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## Original Research

# Health impact assessment as an instrument to examine the health implications of education policies



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## ABSTRACT

**Objectives:** Health impact assessment (HIA) is a systematic process that can be used by public health professionals to examine the potential health effects of a policy, plan, program, or project that originates outside of the health sector. This article presents a case study of how an interdisciplinary team utilized an HIA to analyze the potential health impact of full-day kindergarten (FDK) on communities in Nevada.

**Study design:** Case study.

**Methods:** With stakeholder and community engagement, we conducted a multistage HIA that included qualitative and quantitative data collection and analysis, a review of existing literature, and projections. The team considered several pathways through which FDK could impact health in Nevada: (1) school performance; (2) physical development (physical activity and nutrition education); and (3) access to school-based meals and health screenings.

**Results:** Findings indicated that access to FDK could enhance opportunities for Nevada's children to harness school-based services, increase physical activity, and promote nutrition education. In addition, based on existing research that suggests relationships between (1) FDK attendance and 3rd and 5th grade math and reading standardized test scores and (2) 3rd and 5th grade test scores and high school graduation, as well as available state and national data, we estimated that access to FDK could increase high school graduation in Nevada by 499–820 students per year.

**Conclusions:** This HIA demonstrated that access to FDK could impact both student and adult health in Nevada. Our engagement of public health professionals along with stakeholders and the community in the HIA process demonstrated that HIAs can be an important tool for public health professionals to examine the effects on community health of policies, programs, plans or projects that arise outside of the health sector.

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## Introduction

Although not always considered health issues, access to quality housing, transportation, jobs, and education improves community health.<sup>1</sup> The relationship between educational attainment (e.g. high school graduation and college education) and morbidity and mortality is well documented.<sup>2–5</sup> People with higher levels of educational attainment have lower rates of disease and longer life expectancies. They have greater access to jobs that pay higher wages, provide safer occupational environments, and offer health insurance.<sup>4</sup> In addition, they are able to afford healthier food, live in safer communities that support physical activity, and have access to preventive care. People with higher educational attainment are less likely to engage in health-related risk behaviors and are more likely to participate in health-promoting behaviors. All of these factors contribute to lower rates of chronic diseases.<sup>5,6</sup> However, the causal pathways that connect education and health are less well understood and can be difficult to study because they involve multiple, intricate mediators.

Through complex mechanisms, decisions made in education and other seemingly non-health sectors often inadvertently affect health; however, the health impacts across these sectors are rarely considered. A health impact assessment (HIA) provides a systematic method to incorporate health concerns into these sectors and to examine the potential health effects of a policy, plan, program, or project originating outside of the health sector. Such decisions can arise in the education, transportation, housing, urban planning, labor and employment, or other sectors.<sup>7</sup> HIA provides a flexible and interdisciplinary tool for analysis, utilizes an array of data sources and analytic methods, and considers input from impacted stakeholders and community members to report ways to maximize potential health benefits while minimizing harms.<sup>8</sup>

An HIA consists of six major steps:<sup>9</sup>

- Step 1 – **Screening** identifies decisions or issues for which an HIA could be useful.
- Step 2 – **Scoping** determines which health effects and pathways to consider.
- Step 3 – **Assessment** considers possible health risks and benefits and identifies who may be affected and how.
- Step 4 – **Recommendation** presents opportunities to promote positive and minimize adverse health effects.
- Step 5 – **Reporting** presents and communicates HIA results.
- Step 6 – **Monitoring and evaluating** examines the process, outcome, and impact of the HIA and establishes ways to continue engaging with the issue.<sup>9</sup>

HIAs have been used extensively internationally, especially in Europe, Australia, and Canada, and are gaining popularity in the United States. Since the 1990s, over 300 known HIAs have been conducted in the US.<sup>7</sup> The majority of HIAs have focused on transportation, urban planning, and housing. Few have examined the education-health nexus.<sup>10</sup> Education-related HIAs in the US include those assessing the health impacts of policies related to grade

retention in Ohio, school discipline in California, and school siting in Texas.<sup>10</sup> Because of the education-health nexus, education-related HIAs provide opportunities to ensure that the health impacts of education are being considered and vice versa.<sup>2–5</sup> This article presents a case study of how public health professionals can work with other stakeholders and the community to examine the health impacts of policies originating outside of the health sector.

## Methods

The purpose of the HIA was to consider how access to full-day kindergarten (FDK) in Nevada impacts health in the state and to make that information widely available. The core team conducting the HIA comprised four public health faculty members and two students from the University of Nevada, Las Vegas (HIA team). In addition, a Steering Committee (SC) was formed to provide the HIA team guidance and assistance. It consisted of educators, education policy experts, public health professionals, and parents. With funding from the Health Impact Project and technical assistance from the Health Impact Project and the Kansas Health Institute, the HIA team and the SC went through the six HIA steps.

### Screening

The SC engaged in a screening process to determine whether conducting an HIA would be appropriate and feasible. Based on preliminary research and discussions with stakeholders, the SC concluded that conducting the FDK HIA was appropriate. This decision was made for several reasons. First, there was a state-wide discussion about improving Nevada's K-12 education system. In the 2013–2014 school year, when state-wide public K-12 enrollment was 451,730 students across 17 public school districts,<sup>11</sup> Nevada lagged behind most states on several education metrics and educational disparities existed. Nevada ranked last (50th) in the nation in the education domain that comprised preschool attendance, 4th grade reading proficiency, 8th grade math proficiency, and on-time graduation.<sup>12</sup> Nevada's 4th and 8th graders tended to be less proficient in math and reading than similar students in the nation as a whole.<sup>13</sup> Furthermore, 70% of Nevada students graduated high school on time, compared to 81.4% in the nation, with on-time graduation rates even lower for American Indian/Alaskan Native, Hispanic, and Black students, lower income students, and English language Learner (ELL) students, and students with disabilities compared with the state average.<sup>14,15</sup>

In addition, the HIA team and SC determined that the HIA could add value by demonstrating the connections between health and education for decision-makers, stakeholders, and community members and by providing additional information for ongoing FDK and public education discussions. Finally, SC members were interested in hands-on learning about HIA and in bringing the first known HIA to Nevada to build capacity in this field.

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