


Section A		
Institution: University of St Andrews 		
Unit of Assessment: UoA 01: Clinical Medicine		
Title of case study: The strategic and policy impact of adolescent health research at national, European and international levels		
Period when the underpinning research was undertaken: 2011 - 31 December 2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by HEI:
Jo Inchley	Reader	01 September 2011 - 31 July 2020
Gerry Humphris	Professor	01 November 2003 - present
Dorothy Currie	Senior Statistician	01 September 2011 - present
Candace Currie	Professor	01 September 2011 - 28 February 2019
Aixa Alemán-Díaz	Policy Officer	26 September 2011 - 30 April 2019
Sanja Budisavljevic,	Research Fellow	01 July 2019 - 31 October 2020
Period when the claimed impact occurred: 01 August 2013 - 31 December 2020		
Is this case study continued from a case study submitted in 2014? No		
Section B		
1. Summary of the impact		
<p>The Health Behaviour of School-aged Children (HBSC) WHO collaborative cross-national survey conducted at St Andrews has been used extensively to prioritise policies, to reduce gender and socio-economic inequalities and to improve health:</p> <ul style="list-style-type: none"> • Identifying health priorities and informing policy development at national level - HBSC findings have informed Scottish Government annual policy reports for the <i>Child Poverty Strategy for Scotland 2016</i> and the <i>Pregnancy and Parenthood in Young People's Strategy between 2016 and 2026</i>. • Supporting strategic monitoring of adolescent health within Europe - HBSC targets and indicators have been adopted by 53 member countries in this area through the WHO's <i>Investing in children: European Child and Adolescent Health Strategy between 2015 and 2020</i>. • Monitoring and promoting adolescent health at international level - UNICEF used HBSC data to raise the profile of adolescent health globally and address key adolescent issues including sexual health, obesity, alcohol use, poverty and mental health. 		
2. Underpinning research		
<p>The School of Medicine hosted the HBSC International Coordinating Centre (ICC) between 2011 and 2019, led by Prof. C. Currie until 2015 and by Dr Inchley as International Coordinator and D. Currie as Deputy International Coordinator from 2015 onwards. The ICC oversees the work of the HBSC international research network of over 400 researchers, leads the scientific and methodological development of the study, and coordinates stakeholder engagement, policy-related outputs and knowledge exchange activities.</p> <p>HBSC, led by researchers at the University of St Andrews, is the largest cross-national study of adolescent health and wellbeing in Europe and aims to increase understanding of adolescent</p>		

health with a key focus on social determinants of health. Conducted in collaboration with the World Health Organisation (WHO), it involves 50 member countries and regions across Europe and North America as of 2019. Surveys conducted every 4 years provide data for national and international agencies to support the development and implementation of strategies to improve the health of young people and address health inequalities (R1).

Over 400,000 young people participated in the two most recent HBSC surveys (between 2013/14 and 2017/18). Cross-national findings show high levels of life satisfaction and recent improvements, notably in a reduction in substance use and soft drink consumption (R1, R2). Overall, younger adolescents report high levels of social support from family, friends and classmates, but this decreases with age (R1). Key challenges are low levels of physical activity, with less than 25% of adolescents meeting the WHO guidelines (R2), and increasing prevalence of poor mental well-being, especially among older adolescent girls (R1). Marked gender inequalities exist for many health indicators, such as eating behaviours, which often increase with age (R1, R3). There are clear social inequalities, with young people from less affluent families doing worse on a wide range of outcomes, including general health, life satisfaction, mental health, oral health, soft drink consumption and screen time (R1, R2, R4, R6). Our research has shown that exposure to socio-economic inequality, particularly in early childhood plays a major role in explaining health differences in adolescence (R4, R5).

In Scotland, levels of drunkenness and early sexual initiation are high relative to most other European countries (R1, R3). Screen time has been increasing rapidly, with associated high levels of sedentary behaviour, increased exposure to cyberbullying and higher risks of poor mental well-being. Poor mental health has emerged from our work as a pressing public health concern for young people. Our research has shown that Scotland has some of the highest levels of socio-economic related inequalities in health, which are closely related to less optimal parental communication, lower fruit consumption, higher soft drink consumption, higher screen-time, tobacco and cannabis use (boys only), higher psychosomatic health complaints and lower self-rated health (R1, R2).

3. References to the research

The underpinning research was published in highly regarded peer-review journals and were supported by peer-reviewed grants. Publication R4 is part of the UoA 01 REF output submission. Additionally, research was included and disseminated in World Health Organisation reports.

R1: **Inchley J, Currie D, Young T, Samdal O, Torsheim T, Augustson L, Mathison F, Alemán-Díaz AY, Molcho M, Weber M, Barnekow V (Eds.)** (2016) Growing up unequal: gender and socioeconomic differences in young people's health and well-being. Health Behaviour in School-aged Children (HBSC) study: international report from the 2013/2014 survey. Health Policy for Children and Adolescents No. 7. WHO Regional Office for Europe, Copenhagen. https://www.euro.who.int/data/assets/pdf_file/0003/303438/HBSC-No.7-Growing-up-unequal-Full-Report.pdf

R2: **Inchley J, Currie D, Jewell J, Breda J & Barnekow V (Eds.)** (2017) Adolescent obesity and related behaviours: trends and inequalities in the WHO European Region, 2002-2014. Copenhagen: WHO Regional Office for Europe. https://www.euro.who.int/data/assets/pdf_file/0019/339211/WHO_ObesityReport_2017_v3.pdf

R3: **Currie, C., van der Sluijs, W., Whitehead, R. D., Currie, D. B., Rhodes, G., Neville, F. G. & Inchley, J.** (2015) HBSC 2014 Survey in Scotland: Health Behaviour in School-Aged Children. https://drive.google.com/file/d/1uUme0yYXj4_kHD8FN4ifhM4d_CzZoft8/view?usp=sharing

R4: Elgar FJ, Pfortner TK, Moor I, de Clercq B, Stevens GW, **Currie C.** (2015) Socioeconomic inequalities in adolescent health 2002-2010: a time series analysis of 34 countries participating in the Health Behaviour in School-aged Children study. *Lancet*, 385:2088-95. doi: [10.1016/S0140-6736\(14\)61460-4](https://doi.org/10.1016/S0140-6736(14)61460-4).

R5: Elgar, F. J., Gariépy, G., Torsheim, T. & Currie, C. (2017) Early-life income inequality and adolescent health and well-being. *Social Science and Medicine*, 174:197-208. [doi: 10.1016/j.socscimed.2016.10.014](https://doi.org/10.1016/j.socscimed.2016.10.014).

R6: Jensen BB, Currie C, Dyson A, Eisenstadt N and Melhuish E (2013) Early years, family and education task group: report. European review of social determinants and the health divide in the WHO European Region. Copenhagen: WHO Regional Office for Europe; https://www.euro.who.int/data/assets/pdf_file/0006/236193/Early-years,-family-and-education-task-group-report.pdf

4. Details of the impact

Adolescent health is a global public health concern, with increasing recognition of the importance of the second decade of life as a critical stage of development. Adolescents now make up 16.6% of the world's population, the largest population of adolescents in human history, and account for 6% of the global burden of disease and injury. More than 3,000 people (adolescents) die every day from largely preventable causes.

The work led by the research team at St Andrews has built the evidence base by furthering the understanding of the status and determinants of adolescent health; it has contributed to monitoring and evaluation by creation and use of HBSC indicators to measure change over time against national targets for health behaviours and outcomes; and it has implemented health improvement activities through policy and strategy development at national and international levels (R1-R6).

Under the leadership of Prof. C Currie and Prof. Humphris, the School of Medicine achieved the distinction of hosting the designated WHO Collaborating Centre (WHO CC) for International Child and Adolescent Health Policy in 2014. All European WHO CCs meet annually to work with WHO developing strategy for the Region, including adopting major HBSC findings to indicate new intervention priorities and policy changes (S1). The HBSC ICC and WHO CC work with national governments and international bodies (WHO, UNICEF, OECD, Eurochild, the EC, Schools for Health in Europe Network (SHE), and Excellence in Paediatrics) to ensure our research shapes and supports international agendas targeting adolescent health (S1, S2).

Through its varied outputs (national reports (R3), international reports (R1, R2 and R6), scientific papers (R4, R5), policy briefs and activities, the HBSC study, under the leadership of St Andrews, has achieved widespread reach through the Scottish, UK, and international media (e.g. widespread international media coverage following publication of R1 reached more than 26 countries, via national TV and radio, the [Lancet](#), [The Guardian](#) (print circulation 168,000 in 2016), [Telegraph](#), [the Sun](#) (print circulation 1,800,000 in 2016), [Independent](#), Newsweek, [TES](#), [der Standard](#), [Yahoo.com News \(US\)](#) (current average 251,000,000 per month visits) and over 270 more online sources (S3). Inchley was interviewed for [BBC Health Check](#) and a [BMJ podcast](#)). By providing expert advice, St Andrews researchers brought the health needs and priorities of adolescents in Scotland and beyond to the attention of a diverse range of stakeholders.

Identifying health priorities and informing policy development at national level

Findings from the HBSC Scotland and HBSC International reports 2014 (R1, R3) were used by the Scottish Government to inform the following policy:

- The Annual Reports for the Child Poverty Strategy for Scotland 2014 and 2016 (S4) where HBSC findings are included as part of strategic measurement of policy progress.
- This was also used by the SG as evidence review on poverty and inequality (S5), where HBSC data is used as key evidence base.
- SG's *Pregnancy and Parenthood in Young People's Strategy 2016-2026* (S6) where HBSC evidence provided the only source of internationally comparable data on sexual behaviour among Scottish adolescents.

As well as being widely reported in the media, the HBSC research has been highlighted by politicians as a key policy resource. "Your research is important for a number of different

reasons..... it provides us with a barometer against which we can broadly measure the success of policies which aim to improve the health and well-being of Scotland's Young people. It also shows us where the challenges remain". Scottish Minister for Children and Young People 2011-2016. (S2, p. 2).

Supporting strategic monitoring of adolescent health within the European Region

Indicators for children's health and well-being (R1 & R2) are available to a wide range of stakeholders from the [WHO Health Information Gateway](#). Our findings from HBSC have been used to contribute to a WHO report [Review of social determinants and the health divide in the WHO European Region: final report \(2013\)](#) (S7) and [Investing in Children: the European Child and Adolescent Health Strategy, 2015-2020](#) (S8).

HBSC data (R1) is extensively cited in two WHO publications: in 2018: [Situation of child and adolescent health in Europe](#) and, in 2019, [Adolescent Health and Development in the WHO European Region: Can we do better?](#); several HBSC indicators have been adopted by WHO, and ratified by the 53 ER countries, as key indicators for monitoring of health within the European Region ([Targets and indicators for Health 2020](#)) (S9), and many more are used by WHO to provide monitoring data and online country profiles through the [WHO European Health Information Gateway resource](#). The latest WHO report monitoring the key health indicators of health across the European Region '[European Health Report 2018](#)' also includes HBSC indicators (S10).

Through international reports (R1, R2, R6), we have raised the profile of adolescent health globally (for example, R1 is the most downloaded report from the WHO Euro website (at least 30,000 downloads as of November 2020)). The HBSC surveys and research have provided a unique data source to inform policy and practice across Europe, and this has been recognised as "a pioneer cross-national study and an invaluable resource for over 25 years, providing insights into young people's well-being, health behaviours and social context. Its findings have been used by WHO and many others to inform policy and practice in countries and regions across Europe, undoubtedly contributing to improvements in the lives of millions of young people" as written by the Director of the Division of Noncommunicable Diseases and Life-course, WHO Regional Office for Europe. (S11)

Monitoring and promoting adolescent health at international level

Research undertaken by UNICEF, including data from HBSC research (R1) has contributed to international debate around inequalities in adolescent health. HBSC data are included in report cards published by UNICEF, Innocenti Report Card 16: [Worlds of Influence Understanding What Shapes Child Well-being in Rich Countries](#) (2020) (S12) and C Currie and D Currie were members of the International Steering Group for Innocenti Report Card 13: [Fairness for Children: A league table of inequality in child well-being in rich countries](#) (2016) and Innocenti Report Card 14: [Building the Future: Children and the Sustainable Development Goals in Rich Countries](#) (2017). These Reports Cards have raised the profile of adolescent health globally and address key adolescent issues including sexual health, obesity, alcohol use, poverty and mental health, and provide evidence that UNICEF has used to lobby governments internationally to promote adolescent health.

5. Sources to corroborate the impact (indicative maximum of ten references)

S1. World Health Organisation. Meeting of WHO Collaborating Centres in Child and Adolescent Health in the European Region 2019 (pdf file)

S2. HBSC 30th Annual Conference, Summary Report. (pdf file)

S3. Media coverage of launch of HBSC International Report 2016. In addition, Excel spreadsheet of all media data available upon request.

- S4. *Annual Report for the Child Poverty Strategy for Scotland 2016*. The Scottish Government, Edinburgh, 2016 (<http://www.gov.scot/Resource/0051/00511975.pdf>) (e.g. pp. 54-57)
- S5. *The life chances of young people in Scotland: evidence review*. The Scottish Government, Edinburgh 2017. (<http://www.gov.scot/Publications/2017/07/3569/1>) (e.g. p. 33)
- S6. *Pregnancy and Parenthood in Young People Strategy in Scotland 2016-2026*. The Scottish Government, Edinburgh, 2016. (<http://www.gov.scot/Publications/2016/03/5858/12>) (e.g. p. 15)
- S7. Review of social determinants and the health divide in the [WHO European Region: final report \(2014 update\)](#). WHO Regional Office for Europe, Copenhagen (pdf file) (e.g. p. 27)
- S8. Investing in Children: the European Child and Adolescent Health Strategy, 2015-2020. https://www.euro.who.int/data/assets/pdf_file/0010/253729/64wd12e_InvestCAHstrategy_140440.pdf (pdf file) (p. 16).
- S9. Targets and indicators for Health 2020 Version 4. World Health Organisation. Regional Office for Europe, Copenhagen. https://www.euro.who.int/data/assets/pdf_file/0009/378945/Targets4_EN_WEB.pdf (pdf file) (e.g. p. 6)
- S10. European Health Report 2018. WHO Regional Office for Europe, Copenhagen. <https://www.euro.who.int/en/data-and-evidence/european-health-report/european-health-report-2018> (pdf file) (e.g. pp. 19-21 & p. 117)
- S11 Value of HBSC to inform policy and practice (pdf file)
- S12. Unicef 2016: Worlds of Influence: Understanding What Shapes Child Well-being in Rich Countries. Innocenti Report Card 16. <https://www.unicef-irc.org/publications/pdf/Report-Card-16-Worlds-of-Influence-child-wellbeing.pdf> (e.g. p. 9, p. 23)