working. In Scotland, where sport plays a central role in public health, community cohesion, and national identity, governing bodies have a particular responsibility to ensure that the talent pool is not systematically depleted by structural biases.

5.7.8. Parents

Parents are both the primary advocates for their children and, collectively, the group whose decisions most directly determine cohort composition. Parents who are considering whether to advance or defer their child's school entry deserve accurate, accessible, evidence-based information. Not the current confusing landscape in which early entry is presented as normal, deferral is framed as a special concession, and the population-level consequences of deferral patterns are invisible. Parents who have already deferred, or whose children are already in school, deserve honest communication about how relative age may

be influencing the outcomes they observe. Parents from disadvantaged communities – who are currently least likely to defer and whose children therefore bear the greatest burden of extended cohort membership – deserve targeted outreach that addresses the specific barriers they face. The call to action for parents is not ‘to defer or not to defer’; it is to make an informed decision, based on accurate information about the evidence, in the best interests of their child and with awareness of the broader consequences of the choices available to them. Default later starting in line with the Education Act with informed active decisions to advance is and should be communicated as the ‘fail safe’ option.

5.7.9. Researchers

Researchers have a responsibility to fill the significant gaps in the Scottish evidence base and to ensure that their findings reach policymakers and practitioners in accessible, actionable forms. Priority research questions include the association between relative age and ADHD diagnosis rates in Scotland; the relationship between cohort position and mental health outcomes, including anxiety, depression, and self-harm; the impact of extended cohorts on academic attainment and the poverty-related attainment gap; and the long-term consequences of extended cohort membership for career trajectories and earnings. Scotland’s exceptional data infrastructure – including linked educational, health, and social care records, the Growing Up in Scotland cohort study, and extensive administrative data – makes it uniquely well placed to answer these questions. Researchers should engage proactively with policymakers, communicate findings in plain language, and contribute to the international evidence base that will inform reform not only in Scotland but in every jurisdiction where children’s life chances are shaped by the month in which they happen to have been born and which cohorting system is imposed upon them.

5.8. CONCLUSION

The children most harmed by the current system are those least able to advocate for themselves – young children from deprived communities, minority ethnic backgrounds, and girls who remain in extended cohorts while their advantaged peers secure relative age advantage through deferral. It is the responsibility of policymakers, educators, health professionals, and researchers to act on their behalf.

The evidence is sufficient. The tools are available. The moment has arrived. Scotland has the opportunity to become a model for equitable, evidence-based educational policy – a system in which every child, regardless of birth month or family background, has fair opportunities to learn, to grow, to be healthy, and to thrive.

The window of opportunity is open. It is time to act.

KEY TAKEAWAYS

- RAEs are a significant public health issue, not merely an elite sport concern, with documented impacts on mental health, physical health, ADHD diagnosis, academic attainment, physical activity participation, and life opportunities.
- Scotland's 19-month cohorts amplify these harms beyond international norms, and the demographic bias in deferral means that disadvantaged children – those from deprived communities, minority ethnic backgrounds, and girls – bear the greatest burden.
- The evidence base is sufficient to justify urgent action under the precautionary principle, even though direct Scottish evidence on extended cohort health effects is limited, because international evidence on 12-month cohorts is substantial and demographic inequity is documented.
- The legal and funding frameworks for reform are already in place: the Education (Scotland) Act (1980) designates the legal commencement age, and funded childcare for deferred children has been extended to all August- to February-born children, removing the primary barriers to implementation.
- The nine policy recommendations form a coherent, evidence-based package that addresses both extended cohorts (through making the legal commencement age the default with universal access to funded deferral) and within-cohort effects (through awareness-raising, age-adjusted scoring, and sport-specific interventions).
- The current moment represents a unique window of opportunity created by recent funding decisions, pilot programme success, and political commitment to equity – but the window may close if action is delayed, making immediate implementation essential.

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