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A User's Guide to Legislative Health Notes

A step-by-step guide for researchers and policy analysts

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Acknowledgments

The Health Impact Project is grateful to Keshia Pollack Porter, Ph.D., professor and vice dean for faculty at the Johns Hopkins Bloomberg School of Public Health, for her assistance developing the health note methodology and her contributions to this guide. The project also thanks current and former Pew colleagues Gaby Bonilla, Jennifer V. Doctors, Shamyra Edmonds, Carol Hutchinson, Stacey Millett, Tricia Olszewski, and Nicole Silverman for providing editorial, design, and production support.

The Health Impact Project is a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts. This product is supported by a grant from the Robert Wood Johnson Foundation. The views expressed are those of the authors and do not necessarily reflect the views of the Robert Wood Johnson Foundation.

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The Health Impact Project is a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts.

What are health notes and how can they help inform policymaking?

In 2018, the Health Impact Project—a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts—launched a pilot project to help policymakers understand the health implications of proposed legislation using a new policy analysis tool called “health notes.” These brief, objective, nonpartisan summaries outline a bill’s potential positive and negative health effects, drawing on the best available peer-reviewed research, scientific data, and public health expertise to illuminate the ways it might improve or harm constituent health, with an emphasis on disproportionate impacts on specific populations. Health notes also can be developed quickly to provide timely information for policymakers across levels of government. They do not make recommendations and do not advocate for or against proposed legislation.

A growing body of evidence shows that environmental, social, and economic factors such as housing, income, employment, transportation, and education significantly affect people’s health and well-being. However, policy and programmatic decisions in these areas are often made without consideration of potential health impacts or health equity—the guiding principle that disparities in health outcomes caused by factors such as race, income, or geography should be addressed and prevented, providing opportunities for all people to be as healthy as possible.

Health notes can help address this challenge by applying a Health in All Policies (HiAP) framework that offers policymakers “an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity.”¹ Government agencies, research institutions, and community-based organizations around the globe are increasingly pursuing HiAP strategies as a means to gauge how decisions about housing, land-use planning, education, employment, transportation, and other critical sectors and services can influence health.

This step-by-step guide shows researchers and policy analysts how to conduct health notes. Please direct questions to healthimpactproject@pewtrusts.org and be sure to share completed health notes for inclusion in the project’s [cross-sector toolkit for health](#).

Health Notes in Action

Health notes have been used to examine the potential health and equity implications of proposed policies related to housing, education, employment, and criminal justice, such as bills that would:

- Facilitate the development of accessory dwelling units in California.
- Prohibit charging fees for all-day public kindergarten in Colorado.
- Establish comprehensive policing and justice reform in the District of Columbia.
- Make it easier for homeless youth to obtain state-issued identification such as birth certificates or driver’s licenses in Indiana.
- Change the eligibility and weekly benefit calculation for unemployment insurance in North Carolina.
- Fund and amend the state workers’ compensation coverage in Ohio.
- Enact a sales and use tax for housing and related services in Spokane, Washington.

Laying the groundwork

Inform and educate policymakers and other stakeholders

Before drafting a health note, it's important to ensure that legislators understand the purpose of health note analysis and that research findings will reach the intended audience. Contacting and meeting with policymakers—such as committee chairs or other leaders within a legislature—in advance and sharing information about determinants of health and [example health notes](#) is essential to encourage policymaker investment in the process and health note findings.

Identify subject matter experts

External subject matter experts (SMEs) provide guidance during the scoping stage and review the final draft of the health note. External peer review can ensure that researchers include seminal studies, consider relevant health connections, develop pertinent search terms, and represent data accurately, especially when conducting an analysis of unfamiliar subject matter.

It is useful to work with SMEs of diverse backgrounds, including those with academic and practical expertise. Research universities, think tanks, government agencies, and specialized organizations or service providers can be a good source of SMEs. Developing and maintaining relationships with local academic institutions can be instrumental in identifying SMEs, as they often have networks of experts that extend beyond academia.

The Health Impact Project estimates that SMEs typically contribute three to four hours of time to provide input on a health note. With their consent, practitioners should also acknowledge SMEs' role in the final health note in an "Expert Reviewer" or "Acknowledgments" section.

Health note implementation steps

Health notes follow a six-step process and can be adapted to suit various timelines or legislative priorities:

- **Screening:** identifying the bills that would most benefit from health note analysis
- **Scoping:** considering the potential health effects related to the identified bill and identifying and prioritizing research questions about the bill's connections—or pathways—to health
- **Research:** conducting and tracking the results of a structured, expedited literature search for evidence connecting the prioritized pathways identified during scoping and the bill's components
- **Drafting:** writing the health note and obtaining peer review from SMEs
- **Dissemination:** sharing the final health note with legislators and members of the public
- **Monitoring and evaluation:** determining how many legislators received and read the health note and whether it had an impact on their decision

These steps draw on principles of health impact assessment (HIA): a process that engages stakeholders to (1) help communities and decision-makers identify the potential health effects of decisions in multiple sectors and (2) develop recommendations on how to maximize health benefits and minimize preventable risks. Health notes are different from HIAs in that they focus exclusively on proposed legislation, are conducted in a rapid time frame, rely exclusively on existing evidence, do not involve stakeholder engagement, and do not make recommendations. Both approaches can be used to inform policymaking, with health notes particularly suited for rapid decision-making contexts and situations where the development of recommendations could jeopardize the perceived objectivity of the analysis. Users who are exploring the use of health notes, HIAs, or other HiAP

approaches should consider their goals, the policymaking timeline and context, and the necessary level of stakeholder engagement to determine which tool is most appropriate. More information about and examples of HIAs are available in the Health Impact Project's [cross-sector toolkit for health](#).

Depending on the complexity of the bill selected for analysis, the availability of pertinent data and public health evidence, staff capacity, and organizational procedures related to publishing research, health notes can take an average of 40 to 100 business hours to complete. The following sections describe each of these steps in detail.

Health Notes and Recommendations

In developing the health note methodology and approach, the Health Impact Project conducted interviews with policymakers and legislative staff who recommended that practitioners omit recommendations so that health notes are not perceived as biased toward a specific policy outcome. However, health note practitioners may adapt the approach to best suit their jurisdiction's needs and decision-making context.

Screening

Health notes are meant to bring health evidence into policymaking conversations in which such considerations are often overlooked. The Health Impact Project developed the following screening questions to objectively select proposed bills and ensure that the time and resources invested in developing health notes have the greatest possible impact.

Screening questions

- Does the bill have the potential to affect the circumstances in which people are born, grow up, live, work, and age?
- Does local data (i.e., state or district-level data) exist to explore the connections between the policy issue and public health?
- Is the bill likely to disproportionately affect racial and ethnic minorities, low-income individuals, older adults, children, or others who face health inequities? If yes, which populations?
- Based on your knowledge of the health determinant(s) being addressed by the bill, is there evidence to support pathways that identify both positive and negative potential health effects?
- Has this specific bill been proposed before? If yes, did the debate about the bill include the potential health effects?
- Is there enough time to complete a health note prior to the bill hearing or other key legislative dates (e.g., crossover deadline, or the last day a bill can pass from the chamber in which it was introduced for consideration in the other chamber)?

As practitioners launch health note programs to provide independent, nonpartisan analysis on proposed legislation in their jurisdictions, they may also want to work with local stakeholders during the screening process to understand the political context of the bills under consideration. This can help ensure that practitioners select topics for their first health notes that are not so controversial or divisive that they risk making their health note program appear partisan.

As soon as a bill is identified for analysis, begin the search for external SMEs to review the health note. External reviewers should be nonpartisan, have practical or academic knowledge of the selected topic, and, ideally, have familiarity with the relevant jurisdiction. If a local SME cannot be identified, someone from another location with knowledge of the topic will suffice. SMEs will review the conceptual model produced during the next step of health note development and the draft note.

Scoping: The conceptual model

Once a bill is selected, the scoping phase determines the health note research strategy. This phase comprises the following steps:

- Completing a **conceptual model**
- Drafting **research questions, background questions, and search terms**
- Identifying **sector-specific peer-reviewed journals** and **gray literature sources** (reports and publications outside of academic journals)
- Obtaining **external subject matter expert feedback** on the above

Once a bill is selected, input bill components into a conceptual model (Figure 2) using direct bill language. Practitioners should hypothesize links—or pathways—between the specific bill components, factors that shape health, and health outcomes (Figure 1) and record these in the model.

Figure 1

Links Between Bill Components and Health



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Because the links between social determinants of health and health outcomes are well documented, health note analysis primarily investigates the associations between the direct impacts and the intermediate impacts identified during the scoping phase. After completing the model, researchers can select components of the conceptual model to prioritize in the analysis based on relevance, availability of evidence, and proximity to health. A preliminary literature and news search for connections between the bill's focus and health can help to uncover frequently overlooked pathways.

A sample completed conceptual model is provided in Appendix A on page 16. Note that hypothesized associations are neutral and do not specify increases or decreases, benefits or harms. The literature search will yield evidence about cause and effect or correlation, and whether the relationships in question are positive or negative.

Figure 2
Conceptual Model Template

Bill name:			
Bill components	Direct impacts	Intermediate impacts	Health outcomes

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Develop research questions

Use the pathways to develop the research questions and determine which ones to prioritize, and identify key terms used for the literature search. Also compile a list of background questions that could yield relevant contextual data to frame the research findings in a way that is compelling to legislators.

Identify literature sources

Based on the research focus identified at this stage, determine three of the most relevant and influential sector-specific peer-reviewed journals and nonpartisan sources to include in the literature search. Next, identify a list of leading nonpartisan sources of relevant, publicly available U.S. population data and gray literature—such as U.S. federal, state, or local government agencies, nonpartisan research organizations, or think tanks—based on the bill topic. For example, a researcher could find evidence related to a bill on school lunches in a journal such as *Children and Youth Services Review*, and the U.S. Census Bureau’s American Community Survey or Child Trends could provide relevant gray literature and population data.

Obtain external subject matter expert review

Before moving on to the next step, send a document containing the conceptual model, research and background questions, search terms, and resource list to the identified SME(s). When operating on a tight timeline, researchers can proceed with the literature search during SME review and retroactively incorporate any feedback using additional search terms, journals, and gray literature sources.

Expedited literature search and review

The literature search and review phase identifies the best available peer-reviewed research and gray literature to answer the identified research questions. This phase comprises the following steps:

1. Search PubMed and EBSCO databases for systematic reviews, review articles, or meta-analyses published in the past five years using the key terms developed during scoping.
2. If Step 1 yields fewer than six results per research question, proceed to search for original studies in the *American Journal of Public Health*, *Social Science & Medicine*, *Health Affairs*, and the topic-specific journals identified during the scoping phase.
3. Search gray literature sources using key terms. Systematic review and tracking for this search are not necessary; however, the search should prioritize gray literature published in the past five years.
4. Apply the exclusion criteria described on page 9 to determine which articles to include.
5. Track data from peer-reviewed literature searches.
6. Synthesize included articles, identifying key findings.
7. Categorize findings for each research question according to strength of evidence ratings.

The expedited literature search and review can be the most time-consuming step in developing health notes, taking approximately 15 to 40 hours, depending on the topic. Other staff and interns can provide support on an ad hoc basis with minimal training to either assist with the search, review and synthesize articles, or find answers to background questions.

Peer-reviewed literature

The literature search is the information-gathering stage of the health note development process, wherein researchers identify evidence supporting or opposing each of the pathways connecting the proposed bill to health determinants and health outcomes. Health notes rely on the most recent peer-reviewed evidence to answer the prioritized research questions developed in the scoping stage, supplemented by data gathered from gray

literature sources. The health note search methodology is based on an expedited literature review, which is a comprehensive search strategy to rapidly synthesize evidence.²

First, develop a system to track your search results (see “data tracking” section on page 10). Begin by searching PubMed and EBSCO Discovery Service for systematic reviews, review articles, or meta-analyses of studies published in the past five years, using the search terms generated during scoping. In PubMed, select systematic reviews and meta-analysis under article types. In EBSCO, filter results using the advanced search feature by including “systematic review or meta-analysis or review” in the title and searching for keywords in the abstract (see Figure 3).

Figure 3
Sample PubMed and EBSCO Searches

The screenshot shows the PubMed search interface. The search query is "school lunch program AND consumption of healthy food". The results are filtered to show 6 results, with filters applied for Meta-Analysis, Review, Systematic Review, and results from the last 5 years. The results list includes:

- 1. Effect of school wellness policies and the Healthy, Hunger-Free Kids Act on food consumption behaviors of students, 2006-2016: a systematic review. *Morland JL, Savaiano SA. Nutr Rev. 2019 Jul 19;77(5):533-552. doi: 10.1093/nut/nuz020. PMID: 30833082 Review.*
- 2. Effectiveness of school food environment policies on children's dietary behaviors: A systematic review and meta-analysis. *Micha R, Katsargou D, Bakogianni I, Trichia E, Whittle LP, Story M, Pothivo JL, Mozaffarian D. Front One. 2018 Mar 29;9(29):18453. doi: 10.3389/fone.2018.0218453. eCollection 2018. PMID: 29556480 Free PMC article. Review.*
- 3. The School Food Environment and Obesity Prevention: Progress Over the Last Decade. *Walker E, Lott M, Story M. Curr Obes Rep. 2016 Jun;5(2):145-55. doi: 10.1007/s13679-016-0204-0. PMID: 27066793 Review.*
- 4. Narrative Review of Culinary Interventions with Children in Schools to Promote Healthy Eating: Directions for Future Research and Practice. *Mozaffarian H, Metzger JL, Rose B. Cite.*

The screenshot shows the EBSCO Discovery Service search interface. The search query is "systematic review OR meta-analysis OR review" AND "school lunch programs" AND "consumption of healthy foods". The results are filtered to show 1 - 5 of 5 results. The results list includes:

- 1. The Impact the Smarter Lunchroom Movement Strategies Have on School Children's Healthy Food Selection and Consumption: A Systematic Review. *By: Mumby, Stephanie; Leineweber, Meghan; Andrade, Jeanette. Journal of Child Nutrition & Management, v42 n2 Fall 2018. (EJ1194731). Database: ERIC*

Sources: PubMed, <https://pubmed.ncbi.nlm.nih.gov/>; EBSCO Discovery Service, <https://www.ebsco.com/search>

Researchers and analysts who do not have access to PubMed or EBSCO Discovery Service can follow a similar procedure using the advanced search feature in Google Scholar. Enter “systematic review,” “meta-analysis,” and “review” along with topic-specific terms and limit results to articles published in the previous five years. (See Figure 4.)

Figure 4
Sample Google Scholar Search

The image shows a screenshot of the Google Scholar Advanced Search interface. The window title is "Advanced search" with a search icon in the top right corner. The search criteria are as follows:

- Find articles**
 - with **all** of the words: full day kindergarten AND educational attainr
 - with the **exact phrase**: (empty field)
 - with **at least one** of the words: "systematic review" "meta-analysis"
 - without** the words: (empty field)
 - where my words occur:
 - anywhere in the article
 - in the title of the article
- Return articles **authored by**: (empty field)
e.g., "PJ Hayes" or McCarthy
- Return articles **published in**: (empty field)
e.g., J Biol Chem or Nature
- Return articles **dated between**: 2016 — 2021
e.g., 1996

Source: Google Scholar Advanced Search, https://scholar.google.com/#d=gs_asd

After reading the abstracts of relevant titles, read the full text of all selected articles to confirm inclusion. If fewer than six systematic reviews or meta-analyses are found for a specific pathway or research question, use the key terms to search for original studies in the *American Journal of Public Health*, *Social Science & Medicine*, *Health Affairs*, and the topic-specific journals identified during scoping.

For any searches yielding over 100 results, screen a minimum of 50% of the abstracts—sorted by publication date so that the newest articles are screened first—to determine relevance to each research question. In addition, read through reference lists of included articles to ensure that seminal research published more than five years ago is included.

Be sure to track data for all searches, including number of results and articles reviewed, included, and excluded, along with the details of each article selected for inclusion, using the data tracking system described below.

Gray literature

Search the gray literature (e.g., nonsystematic research reviews and original articles, U.S. federal, state, and local government agency and nonpartisan organization research reports, datasets, and publications) using the final list of leading nonpartisan sources and key search terms to identify relevant sources and answer background questions. Gray literature does not require the systematic review and tracking process described above because this search is intended to complement the peer-reviewed literature; however, researchers should still prioritize sources published in the past five years.

Exclusion criteria

Do **not** include articles:

- Published more than five years prior to the date of the search unless determined to be key research through reference review.
- Whose study populations are located outside of the United States.
- That do not answer the prioritized research questions.

Limitations of the Literature Search Methodology

The search methods present the following limitations:

- The search is restricted to literature produced in the previous five years. Although older seminal studies cited in research returned during this search are eligible for inclusion, these parameters could result in the exclusion of key evidence.
 - Although the journals used in the search process were selected based on their influence factor, focusing on these sources could exclude relevant evidence published in other journals.
 - Restricting the search to studies conducted in the United States has the potential to exclude seminal research on policies that have been implemented in other countries.
 - Because of the quantity of evidence reviewed, this process does not include an examination of each individual study's limitations.
-

Data tracking

Track the following results for each **search**:

- Keywords used, source name, number of resources returned, number of abstracts reviewed, and number of reviewed studies included and excluded.

Figure 5

Sample Literature Search Tracking Spreadsheet

Keywords used	Source name (database)	Number of resources returned	Number of abstracts reviewed	Number of studies included	Number of abstracts excluded	Notes
	PubMed					
	EBSCO					
	American Journal of Public Health					
	Social Science & Medicine					
	Health Affairs					
	Sector-specific journals					

Health Impact Project literature search tracker, Page 1

Contact the [Health Impact Project](#) to receive a literature search tracking spreadsheet.

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Article tracking

Use the tracked information to calculate the number of records identified, screened, included, and excluded; of full-text articles assessed for inclusion and exclusion; and of additional studies or reports identified through searching the gray literature. It is critical to capture these numbers because they will be reported in the methods section of the health note.

Track the following for each **article**:

- Date of review, article title, year of publication, authors, source type (e.g., peer-reviewed or gray literature), study type (e.g., meta-analysis, review), data sources and measures, and key findings.

Date of your review	Article title	Year of publication	Authors	Source type (peer-review, gray lit)	Study type	Source data and measures collected	Key findings

Strength of evidence

After reviewing and identifying key findings from included articles, determine which categories of evidence characterize the findings for each research question, using the following strength categories. The Health Impact Project adapted these categories from Washington state's [health impact review](#) process, a similar objective, nonpartisan, evidence-based approach to informing policymakers about how proposed legislation could affect health and health equity. Health note practitioners can work with their teams to come to consensus on these evidence categories based on the identified literature, or can assign specific individuals to review all of the evidence for a given research question and determine the appropriate category based on the available body of literature.

Very strong evidence: The literature review yielded robust evidence supporting a causal relationship with few, if any, contradictory findings. The evidence indicates that the research community largely accepts the existence of the relationship.

Strong evidence: The literature review yielded a large body of evidence on the association, but the body of evidence contained some contradictory findings, studies that did not incorporate the most robust study designs or execution, had a higher-than-average risk of bias, or some combination of these.

A fair amount of evidence: The literature review yielded several studies supporting the association, but a large body of evidence was not established; or the review yielded a large body of evidence but findings were inconsistent, with only a slightly larger percentage of the studies supporting the association; or the research did not incorporate the most robust study designs or execution or had a higher-than-average risk of bias.

Mixed evidence: The literature review yielded several studies with contradictory findings regarding the association.

Not well researched: The literature review yielded few if any studies or yielded only studies that were poorly designed or executed or had a high risk of bias.

Writing the health note: Core elements

Although health notes may be structured differently according to the authoring organizations' preferences and standards, each note should contain a few core components:

- Brief bill summary, ideally taken from the bill text or website.
- Summary of findings, including strength of evidence rating.
- Explanation of the findings' relevance to the jurisdiction in question, using state or local data (e.g., "Why do these findings matter for Florida?").
- Data or evidence about the populations most likely to be affected by the bill.
- Detailed findings organized by research question or topic (when pathways or research questions yield little to no evidence, a brief note in the methods description is sufficient).
- Methods description, including:
 - Research questions.
 - Search terms.
 - Search limitations or exclusion criteria.

- Databases, journals, and gray literature sources searched.
- Summary of literature search tracking results (e.g., total number of resources returned, reviewed, included, and excluded).
- Strength of evidence definitions (see page 12).

Developing an organizational health note template in advance will save time, facilitate collaboration with co-workers or introduction of new staff to the health note methodology, help to create a consistent product that legislators and their staffs recognize, and ensure that all key components are included in each note. Examples of different health note formats are available in the Health Impact Project's [cross-sector toolkit for health](#).

When multiple staff members contribute to a single health note, document collaboration software and citation managers (e.g., EndNote or RefWorks) can help to organize sources and information.

Send a near-final draft to the external reviewers and a fact-checking service—if available—for feedback. Fact-checking services can conduct an independent review of the health note to help ensure that facts are correctly stated and attributed, including quotations from outside sources and all cited information.

A final copy should include the researchers' contact information in case there are follow-up questions and provide the names of the subject matter experts involved, if they are comfortable having their names listed in the document.

Dissemination

Creating a one-page brief to accompany the full health note can help legislators quickly and easily understand the findings.

The Health Impact Project has learned from conversations with legislators that health notes are most useful if delivered to the target committee or body one week to two business days in advance of the bill hearing. Practitioners can also consider working with interim or study committees, where the flow of legislation moves more slowly.

Although legislators and their staff are the primary audience for health notes, other stakeholders and the public may also be interested. Practitioners should consider sharing findings with community-based organizations, nonpartisan policy research organizations, or civic groups that work on issues related to the health note topic.

The audience analysis template and accompanying questions below (see Figure 6) can help to formulate a dissemination strategy for health notes or related publications.

Figure 6

Audience Analysis Template

- List audiences that would be interested in the health note topic and findings. What are the different groups of people, populations, or organizations you want to reach?
- Why is this audience interested in the topic? How does the health note relate to the audience’s work?
- Which components or findings of the health note would be particularly relevant to each audience?
- What are the appropriate methods to reach each audience? Print, social media, radio, etc.?
- What products will resonate with each audience identified? Health note summaries, one-pagers, etc.?
- Who are the appropriate messengers to reach each audience? What existing networks or membership bases can you leverage?
- Are there special considerations for reaching any of these audiences? Will any of these audiences require building new relationships? Will you need to translate materials?

Audience	Why this audience?	Components or findings of interest	Communications method(s)	Communications product(s)	Messenger(s)	Special considerations

Evaluation

The legislative health note is designed to support informed decision-making and help legislators understand the connections between various policy topics and health. Regular evaluation can ensure that the methods and product contribute to this goal and can provide insights into adaptations that would make health notes more successful or beneficial to the legislative process. The Health Impact Project attempts to conduct interviews with legislators, legislative staff, and external subject matter experts to learn whether the information in the health notes was presented in a timely, easy-to-understand and to discern what impact, if any, the notes had on legislators' decision-making process. Having these interviews occur as soon as possible after the legislative session can reduce the impact of recall error. In focus groups with legislators, the Health Impact Project learned that policymakers prefer that these evaluation conversations take place as soon as possible after a bill hearing—ideally the following day. Legislative staff have expressed a preference for providing feedback through a brief online survey instead of a telephone or in-person interview.

Appendix A: Conceptual model example

Figure A.1

Sample Conceptual Model

CO HB19-1262: State funding for full-day kindergarten				
Bill components	Bill goals (if stated)	Direct impacts	Intermediate impacts	Health outcomes
After passage of the bill, a school district or a charter school that provides a full-day kindergarten educational program shall not charge fees for attending kindergarten other than those fees that are routinely charged to parents of students enrolled in other grades and are applicable to the kindergarten educational program. (Children are not required to attend full-day kindergarten.)	[none stated]	<p>Change in number of kindergarten-age children in Colorado who have access to full-day kindergarten</p> <p>Change in tuition payments for full-day kindergarten</p>	<p>Change in child care costs for parents/guardians</p> <p>Change in instruction time available to kindergarten-age children</p> <p>Change in educational preparation for first grade</p> <p>Change in opportunities for screening and detection of potential learning problems</p> <p>Change in access to school meals</p> <p>Change in food insecurity and hunger</p> <p>Change in access to physical activity/recess</p> <p>Change in parent/guardian's ability to work</p> <p>Change in household income</p> <p>Change in educational performance and attainment</p> <p>Change in literacy skills</p> <p>Change in English language skills for nonnative English-speaking children</p> <p>Change in social skills</p> <p>Change in teacher employment</p>	<p>Change in educational attainment-related health outcomes (e.g., chronic disease, health behaviors, mental health)</p> <p>Change in income-related health outcomes (e.g., chronic disease and mental health)</p> <p>Change in employment-related health outcomes</p>

Note: If the bill does not explicitly state goals, do not complete the "goals" column.

Source: "State Funding for Full-Day Kindergarten" (2019), <https://leg.colorado.gov/bills/hb19-1262>

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Background questions

- What is the rate of enrollment in full-day kindergarten in Colorado?
- What is the rate of enrollment of Colorado children with low-income backgrounds in full-day kindergarten?
- What is the rate of enrollment of Colorado children by race, ethnicity, and other key demographics in full-day kindergarten?
- How many current full-day kindergarten teachers are in Colorado? How does this compare with national averages?
- What is the average cost of child care in Colorado?
- What percentage of children are screened and diagnosed with a potential learning disability in a school setting?
- What are the standards regarding recess in Colorado?
- How many districts in Colorado participate in the Community Eligibility Provision that would provide free lunch and breakfast to all children in schools?
- What is the rate of hunger and food insecurity among kindergarten-age children in Colorado?

Research questions

- To what extent does full-day kindergarten affect educational attainment?
- To what extent does full-day kindergarten affect educational performance among children with special needs (i.e., learning)?
- To what extent does full-day kindergarten affect literacy?
- To what extent does full-day kindergarten affect English language skills among children from families that do not speak English?
- To what extent does full-day kindergarten affect children's social skills?
- To what extent does free full-day kindergarten affect the cost of child care?
- To what extent does free full-day kindergarten affect household employment, particularly among mothers?
- To what extent does free full-day kindergarten affect child nutrition?
- To what extent does free full-day kindergarten affect food insecurity and hunger?
- To what extent does free full-day kindergarten affect child physical activity?
- To what extent does free full-day kindergarten affect teacher employment?

Search terms

- Full-day kindergarten + educational attainment
- Full-day kindergarten + learning disabilities OR special needs
- Full-day kindergarten + literacy
- Full-day kindergarten + English language skills
- Full-day kindergarten + social skills
- Full-day kindergarten + child care costs
- Full-day kindergarten + employment

- Full-day kindergarten + food insecurity OR hunger
- Full-day kindergarten + physical activity
- Full-day kindergarten + teacher employment

Sector-specific journals

- Children and Youth Services Review
- The Review of Educational Research
- Early Childhood Research Quarterly

Gray literature sources

- Child Trends
- NEA
- ERIC
- Urban Institute
- RAND Corporation

Appendix B: Sample gray literature sources

- U.S. Census Bureau
- Centers for Disease Control and Prevention
- Substance Abuse and Mental Health Services Administration
- County Health Rankings & Roadmaps
- City Health Dashboard
- Brookings Institution
- Urban Institute
- Child Trends
- National Academies of Sciences, Engineering, and Medicine
- The Pew Research Center
- The Pew Charitable Trusts

Appendix C: Sample outreach language for policymakers

Dear [LEGISLATOR],

Re: Legislative Health Note in [JURISDICTION]

[ORGANIZATION] seeks to help policymakers in [JURISDICTION] identify the connections between proposed legislation and health by conducting health notes. Evidence shows that decisions made in sectors such as education, housing, transportation, and criminal justice can have profound and lasting effects on factors that shape health and health outcomes.

[ORGANIZATION] plans to conduct a health note on [TOPIC]. Health notes are brief, objective, and nonpartisan summaries of how proposed legislation could affect health. They are based on an expedited review of peer-reviewed research, public health expertise, and local data and intended to help legislators understand the connections between decisions they make in a variety of sectors and the health of their constituents. They include both positive and negative effects on health outcomes as well as on drivers of health such as education, employment, and housing. Local data is used to illustrate the bill's potential impacts on specific populations, locations, or programs. Health notes are not intended to provide a cost-benefit analysis or to support or oppose legislation, but rather to provide legislators with data to inform decision-making.

I welcome the opportunity to speak with you further.

Sincerely,

[NAME]

[TITLE, ORGANIZATION]

Endnotes

- 1 World Health Organization, "Health in All Policies Framework for Country Action" (2014), <https://www.who.int/healthpromotion/hiapframework.pdf>.
- 2 R. Ganann, D. Ciliska, and H. Thomas, "Expediting Systematic Reviews: Methods and Implications of Rapid Reviews," *Implementation Science* 5 (2010): 56, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2914085/>.

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