

# HEALTH NOTE: High School Equivalency Pilot Program

## Senate Bill 234

### 2020 Indiana General Assembly

#### Bill Authors:

Senator Jeff Raatz

#### Bill Summary:<sup>a</sup>

Establishes the high school equivalency pilot program (program) for Richmond Community Schools, MSD Washington Township Schools, Evansville Vanderburgh School Corporation, and MSD Warren Township Schools. Allows a student who has completed less than 50 percent of the required number of credits necessary to graduate upon entering their fourth year of high school to participate in the program to earn a high school equivalency diploma as a new form of diploma.

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#### What is the goal of this health note?

Decisions made in sectors outside of public health and health care, such as in education, housing, and employment, can affect health and well-being. Health notes are intended to provide objective, nonpartisan information to help legislators understand the connections between these various sectors and health. This document provides summaries of evidence analyzed by the Health Impact Project at The Pew Charitable Trusts while creating a health note for Indiana Senate Bill (SB) 234. Health notes are not intended to make definitive or causal predictions about how a proposed bill will affect health and well-being of constituents. Rather, legislators can use a health note as one additional source of information to consider during policy-making. The analysis does not consider the fiscal impacts of this bill.

#### How and why was this bill selected?

The Health Impact Project identified this bill as one of several important policy issues being considered by the Indiana General Assembly in 2020. The health note screening criteria were used to confirm the bill was appropriate for analysis. (See Methodology on Page 7)

Two of the Health Impact Project's focus areas for health notes are education and employment. The project selected SB 234 for analysis because of its potential to affect educational attainment and career opportunities for Indiana youth. There is a strong and robust evidence base linking education and health, with educational attainment creating opportunities for better health over a lifetime. Research has consistently demonstrated that Americans with more education live longer, healthier lives than those with fewer years of education.<sup>1</sup> Research has also consistently demonstrated a strong link between employment and health, particularly through effects on workers' income, safety, stability, and access to health insurance and other benefits.<sup>2</sup>

## SUMMARY OF HEALTH NOTE FINDINGS

In 2017, among Indiana youth ages 18 to 24, 17 percent had less than a high school degree.<sup>3</sup> Not completing high school is associated with an increased risk of job instability, using government assistance, involvement in the criminal justice system, using illicit drugs, and self-reported poor health, among other outcomes by age 27.<sup>4</sup> Indiana residents 25 years and older who do not hold a high school diploma earn a median income of \$21,300 per year.<sup>5</sup>

Indiana Senate Bill (SB) 234 would establish the high school equivalency pilot program for Richmond Community Schools, the Metropolitan School District of Washington Township Schools, Evansville Vanderburgh School Corporation, and the Metropolitan School District of Warren Township Schools.<sup>6</sup> High school students who have completed less than half of the required credits necessary to graduate upon entering their fourth year would be eligible to participate in the program to earn a high school equivalency diploma recognized as a new form of diploma by the participating high school.<sup>7</sup> Unlike students who earn diplomas through Indiana's high school equivalency exam, students participating in the pilot would be

<sup>a</sup> Summary as described by the Indiana General Assembly, <http://iga.in.gov/legislative/2020/bills/senate/234>

<sup>b</sup> The Health Impact Project is committed to conducting non-partisan research and analysis.

required to complete two career and college readiness programs, such as a certification class or work-based learning program.<sup>8</sup> Other high schools in the state would be eligible to participate beginning in July 2021.

This health note prioritizes the components of SB 234 with the greatest potential to affect health. The note explores the evidence regarding high school equivalency and youth career and college readiness programs and their effects on participants' educational and employment outcomes, and subsequent potential health effects.

**Because SB 234 would create a new pilot program, there is no research examining this specific program and its effects on health and well-being. However, this review found a large body of evidence that, overall, demonstrates positive educational and employment benefits for students participating in programs aimed at increasing high school completion or receipt of an equivalency diploma as well as programs that prepare students for the workforce. Educational attainment and employment are well-documented predictors of health outcomes over the life course.** Below is a summary of key findings:

- There is **strong evidence** that programs aimed at increasing high school completion or receipt of an equivalency diploma are effective. A meta-analysis examining 167 individual studies found that all the program types assessed by the studies—including vocational training, alternative schooling, and mentoring and counseling—were effective in increasing high school completion or receipt of an equivalency degree.<sup>9</sup> However, none of these studies looked at programs aimed solely at helping students achieve an equivalency degree. This presents an opportunity for Indiana to evaluate the high school equivalency pilot program's effects on educational attainment and subsequent outcomes, if implemented, and add to the evidence base on these programs. SB 234 would require participating school corporations to report annually on several outcomes, including the number of students in the program that receive their high school equivalency diploma.
- There is **very strong evidence** that high school completion or receipt of an equivalency degree is a predictor of long-term health outcomes, including lifespan.<sup>10</sup> Researchers have also shown that students from low-income households see greater long-term health benefits from increased educational attainment than students from higher-income households.<sup>11</sup>
- There is **strong evidence** that the attainment of a high school diploma or equivalent has become increasingly important to employment and earnings outcomes.<sup>12</sup> Between the 1980s and 2008, the earnings of students who did not finish high school decreased by two percent, while the earnings of high school graduates increased by 13 percent.<sup>13</sup>
- There is a **fair amount** of evidence that workforce readiness and work-based learning programs can lead to higher-quality jobs and increased earnings for participants.<sup>14</sup>
- There is **strong evidence** that high school completion programs that target students at greater risk of not completing high school, including communities of color and low-income communities, are likely to reduce gaps in educational attainment.<sup>15</sup> Therefore, such programs have potential to improve health equity—the principle that factors such as race, income, and geography should not determine health outcomes and that all people should have the opportunity to be as healthy as possible. The extent to which the program proposed in SB 234 serves populations at greater risk of dropout could produce larger gains in academic achievement. The school districts and corporations participating in this pilot program serve student populations ranging from 9 percent (Richmond Community) to 54 percent (Warren Township) black; from 5 percent (Evansville Vanderburgh) to 20 percent (Washington Township) Hispanic. Fifty-seven percent (Evansville Vanderburgh) to 73 percent (Richmond Community) of students in these districts receive free and reduced-price meals, compared to the 2017 state average of 47 percent.<sup>16</sup>

**Methods Summary:** To complete this health note, Health Impact Project staff conducted an expedited literature review using a systematic approach to minimize bias and identify studies to answer each of the identified research questions. In this note, “health impacts” refer to effects on determinants of health, such as education, employment, and housing, as well as effects on health outcomes, such as injury, asthma, chronic disease, and mental health. The strength of the evidence is qualitatively described and categorized as: not well researched, mixed evidence, a fair amount of evidence, strong evidence, or very strong evidence. It was beyond the scope of analysis to consider the fiscal impacts of this bill or the effects any funds dedicated to implementing the bill may have on other programs or initiatives in the state. To the extent that this bill requires funds to be shifted away from other purposes or would result in other initiatives not being funded, policymakers may want to consider additional research to understand the relative effect of devoting funds for this bill relative to another purpose. A detailed description of the methods is provided in Analysis Methodology on Page 7.

## **WHY DO THESE FINDINGS MATTER FOR INDIANA?**

Forty-one percent of Indiana jobs required a high school diploma or equivalent in 2013, the most recent year for which data are available.<sup>17</sup> However, in 2017, among Indiana youth ages 18 to 24, 17 percent had less than a high school degree.<sup>18</sup> In addition, the poverty rate in the state in 2016 among residents ages 25 and older who did not complete high school was 26 percent compared with 12 percent for residents with a high school diploma or equivalent.<sup>19</sup>

Among the schools identified for the proposed pilot program, Richmond Community Schools and the Metropolitan School District of Washington Township reported above-average graduation rates of 96 percent and 90 percent, respectively. The Metropolitan School District of Warren Township and Evansville Vanderburgh School Corporation—the largest school corporation affected by SB 234—reported graduation rates below the state average: 86 percent and 81 percent, respectively.<sup>20</sup>

## **HOW DO HIGH SCHOOL EQUIVALENCY PROGRAMS AFFECT PARTICIPANTS?**

The pilot program established by SB 234 would include several components of programs that have been studied by researchers across the U.S., including work-based, workforce preparedness, and college readiness. This health note examines the available research regarding effects that different program components could have on factors important to health, including educational attainment and employment outcomes, and describes the relationship between these outcomes and health and well-being.

### **Effects on Educational Attainment and Related Societal Benefits**

- Research has demonstrated the effectiveness of programs aimed at increasing high school completion or receipt of a high school equivalency diploma. A Community Guide systematic review that examined data from a meta-analysis of 167 individual studies and 10 additional studies found that all the program types assessed by the studies—including vocational training, alternative schooling, and mentoring and counseling—were effective in increasing high school completion or receipt of an equivalency degree.<sup>21</sup> However, none of these studies looked at programs targeted solely at helping students receive equivalency degrees.
- The Community Guide review also examined 10 studies that calculated the government and societal benefits of programs targeted at increasing high school completion or receipt of an equivalency degree. The economic component of the review found that lifetime benefits to governments per additional high school graduate ranged from \$187,000 to \$240,000, and lifetime societal benefits ranged from \$347,000 to \$718,000. Conversely, each individual who drops out of high school costs

the U.S. economy at least \$250,000 over their lifetime due to use of government assistance, increased likelihood of involvement with the criminal justice system, and lower tax contributions.<sup>22</sup>

- This review did not yield any studies that examined the links between high school equivalency programs and college readiness. However, individuals with high school equivalency diplomas are more likely to enroll in college or pursue post-secondary education than individuals who leave high school.<sup>23</sup>

### **Effects on Employment and Earnings**

- Indiana residents 25 years and older who do not hold a high school diploma earn a median income of \$21,300 per year.<sup>24</sup> In the U.S., the average annual median income for individuals who did not complete high school is \$25,000, compared to \$46,000 for holders of a high school diploma or equivalent.<sup>25</sup>
- Research has shown the importance of career readiness preparation in helping youth identify a career goal, identify necessary training and work experiences to achieve that goal, and develop the skills, knowledge, and supports to succeed, including how to establish productive relationships with colleagues and navigate life circumstances that can present barriers to job retention.<sup>26</sup>
- A 2018 report from the Metropolitan Policy Program at Brookings and Child Trends used longitudinal data from the National Longitudinal Survey of Youth 1997 to examine the types of youth employment, education, and training experiences that are associated with youth from disadvantaged backgrounds having higher-quality jobs—measured through earnings, benefits, hours of work, and job satisfaction—at the age of 29. The study found three factors that contribute to higher-quality jobs in adulthood for disadvantaged youth: work-based learning opportunities that foster positive relationships with adults; gaining experience in the labor market between the ages of 16 and 18; and completing a two-year, four-year, or graduate post-secondary degree, which was the strongest predictor of a high-quality job.<sup>27</sup>
- To the extent that high school equivalency programs improve participants' access to post-secondary education or training, they could help increase lifetime earnings. Research shows that between 1965 and 2013 the median annual earnings for individuals between the ages of 25 and 32 with only a high school degree decreased by more than \$3,000, while annual earnings for individuals with bachelor's degree or higher rose by \$7,000.<sup>28</sup> Additionally, research indicates that individuals experience an increase in earnings in one year and five years after receiving a short-term certificate and a long-term certificate in Indiana. However, initial earnings and overall salary is higher for Indiana residents with an associate's degree, bachelor's degree, or higher.<sup>29</sup> Although holders of high school equivalency diplomas earn more than individuals who drop out of high school, they tend to earn less than individuals with a traditional high school degree.<sup>30</sup>
- One study that evaluated a career readiness program for youth involved with the foster care system in Rhode Island documented benefits to participants' employment over time and self-determination—students' belief in their ability to direct their own lives.<sup>31</sup>

### **Effects of Educational Attainment and Employment on Health**

- High school completion is a predictor of long-term health outcomes, including lifespan.<sup>32</sup> Researchers have also shown that students from low-income households see greater long-term health benefits from increased educational attainment than students from higher-income households.<sup>33</sup>
- Research consistently shows that as education level increases, an individual's risk of death decreases.<sup>34</sup> One study used data from the Panel Study of Income Dynamics and National Death Index and found that, among high school graduates, completing a vocational certification was independently associated with a reduced risk of death.<sup>35</sup>

- Not finishing high school presents many risks to students' health and well-being over the life course. For example:
  - One longitudinal study that followed 529 participants in Indiana and Tennessee from kindergarten to age 27 found that participants who dropped out of high school were significantly more likely to use government assistance, to have been fired two or more times, to have been arrested as an adult, to have used illegal drugs within the previous 6 months, and to report poor health.<sup>36</sup>
  - Another study examined data from a nationally representative phone-based survey with over 26,000 people who had experienced youth homelessness or who had a youth in their household who had experienced homelessness.<sup>37</sup> The study found that not finishing high school was the greatest risk factor associated with experiencing unaccompanied youth homelessness, and that youth without a high school diploma or high school equivalency certificate were 4.5 times more likely to experience homelessness than their peers who completed high school. Other studies have also documented the protective effect educational attainment can have against youth homelessness.<sup>38</sup>
  - Other research has shown that completing high school decreases student's likelihood of involvement with the criminal justice system.<sup>39</sup>
- There is a large body of research demonstrating that a steady job with adequate compensation can improve health and well-being. People with higher incomes live longer and experience better health outcomes than those living in poverty.<sup>40</sup>

### **Potential Factors Affecting Successful Program Implementation**

- Because many young people face challenges in and outside of school that stand in the way of their academic achievement, high school completion programs that address the co-occurring needs of the students at the greatest risk of leaving high school could be more effective. For example, attention problems, absenteeism, and substance use are associated with reduced academic achievement.<sup>41</sup> Experiencing childhood trauma is also associated with higher dropout rates.<sup>42</sup>
- Research suggests that availability and access to programs that support workforce readiness among youth will not alone guarantee benefits for employment and educational outcomes: the quality and implementation of the programs play an important role.<sup>43</sup> In addition, factors such as local labor market demand and the match between high-quality jobs and the skills of available workers can affect the ability of youth to secure quality employment after completing certificate or training programs.<sup>44</sup>
- A growing body of research has also demonstrated the importance of non-academic, "soft skills"—such as communication, problem-solving, and social skills—that are important to positive employment outcomes including obtaining a job, securing higher earnings and opportunities for advancement, and job stability.<sup>45</sup> One qualitative study with low-income, racially and ethnically diverse graduates of an urban Catholic high school in the U.S. who had participated in a work-based learning experience while in high school highlighted the perceived value of the work-based learning experience to their maturity, time management, and self-awareness.<sup>46</sup>
- A 2016 report from the National Youth Employment Coalition identifies elements of youth work-based learning programs that make the programs successful. These elements include: providing paid work-based learning opportunities, strong partnerships with businesses and community stakeholders, positive youth development and continued support, and linkages to connect youth to future education and training opportunities.<sup>47</sup>
- Research suggests that components of successful career readiness programs for youth involved with the foster care system include integrating the programs with other services to address other challenges youth are facing that could undermine their ability to work, building skills and

knowledge about various aspects of the employment process, and a focusing on developing youth's relational and social skills.<sup>48</sup>

## **WHICH POPULATIONS ARE MOST LIKELY TO BE AFFECTED BY THIS BILL?**

Some populations are more likely to drop out of high school, and others face increased risks of health problems as a result of not finishing school.<sup>49</sup> For example, adverse experiences such as maltreatment, parental separation or death, homelessness, teen parenting and pregnancy, poverty and socioeconomic hardship, and involvement with the foster care or child welfare system can have negative consequences on students' educational attainment and make it harder for students to complete school.<sup>50</sup> One study found that individuals from families with lower socio-economic status (SES) are more likely to experience negative outcomes—such as job instability, use of government benefits, and poor self-reported health—as a result of dropping out of high school than their peers in higher SES backgrounds.<sup>51</sup> Evidence suggests that states with higher levels of income inequality tend to have higher dropout rates, thus yielding lower high school completion rates.<sup>52</sup>

Research also demonstrates the intersection between various risk factors for dropout and race, ethnicity, and income. For example, one study using a representative sample from the 2001 Los Angeles Family and Neighborhood Survey found that, irrespective of their age when arriving to the U.S., Latino students with either an authorized or unauthorized immigration status were 71 percent and 77 percent less likely, respectively, to complete high school compared to Latino students with U.S. citizenship.<sup>53</sup> An analysis of longitudinal data on children within the child welfare system in the U.S. found that black men who were victims of maltreatment were significantly less likely to have a general education diploma (GED) or high school diploma than white men, white females, black females, and Hispanic females.<sup>54</sup>

Educational attainment varies by race in Indiana. Fifty-five percent of Hispanic residents hold a high school diploma or higher, compared with 77 percent of Asian residents, 84 percent of black residents, and 90 percent of white residents.<sup>55</sup> If implemented, the high school equivalency pilot program may have the potential to positively affect youth who are already at disproportionate risk of negative employment, educational, and health outcomes.

## **HOW LARGE MIGHT THE IMPACT BE?**

Where possible, the Health Impact Project describes how large the impact may be based on the bill language and literature, such as describing the size, extent, and population distribution of an effect. The number of students potentially affected by the high school equivalency pilot program will depend on the number of school corporations that establish programs and the number of youth who enroll. The fiscal note for the introduced version of SB 234 did not provide an estimate.<sup>56</sup>

It was beyond the scope of this analysis to consider the fiscal impacts of this bill or the effects any funds dedicated to implementing the bill may have on other programs or initiatives in the state. SB 234 would require school corporations to pay for the pilot program through their existing budgets or through other sources such as donations and grants. To the extent that this bill requires funds to be shifted away from other purposes or would result in other initiatives not being funded, policymakers may want to consider additional research to understand the relative effect of devoting funds for this program relative to another purpose.

## METHODOLOGY

Once the bill was selected, a research team from the Health Impact Project hypothesized a pathway between the bill, health determinants, and health outcomes. The hypothesized pathway was developed using research team expertise and a preliminary review of the literature. The bill component was mapped to steps on this pathway and the team developed research questions and a list of keywords to search. The research team reached consensus on the final conceptual model, research questions, contextual background questions, keywords, and keyword combinations. The conceptual model, research questions, search terms, and list of literature sources were peer-reviewed by an external subject matter expert. The external subject matter expert also reviewed a draft of the note. A copy of the conceptual model is available upon request.

The Health Impact Project developed and prioritized 6 research questions related to the bill components examined:

- To what extent does having a High School Equivalency Diploma affect employment and income?
- To what extent does having a High School Equivalency Diploma affect self-sufficiency, youth independence, and transition to adulthood?
- To what extent does having a High School Equivalency Diploma affect health behaviors and outcomes?
- To what extent does access to a high school equivalency program affect high school dropout rates, particularly for students who relocate frequently?
- To what extent does participation in youth workforce and college preparedness programs affect:
  - Behavioral health?
  - Physical health?
  - Social engagement/social networks?
- To what extent do youth workforce development and college preparedness programs affect:
  - Short-term and long-term employment outcomes for participants?
  - Job stability?
  - Income?

Next the research team conducted an expedited literature review using a systematic approach to minimize bias and answer each of the identified research questions.<sup>c</sup> The team limited the search to systematic reviews and meta-analyses of studies first, since they provide analyses of multiple studies or address multiple research questions. If no appropriate systematic reviews or meta-analyses were found for a specific question, the team searched for nonsystematic research reviews, original articles, and research reports from U.S. agencies and nonpartisan organizations. The team limited the search to electronically available sources published between January 2015 and January 2020.

The research team searched PubMed and EBSCO databases along with the following leading journals in public health, higher education, workforce, and economics to explore each research question: American Journal of Public Health, Social Science & Medicine, Health Affairs, Journal of Adolescent Health, Children

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<sup>c</sup> Expedited reviews streamline traditional literature review methods to synthesize evidence within a shortened timeframe. Prior research has demonstrated that conclusions of a rapid review versus a full systematic review did not vary greatly. Cameron A. et al., "Rapid versus full systematic reviews: an inventory of current methods and practice in Health Technology Assessment," (Australia: ASERNIP-S, 2007): 1-105, [https://www.surgeons.org/media/297941/rapidvsfull2007\\_systematicreview.pdf](https://www.surgeons.org/media/297941/rapidvsfull2007_systematicreview.pdf).

and Youth Services Review, and Journal of School Health.<sup>d</sup> For all searches, the team used the following search terms: high school equivalency program, GED, employment, income, earnings, health behaviors, health outcomes, self-sufficiency, independence, dropout, high school completion, youth workforce development program, college preparedness program, employment outcomes, job stability, graduation rates, and social engagement. The team also searched Brookings Institution, Chapin Hall, Urban Institute, and the Indiana Youth Institute for additional research and resources outside of the peer-reviewed literature.

After following the above protocol, the team screened 1442 titles and abstracts,<sup>e</sup> identified 39 abstracts for potential inclusion and reviewed the full text corresponding to each of these abstracts. After applying the inclusion criteria, 24 articles were excluded. Two additional sources were incorporated based on feedback from the expert reviewer. A final sample of 15 articles was used to create the health note. In addition, the team used 32 references to provide contextual information.

Of the studies included, the strength of the evidence was qualitatively described and categorized as: not well researched, a fair amount of evidence, strong evidence, or very strong evidence. The evidence categories were adopted from a similar approach from another state.<sup>57</sup>

**Very strong evidence:** the literature review yielded robust evidence supporting a causal relationship with few if any contradictory findings. The evidence indicates that the scientific 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 or studies that did not incorporate the most robust study designs or execution or had a higher than average risk of bias; or some combination of those factors.

**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 percent 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.

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

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

## EXPERT REVIEWER

This document benefited from the insights and expertise of Dr. Tamar Mendelson, Director of the Center for Adolescent Health at the Johns Hopkins Bloomberg School of Public Health. Although she reviewed the note and found the approach to be sound, neither she nor her organization necessarily endorses its findings or conclusions.

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<sup>d</sup> These journals were selected using results from a statistical analysis completed to determine the leading health research journals between 1990 and 2014. Merigó, José M., and Alicia Núñez. "Influential Journals in Health Research: A Bibliometric Study." *Globalization and Health* 12.1 (2016), accessed Jan. 11, 2018, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4994291/>.

<sup>e</sup> Many of the searches produced duplicate articles. The number of sources screened does not account for duplication across searches in different databases.

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- <sup>1</sup> Virginia Commonwealth University Center on Society and Health, “Education: It Matters More to Health than Ever Before,” accessed October 31, 2018, <https://societyhealth.vcu.edu/work/the-projects/education-it-matters-more-to-health-than-ever-before.html>.
- <sup>2</sup> Health Impact Project, “Employment Strongly Influences Health,” accessed March 8, 2019, <https://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2018/employment-strongly-influences-health>.
- <sup>3</sup> Rachel Strange, “A Closer Look at Hoosiers with No High School Diploma,” (INcontext), <http://www.incontext.indiana.edu/2018/mar-apr/article2.asp>, accessed January 17, 2020.
- <sup>4</sup> J.E. Lansford et al., “A Public Health Perspective on School Dropout and Adult Outcomes: A Prospective Study of Risk and Protective Factors from Age 5 to 27,” (2016), <http://search.ebscohost.com/login.aspx?direct=true&db=edsbas&AN=edsbas.8F587B65&site=eds-live&authtype=sso&custid=s3229936>.
- <sup>5</sup> Statistical Atlas, “Educational Attainment in Indiana,” <https://statisticalatlas.com/state/Indiana/Educational-Attainment>, accessed January 16, 2020.
- <sup>6</sup> Indiana General Assembly, SB 234, version introduced January 9, 2020, <http://iga.in.gov/legislative/2020/bills/senate/234#document-cf7100da>, accessed January 15, 2020.
- <sup>7</sup> Indiana General Assembly, SB 234, version introduced January 9, 2020, <http://iga.in.gov/legislative/2020/bills/senate/234#document-cf7100da>, accessed January 15, 2020.
- <sup>8</sup> Indiana General Assembly, SB 234, version introduced January 9, 2020, <http://iga.in.gov/legislative/2020/bills/senate/234#document-cf7100da>, accessed January 15, 2020.
- <sup>9</sup> Robert A. Hahn et al., “Programs to Increase High School Completion: A Community Guide Systematic Health Equity Review,” *American Journal of Preventive Medicine* 48, no. 5 (March 2015), <https://doi.org/10.1016/j.amepre.2014.12.005>.
- <sup>10</sup> B. Rostron, J. Boies, and E. Arias, “Education Reporting and Classification on Death Certificates in the United States,” National Center for Health Statistics, (May 2010), <https://www.ncbi.nlm.nih.gov/pubmed/25093685>; Robert A. Hahn and Benedict I. Truman, “Education Improves Public Health and Promotes Health Equity,” *International Journal of Health Services* 45, no. 4 (2015): 657–78, <https://doi.org/10.1177/0020731415585986>; VCU, “Education: It Matters More to Health than Ever Before.”
- <sup>11</sup> C. Ross and J. Mirowsky, “The Interaction of Personal and Parental Education on Health,” *Social Science & Medicine* 72 (2011) 591–599, <https://doi.org/10.1016/j.socscimed.2010.11.028>.
- <sup>12</sup> Anthony P. Carnevale, Nicole Smith and Jeff Strohl, “Help Wanted: Projections of Jobs and Education Requirements Through 2018,” Georgetown University Center on Education and the Workforce, <https://cew.georgetown.edu/cew-reports/help-wanted/#report>, accessed March 26, 2019; Molly M. Scott, Simone Zhang, and Heather Koball, “Dropping Out and Clocking In: A Portrait of Teens Who Leave School Early and Work,” Urban Institute (April 2015), <https://www.urban.org/urban-wire/dropping-out-and-clocking>.
- <sup>13</sup> Carnevale, Smith and Strohl, “Help Wanted.”
- <sup>14</sup> Anthony P. Carnevale, Stephen J. Rose, and Andrew R. Hanson, “Certificates: Gateway to Gainful Employment and College Degrees,” Georgetown University Center on Education and the Workforce, June 2012, <https://cew.georgetown.edu/cew-reports/certificates/#full-report>, accessed March 7, 2019; Martha Ross et al., “Pathways to High-Quality Jobs for Young Adults,” *Metropolitan Policy Program at Brookings and Child Trends*, October 2018, accessed March 7, 2019, <https://www.brookings.edu/research/pathways-to-high-quality-jobs-for-young-adults/>.
- <sup>15</sup> Hahn et al., “High School Completion.”
- <sup>16</sup> Indiana Department of Education Compass, “Evansville Vanderburgh School Corp”, <https://compass.doe.in.gov/dashboard/overview.aspx?type=corp&id=7995>; Ibid, “Richmond Community Schools,” <https://compass.doe.in.gov/dashboard/overview.aspx?type=corp&id=8385>; Ibid, “M S D Warren Township,” <https://compass.doe.in.gov/dashboard/overview.aspx?type=corp&id=5360>; Ibid, “M S D Washington Township,” <https://compass.doe.in.gov/dashboard/overview.aspx?type=corp&id=5370>, accessed January 17, 2020; Kids Count, “Public school students receiving free or reduced price lunches in Indiana,” <https://datacenter.kidscount.org/data/tables/5187-public-school-students-receiving-free-or-reduced-price-lunches#detailed/2/any/false/871,870,573,869,36,868,867,133,38,35/1279,1280,1281/13762.11655>, accessed January 17, 2020; Kids Count, “Public school students receiving free or reduced price lunches in Indiana,”

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<https://datacenter.kidscount.org/data/tables/5187-public-school-students-receiving-free-or-reduced-price-lunches#detailed/2/any/false/871,870,573,869,36,868,867,133,38,35/1279,1280,1281/13762,11655>, accessed January 17, 2020.

<sup>17</sup> Bureau of Labor Statistics, “Education level and jobs: Opportunities by state,”

<https://www.bls.gov/careeroutlook/2014/article/education-level-and-jobs.htm>, accessed March 26, 2019.

<sup>18</sup> Strange, “Hoosiers with No High School Diploma.”

<sup>19</sup> Ibid.

<sup>20</sup> Indiana Department of Education, “2019 State Graduation Rate Data” (December 2019),

<https://www.doe.in.gov/sites/default/files/accountability/2019-state-grad-rate-data-20191231.xlsx>.

<sup>21</sup> Hahn et al., “High School Completion.”

<sup>22</sup> Lansford et al., “A Public Health Perspective.”

<sup>23</sup> Richard G. Rogers et al., “Educational Degrees and Adult Mortality Risk in the United States,” *Biodemography and Social Biology*, 56, no. 1 (2010): 80–99.

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<sup>25</sup> Lansford et al., “A Public Health Perspective.”

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