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Summary of methods

Exploring the relationships and pathways linking education to health, well-being and equity

Authors: Cathrine Winding (CW), Public Health Practitioner, Christian Heathcote-Elliott (CHE), Principal Public Health Practitioner, Wider Determinants of Health Unit, Dr Ciarán Humphreys (CH), Consultant in Public Health

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Purpose and Summary of Document:

To outline the approach undertaken to identify published and grey literature on the pathways linking educational attainment and health, health equity and well-being.

1 Description of work

1.1 Background

This literature review is one of three background pieces of work being undertaken which will support the co-production of a system map of the factors affecting the educational attainment gap in Wales and a policy intervention systems map. These maps, along with the background work, will enable the Wider Determinants of Health and stakeholders Unit to identify leverage points and areas of work to focus on in Year 2.

1.2 Aims

The literature review aims to:

- i) Get a better understanding of the mechanisms and pathways linking education to health, well-being and equity outcomes, as well as explore the role of attainment in the relationship between education and health.
- ii) Explore the strength and robustness of evidence supporting these relationships. Various frameworks and models have been developed over the years to explain and map out this relationship, and
- iii) Look at some of the debates and uncertainties, as well as limitations, identified in the literature.

1.3 Research questions

- How does education impact on health, well-being and equity outcomes?
- What are the different mechanisms and pathways in which education and attainment have an effect on health, well-being and equity/inequality outcomes?
- What is the nature of the evidence for the pathways?

1.4 Objectives

The objectives of the literature review are to:

- a) Identify relevant literature through a literature review
- b) Examine evidence on how education affects health, well-being and equity outcomes (the pathways and mechanisms)
- c) Summarise findings and discuss their applicability to the Welsh context, including any areas of uncertainty
- d) Develop data extraction table

2 Scope

The focus of the literature review was the education-health relationship. Literature focusing on social determinates of health (where education is simply one of several determinants examined) was out of scope. Initially, only compulsory education was going to be considered but most studies included higher education in their research so this was also included. Lifelong learning was out of scope.

3 Approach

3.1 Identification of literature

3.1.1 Search strategy

The grey literature and Google Scholar searches were carried out in May 2022 and the database search was carried out at the start of June 2022.

Grey literature sources were initially searched for a range of combinations of the search terms. The searches did not result in many reports on pathways, models or conceptual frameworks but rather some evidence of relationship between education and health.

Due to the nature of the sources, specific topic pages were searched for relevant literature on some websites (e.g. 'education' and 'health' topic pages). A decision was made not to read the books published by OECD due to the length and amount of material available but, rather, search through their working papers and specific chapters.

Due to the number of results yielded from Google Scholar searches, a decision was made by the authors to review the first 10 pages of results. Four Google Scholar searches were conducted and by the fourth search it felt like saturation had been reached as no new or relevant literature was appearing.

Similarly, some searches on databases resulted in large amount of literature and therefore the decision was made to review the first 100 results. MEDLINE searches are saved as PDFs.

3.1.2 Search terms

- Education; educational attainment; educational status; academic achievement;
- AND health; health status; health outcomes; well-being; health inequ* [inequalities, inequality, inequities, inequity]; health equ* [equalities, equality, equities, equity];
- AND causal relationship; relationship; framework; conceptual framework; pathways; mechanisms

3.1.3 Key information sources and databases

- Databases of published and unpublished academic literature: Google Scholar, MEDLINE, APA PsychInfo, ERIC (Education Resources Information Centre)
- Think tanks, charities and research centres/institutes: Education Policy Institute, Education Endowment Foundation, Health Foundation, National Foundation for Educational Research, Nuffield Foundation, OECD,
- Government sources: Office for Health Improvement and Disparities, Public Health Wales, World Health Organization, Welsh Government, UK Health Security Agency

3.1.4 Inclusion and exclusion criteria

Theme	Inclusion criteria	Exclusion criteria
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Measure	<ul style="list-style-type: none"> • Framework, model or theory linking education to health, developed from evidence base • Evidence of a relationship or pathway • School/classroom based education 	<ul style="list-style-type: none"> • Non-evidence based framework, model or theory • Specific medical and health education (e.g. sex education, patient related education)
Outcomes	<ul style="list-style-type: none"> • Health, well-being equity/inequality outcomes (after education) 	<ul style="list-style-type: none"> • Health, well-being and health equity outcomes in children (during education)
Demographic groups	<ul style="list-style-type: none"> • Young people and adults (18 and over), genders, nationalities/ethnicities 	<ul style="list-style-type: none"> • Children (17 and under) • Specific groups of adults (e.g. nurses, stroke patients etc)
Geographic location	<ul style="list-style-type: none"> • UK, OECD countries, EU-27 countries 	<ul style="list-style-type: none"> • Non-OECD or non-EU-27 countries
Language	<ul style="list-style-type: none"> • English and Welsh 	<ul style="list-style-type: none"> • Research in any other language
Time-period covered	<ul style="list-style-type: none"> • Literature from the last 20 years (2002-2022) 	<ul style="list-style-type: none"> • Pre-2002
Types of publication	<ul style="list-style-type: none"> • Peer reviewed journal articles • Discussion papers, working papers, issue briefs • Grey literature 	<ul style="list-style-type: none"> • Editorials/newspaper articles/press releases/blogs • Infographics • Books (including chapters) • Guidelines • Master's/PhD thesis • Author manuscripts

3.1.5 Results

Seventy-eight sources of literature were found in total. Eight grey literature reports were identified, 37 reports were found from database searches, 20 from google scholar and 13 from previous scoping, colleague recommendations and reference lists of identified literature.

After removing articles we had no access to and duplicates, 55 sources were included.

After further assessing for eligibility and discussion with colleagues, an additional 24 papers were excluded due to the age of participants, comparison between developing and developed countries and education not being the specific focus of the paper. The final list of literature included is 31 papers.

3.2 Appraisal of the literature

Due to the nature of the literature review, there was no formal critical appraisal undertaken. For the data extraction table, some quality criteria were considered but this was not comprehensive.

3.3 Outputs

- Narrative discussion of existing literature
- Key visuals/diagrams of the pathways and relationships between education and health and well-being outcomes
- Data extraction table

4 Quality assurance

The Public Health Wales Observatory Evidence Service was approached to support the identification of relevant grey literature and to discuss the approach to finding literature sources.

Eligibility of literature was discussed with colleagues.

The final literature review report was reviewed by AP, CHE, CH.