THE COSTS OF DROPPING OUT OF SCHOOL & BENEFITS OF PROGRAMS FOR KEEPING KIDS IN SCHOOL IN IOWA: 2018-19 SUMMARY*

Dr. James R. Veale, Statistical/Research Consultant & Educator & Dr. Raymond Morley, EdOptions

**Definition of dropout:** The National Center for Education Statistics (NCES) definitions used for dropouts include students who satisfy one or more of the following conditions:
- Was enrolled in school at some time during the previous school year and was not enrolled by October 1 of the current year or
- Was enrolled in school at some time during the previous school year and left the school before the previous summer and
- Has not graduated from high school or completed a state or district-approved educational program; and
- Does not meet any of the following exclusionary conditions: a) transfer to another public school district, private school, or state or district-approved educational program, b) temporary school-recognized absence for suspension or illness, c) death, or d) move out of the state or leave the country.

A student who has left the regular program to attend an adult program designed to earn a high school equivalency (General Educational Development (GED) or High School Equivalency Diploma (HSED)) or an adult high school diploma administered by a community college is considered a dropout. However, a student who enrolls in an alternative school or alternative program administered by a public school district is NOT considered a dropout.

**Dropout rate in Iowa (Grades 7-12):** The per grade dropout rate was 2.5 in 1989 (when the first study on costs of dropping out of school was conducted), decreasing to 1.57 in 2007. State ID was used to compute dropout/graduation rates for first time in 2008, and the rate steadily increased to 2.34 in 2010; then it decreased to 1.69 in 2015, but increased again to 1.93 in 2017. The cohort rate was found by multiplying the per grade dropout rate by 6 (# years between grades 7 and 12), **11.58** in 2017. The adjusted cohort rate is cohort rate multiplied by 2/3 (to adjust for dropouts coming back into the system), **7.72** in 2017. The latter two rates reflect the percent of students dropping out over the six-year period (grades 7 to 12). The number of dropouts in 2017 was **4,264**. (The dropout rate decreased slightly in 2018, but the 2017 rates were used in this summary to be consistent with other data. See figure above right.)

**Costs of Dropping Out of School in Iowa**

**Variation in personal annual income by education level (Iowa, 2017):** Less than HS (dropouts) $25,640, HS graduate (including GED/HSEDS) $31,270, some college or Assoc. degree $35,567, bachelor’s degree $49,094, graduate or professional degree $63,161, overall average (all working Iowans) $37,556. (See figure on left.)

**Cost in reduction of personal income of dropping out, as wage rate based on the number of hours of high school attendance (interpretation suggested by Del Holland, Metro High School, 2002):** Five course hours per year, 180 days per school year, and four years of high school yields $5 \times 180 \times 4 = 3,600$ hours of high school for a typical student. The difference between the HS graduate/GED/HSED and dropout personal income ($5,630) multiplied by 45 years is $253,350. Dividing this by 3,600 hours yields about $70/hr. This may be viewed as the value of achieving the high school diploma in hourly wages. Comparing dropout income to that of all working Iowans, yields about $149/hr. Contrast these rates to $7-10/hr for a typical high school student job, which may be beneficial or necessary, but can lead to skipping classes for work, falling behind in classes, and eventually dropping out of school.

**Cost in reduction in state revenue due to dropping out (Iowa 2017 income, tax, and state cost data):**
- Number of dropouts without high school equivalency: **3,782** [= 4,264 dropouts - 482 HSEDS obtained by 16-18 year olds, based on 2017 data];
- Reduction in state (income + sales) tax revenues over 45 year lifetime of work due to reduced personal income of dropouts compared with the overall income of all Iowans (potential net increase to state treasury): $209.99 million [= ($1,349-$730) est. income taxes/year x 3,782 (#dropouts without high school equivalency in 2017) x 45 years] + ($37,556 - $25,640) x 86% (taxable part of income) x 6% (sales tax rate) x 3,782 x 45 years], or about **$4.7 million per year**;
- “One-time” state cost to educate 3,782 dropouts to high school completion: **$42.85 million** [= $6,664 (state cost/student for 2017-18 year) x 3,782 x 1.7 years (average time to graduate after dropping out)];
- Potential net increase in state treasury over 45 year working lifetime of Iowa’s 2017 dropouts associated with educating them to the status of graduates: $209.99 million - $42.85 million = $167.14 million, or about **$3.7 million per year**.

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*An Excel template is available to compute the state costs and benefits included in this update. It may also be used to compute district-level costs and benefits, as well as those from other states and communities. Data from 2017 were used in this update, the most recent data available for most of the cost factors (except for the state cost per pupil, which was from 2018).*
Cost in increased welfare payments to dropouts due to their higher unemployment rates: The three major types of welfare in Iowa and their costs in 2017 were as follows:

- Food assistance (“food stamps”) per person, $1,299/year;
- FIP (Family Investment Program) per person, $1,605/year;
- Medicaid per person, $7,704/year;

for a total welfare payments per person in 2017 of $10,608/year.

The “U-3” unemployment rates based on the number in the labor force in Iowa in 2017 were 8.22% (dropouts) and 2.97% (all graduates). Based on all potential workers in Iowa in 2017, the unemployment rates were 5.42% (dropouts) and 2.50% (all graduates). The labor force participation rates in Iowa in 2017 were: 65.98% (dropouts) and 84.19% (all graduates). (Note: “All graduates” rates were averaged over high school graduates, some college/associate, bachelor’s degree, and graduate/professional.)

Using the rates based on the number in the labor force, we calculate:
Estimated cost of welfare payments due to increased unemployment for 3,782 dropout (without HSEDs) in 2017
= (3,782)(.0822 - .0297)($10,608) or about $2.1 million per year.

Using the rates based on all potential workers, we calculate:
(1) Estimated cost of welfare payments due to increased unemployment for 3,782 dropouts (without HSEDs) in 2017
= (3,782)(.0542 - .0250)($10,608) or about $1.2 million per year;

(2) Estimated cost of welfare payments due to reduced labor force participation for 3,827 dropouts (without HSEDs) in 2017
= (3,782)((1 - .6598) - (1 - .8419))($10,608) or about $7.3 million per year.

Summing (1) and (2) above, the total increase in welfare payments for dropouts is estimated to be about $8.5 million per year. (The total for dropouts remaining on welfare and additional dropouts over multiple years would obviously be much greater.)

The reduced labor force participation rate—with only about 2 out of 3 dropouts in the labor force—may indicate longer-term economic problems for dropouts. On the other hand, the “nonparticipants” in the labor force include homemakers (important and productive, but unpaid, workers) and unemployed college students (who will hopefully become productive in the future).

Cost in increased risk of incarceration of dropouts: Of the 8,415 incarcerated in Iowa in 2017:

- Education level grades 1-12 (dropouts): 1,572
- High school graduates, college (postsecondary): 2,659
- GED/HSED and others: 4,184 (not used since GED/HSEDs could have been obtained after incarceration)

Relative risk of incarceration = odds (dropout among incarcerated)/odds (dropout among general population)
= (1,572/2,659)/(1.158/.8842) = 4.5

This was obtained using the cohort rate for the general population for 2017 (11.58% or .1158). Using the adjusted cohort rate (7.72% or .0772) for the general population, yields a relative risk of incarceration of 7.1. This is the increased risk of incarceration that is associated with dropping out of school. In other words, dropouts have from 4.5 to a little over 7 times the risk of incarceration as graduates, based on the education level of incarcerated (excluding those who have earned a GED/HSED). The cost of incarceration for each inmate in Iowa in 2017 was about $34,985/year. This is over 5 times the 2017-18 state cost of education per pupil. This cost of incarceration does not include court costs, damage to property, loss in productivity, increased insurance rates, loss of human life, incapacitation, and/or hospital costs for the victim—all of which may be due to criminal acts.

Cost in reduced payments by state to school districts due to dropouts in district: School districts experience reductions in state funding for education in direct proportion to the number of dropouts in those districts. For example, a district with 100 dropouts in 2018 would have lost (a minimum of) $6,664 x 100 or $666,400. Including other than regular education costs (e.g., special education, dropout prevention, and federal funding), this district would have lost $10,536 x 100 or about $1,053,600. (Specific district costs per pupil may be slightly different from the average state costs.)

Benefits of Programs for Keeping Kids in School in Iowa

Benefit-cost analysis of dropout prevention and at-risk programs (based on analysis used by Dennis Prouty in a 2004 report): “Modified supplemental amount” and “supplementary weighting” state funding support dropout prevention and at-risk programs available to school districts in Iowa. The number of at-risk students that graduated in 2017 was conservatively estimated by the number of students served in the free/reduced school lunch program. The cost per at-risk graduate was calculated by taking the state cost of dropout prevention and at-risk programs for 2017 ($167,552,486) divided by the estimated number of graduates in that year served in the free/reduced lunch program at some time in grades 7-12 (10,267), which yielded $16,319 per graduate.

The benefit of graduating these at-risk students was calculated by taking the estimated increase in state income and sales taxes of high school graduates compared with dropouts, based on their median incomes, which yielded $26,663, when calculated over a 45 year lifetime of work. Using the increase in taxes of all Iowans compared with dropouts yielded an estimated benefit of $55,524. Since these estimates of benefits greatly exceeded the cost ($16,319), the programs were considered to be highly cost-effective, with benefit-cost ratios of about 1.6 to 3.4.

Benefits beyond revenue: Increased revenue is only one of many benefits of a diploma, which also include better access to health knowledge/care, improved networking, and enhanced quality of life. Without these (and other) programs for keeping kids in school, the costs of dropping out summarized here undoubtedly would have been much higher.