MLDS Center
Maryland Longitudinal Data System

Better Data • Informed Choices • Improved Results

December 2023

2023 Annual Report on the Maryland Longitudinal Data System and Center

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Governing Board, Maryland Longitudinal Data System

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This Annual Report of the Governing Board of the Maryland Longitudinal Data System Center is submitted to the Governor and the Maryland General Assembly in compliance with Education Article § 24-705 of the Annotated Code of Maryland.

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Highlights

★ The Governing Board approved the addition of 140 new data elements to MLDS Data Inventory. The majority of the data elements are related to workforce development programs and U.S. Census block and track information. Another 77 external, temporary data elements were also added to support specific research projects.

★ The MLDS Center supported the implementation of the *Blueprint for Maryland's Future* by providing data to inform the College and Career Readiness standard adopted by the State Board of Education; by working, under an interagency agreement, to provide research and analytic support to the Accountability and Implementation Board (AIB), and by providing reporting on teacher preparation and diversity.

★ The Center helped inform the *Commission to Study the Healthcare Workforce Crisis* by analyzing workforce outcomes for health care related graduates from Maryland Community colleges.

★ Dr. Angela Henneberger, Associate Research Professor at the University of Maryland, School of Social Work and the MLDS Center Research Branch Director won an "abstract of distinction award" for the research she presented at the national conference of the Society for Prevention Research. This research examined student mobility rates in K-12 and higher education by student and school characteristics.

★ The MLDS Center completed a year-long project to revise its Research Agenda. The new Research Agenda provides clearer guidance on the types of research and reporting that the MLDS supports and is more responsive to changing data, changing priorities, and unique research opportunities.

★ The MLDS Center is hosting two Service Year Option/Maryland Corp members.

★ Once again, the MLDS Center Research Branch had four articles published in prestigious academic journals; demonstrating the high quality of work being produced by the researchers.

Introduction

This Annual Report is submitted in fulfillment of the requirement under Education Article, §24-705, Annotated Code of Maryland. The Governing Board must provide information to the Governor and General Assembly annually on the following:

1. An update on the implementation of the MLDS and activities of the MLDS Center;
2. List of all studies performed by the Center during the reporting period;
3. List of all currently warehoused data that are determined to be no longer necessary to carry out the mission of the Center;
4. Any proposed or planned expansion of data maintained in the database; and
5. Any other recommendation made by the Governing Board.

The following sections of the report will address each of the five statutorily required topics.

Section 1. Implementation of the MLDS and Activities of the Center

1.1 System Implementation and Management

A. Records Count

As of November 2023, the MLDS contained records for 4,099,033 unique individuals. Table 1, below provides the number of individual records provided by each data partner agency that provide identity establishing data collections.

Table 1 and Figure 1 - Number of Individual Records in the MLDS by Data Source and Sector Linking

Source	Count as of Nov 2022
MHEC ▌	2,235,571
MSDE ▌	2,616,588
Labor ▌	2,012,684
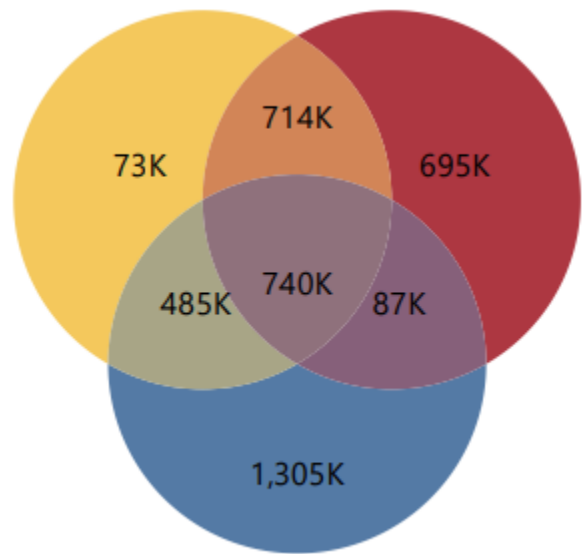
Approximately 739,718 individuals have records that can be linked across all sectors and 2.02 million have records in at least two sectors. The reason there is a high number (1.3 million) of K-12 records with no match is because more than

half of MSDE data is K-8 students – a population generally not engaged in higher education or the workforce and therefore not able to be matched to another sector.

B. Match Rate

The Center calculates match rates based on the number of 12th grade students from Maryland public schools with a record in at least one other education or workforce sector. The Center's match rate has remained at 94% over time.[1] The high match rate indicates strong data matching routines and provides confidence in the system. Table 2 provides a breakdown of the match rate for each cohort year.

Table 2. 12th Grade Cohort Cross-Sector Match Rate Analysis

Cohort Year	Total 12th Grade	K12 Only	K12 & College	K12 & Workforce	All 3 Sectors	% Matched ANY Sector	% Matched ALL 3 Sectors
2022	62,836	8,149	11,128	15,705	27,854	87%	44%
2021	63,773	6,182	7,910	16,024	33,657	90%	53%
2020	62,617	4,890	5,847	15,251	36,629	92%	58%
2019	61,029	3,788	4,541	14,523	38,177	94%	63%
2018	61,808	3,334	3,588	14,167	40,719	95%	66%
2017	60,552	2,885	3,117	13,687	40,863	95%	67%
2016	60,356	2,600	3,004	12,879	41,873	96%	69%
2015	61,347	2,710	2,870	13,004	42,763	96%	70%
2014	60,483	2,423	2,783	12,101	43,176	96%	71%
2013	60,991	2,372	2,712	11,952	43,955	96%	72%
2012	60,525	2,261	2,777	11,725	43,762	96%	72%
2011	62,333	2,876	2,834	12,343	44,280	95%	71%
2010	61,962	2,586	2,944	11,641	44,791	96%	72%
2009	61,760	2,930	3,234	11,359	44,237	95%	72%
Total	**927,411**	**55,086**	**65,140**	**197,712**	**609,473**		

C. System Security

System security and monitoring continue to be a key focus of the MLDS Center.   For monitoring, the Center utilizes a vulnerability scanning tool provided by the Department of Information Technology (DoIT). That tool provides a monthly vulnerability report to both the Center IT staff and DoIT. Each month the Center IT staff review the vulnerabilities and take corrective actions

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[1] The match rate is an average of all years (2008 -2022). The match rate for any given year will change over time. For example, the 2022 match rate of 87% will likely increase over time as more students move into college and the workforce, or return to Maryland from an out-of-state college and join the Maryland workforce.

to address them. The Center's system security was audited by the Office of Legislative Audits. The fact that there was only one audit finding (that has already been fully corrected) demonstrates the strength and sophistication of the Center's security operations.

D. Quality Improvement

The Center's data analysts created a data driven application designed to augment current data validation processes. The application provides a high level, systematic view of data quality, insight into data completeness and validity, and opportunity to identify potential issues to address. It will provide analysis reports for the Data Team to find and resolve data discrepancies.

1.2 Activities of the Center

A. Providing Information for Policy Makers

Accountability and Implementation Board

The MLDS Center entered into a one year interagency agreement with the Accountability and Implementation Board (AIB). The agreement states that the MLDS Center will provide research services to support the work of the AIB. Specifically, the Center is required to assign a Research Branch member to serve as the lead researcher and liaison to the AIB. The lead researcher will be responsible for:

1. Leading all research efforts specified in the Scope of Work.
2. Serving as the primary point of contact for the AIB for all matters relating to research and analysis required by the agreement; and
3. Participating in meetings and projects as requested by AIB.

The Scope of Work has three primary components:

1. Research Activities, which will include:
    a. Working with the AIB and the Outcomes Measures Workgroup to collaboratively build a research agenda;
    b. Operationalizing the research questions;
    c. Conducting preliminary data analysis;
    d. Identifying and working with other experts to add capacity for analytic output
2. Consultation
    a. Attend meetings
    b. Work to identify data gaps.
3. Informing Stakeholders - provide presentations, policy briefs, and reports.

Maryland State Department of Education - College and Career Readiness Standard

The Blueprint for Maryland's Future requires the Maryland State Department of Education (MSDE) hire an independent consultant to conduct an empirical study of the College and Career Readiness (CCR) standard set by the State Board of Education to determine whether that standard reflects and predicts whether a student will be successful in entry level credit bearing

courses or postsecondary education at a state community college. MSDE's consultant used MLDS data to conduct the study and answer the following questions:

1. To what degree does the standard set by the Maryland State Board of Education predict whether students will be successful in entry-level credit-bearing coursework or postsecondary education training?
2. How do other standards/measures predict whether students will be successful in entry-level credit-bearing coursework or postsecondary education training?
3. How should certain variables (for example, grade point average) be operationalized such that they are best predictors of whether students will be successful in entry-level credit-bearing coursework or postsecondary education training?
4. Are there certain standards/measures that can be used in combination and/or in sequence to predict whether students will be successful in entry-level credit-bearing coursework or postsecondary education training?
5. Are there other measures of success that help inform which standards/measures should be used in combination and/or in sequence to predict whether students will have postsecondary success?
6. Are there any predictors (whether alone or in combination), that, if used as a CCR indicator, would have a disproportionate impact on any particular group of students (by race, ethnicity, service group, gender, home language, socioeconomic status, and/or location)?
7. How do the results of the quantitative analyses align with the CCR standard set by the Maryland State Board of Education?

The full CCR report is available on the MSDE website[2] and demonstrates the value of comprehensive longitudinal data to answer complex and critically important questions.

Commission to Study the Health Care Workforce Crisis
The *Commission to Study the Health Care Workforce Crisis* was established by the General Assembly in 2022 to examine areas related to health care workforce shortages in the State. To support the work of the Commission, the MLDS Center analyzed and presented findings on the workforce outcomes for health-care related graduates from Maryland community colleges. The Center found that 75% of community college graduates in health care related majors had initial wage visibility, which drops two to three percentage points per year. The Center's analysis also examined wages as discussed in the Commission's final report:

> *Wages among healthcare professionals double over a 10-year period, however, they increase at a decreasing rate. Although there are multiple factors that could contribute to the loss of healthcare professionals in the decade following their graduation, one reason may be the stagnation of wages over time. At six months post-graduation, new entrants into the healthcare workforce are earning an average of $7,069 per quarter ($28,000 annualized). Healthcare*

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[2] https://blueprint.marylandpublicschools.org/ccr-research-study/

professionals see the biggest jump in their earnings by their third year in the workforce at $12,895 per quarter ($51,000 annualized) representing an 82% wage increase. By their fifth year and tenth year, healthcare professionals are earning $13,517 per quarter ($54,000 annualized) and $16,208 per quarter ($64,000 annualized), respectively. While this represents a 129% increase in wages since entering the workforce, healthcare professionals are seeing their wages stagnate between years three and ten at a growth rate of only 25%. The timing of wage stagnation likely coincides with an increase in life expenses such as childcare costs and home ownership.

Finally, the Center also analyzed wages by gender, race, and ethnicity, which was included in the final report.

Associate of Arts in Teach (AAT) Council

The MLDS Center presented to the AAT Council, an analysis of the pathway from the AAT Secondary Education degree to the public teacher workforce.   The presentation also included options for expanding the analysis of the pathway.

Governor's Workforce Development Board

The Blueprint for Maryland's Future set a target that by academic year 2029-2030, 45% of graduating public school students achieve an industry-recognized occupational credential before they graduate. The Blueprint also established a CTE Committee within the Governor's Workforce Development Board (GWDB). The CTE Committee is required to "build an integrated, globally competitive framework for providing CTE to Maryland students in public schools, institutions of postsecondary education, and the workforce." The CTE committee will set goals and supervise a CTE expert review team that will visit schools for the purpose of assessing progress toward goals.

To begin this work, the CTE Committee has commissioned a study with Dr. Ting Zhang[3], a member of the MLDS Center Research Branch. Dr. Zhang and her team will conduct an extensive analysis of the educational and professional pipeline for CTE majors. This analysis will focus on examining attributes and disparities in demographics, socioeconomic status, curriculum enrollment and performance, as well as school attributes, along with CTE-related credentials, upon valid data availability. The research will also include a comprehensive follow-up pathway analysis of former CTE majors. The primary objective of this analysis is to examine employment and earnings patterns of former CTE majors over a specific timeframe, controlling for demographic and socioeconomic heterogeneities and contingent upon the availability of valid data. By undertaking this follow-up pathway analysis, the research aims to

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[3] Dr. Ting Zhang is an Associate Professor in the of Department of Accounting, Finance, and Economics at the University of Baltimore and the Associate Director of the Jacob France Institute

gain valuable insights into the educational and employment trajectories of individuals who have pursued CTE programs. The findings will contribute to a better understanding of the outcomes and impact of CTE education on students' future prospects.

Department of Legislative Services

The Center completed the *Dual Enrollment Course and Credits* analysis. This analysis looks at dual enrollment credit attainment and college-going patterns. This report along with the Center's dashboard on *Maryland Public High School Graduates: College and Workforce Outcomes* are used by the Department of Legislative Services (DLS) to prepare the annual Higher Education Overview. This is the fifth year the Center has provided the dual enrollment analysis to DLS.

Other Annual Reports

The Center completed its annual report for *Maryland Business Roundtable for Education* (MBRT)[4] on *High School Scholars* and college-going patterns.

Department of Juvenile Services (DJS)

The Research Branch provided 2 presentations to staff at DJS. The presentations focused on the educational outcomes for students who were involved in DJS. The study also examined relationships by race and gender and type of juvenile service placement.

Reporting Services completed the first annual report on *Outcomes Among DJS-Involved Youth* to DJS. The Center will produce this report annually for DJS and will be expanding the Center's dashboards to include these data.

Department of Labor, Division of Workforce Development and Adult Learning (DWDAL)

The MLDS Center updated the workforce outcomes analysis for completers of the Maryland Apprenticeship and Training Program.

B. Data Requests

Below is a brief synopsis of the seven data requests the Center received this year that were fulfilled. There were 27 requests that could not be fulfilled. Generally, data requests are denied if the requester is seeking individual student data, data not included in the MLDS, or non-longitudinal data.[5] There was one general public information act request from a local news network requesting a listing of all public information requests received by the Center.

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[4] https://mbrt.org/scholars/
[5] COMAR 14.36.04.07 requires the Center to deny a request for a non-longitudinal data set. A data set is non-longitudinal if it contains data provided by a single State agency. A non-longitudinal data set must be referred to the appropriate agency.

1. *Maryland Higher Education Commission* - request for information on Maryland public high school student enrollment by service and non-service areas.
2. *Michigan State University Researcher* - request for the number of high school graduates and the number of high school graduates enrolled in a postsecondary four-year institution and two-year Institution, by county.
3. *Associates of Arts in Teaching (AAT) Council* - request for data on the pathway from the AAT Secondary Education degree to the public teacher workforce.
4. *Frederick County Public Schools* - request for the number of college enrollments by students who received English Learner (EL) services during K-12.
5. *Department of Public Safety and Correctional Services, Office of Programs, Treatment and Re-Entry Service* - request for wages of correctional education participants who enroll in college.
6. *Towson University* - request for information on education preparation program completers and their employment at a public school and retention.
7. *Department of Human Services* - request for information on students who experienced foster care and their school placement, number who graduated from high school, the number who qualified for a Maryland H.S. diploma by examination, and the number who received tuition waivers.

C. Supporting State Agency Reporting Requirements

Maryland State Department of Education (MSDE) - The MLDS Center provided data to MSDE on Career and Technical Education and Special Education student outcomes to support MSDE's federal reporting requirements.

Maryland Department of Labor - The MLDS Center produced and provided data tables to the Office of Adult Education and Literacy Services in the Division of Workforce Development & Adulting Learning. The data tables support federal reporting required by the U. S. Department of Education's Office of Career, Technical and Adult Education (OCTAE) and contribute to the National Reporting System (NRS). Specifically, the Center provided analysis to support Table 5 Core Follow-up Outcome Achievement.

Department of Public Safety and Correctional Services (DPSCS) - The MLDS Center provided a report on wages for graduates of Maryland's colleges by Major for the Maryland Correctional Higher Education Advisory Committee

Department of Human Services (DHS) - The MLDS Center is working with the Department of Human Services to support DHS's annual JCR report on the foster care tuition waiver utilization.

Maryland Community Colleges - The MLDS Center completed data analysis for Maryland's sixteen community colleges to support their annual *Performance Accountability Reports*. The Center also produced the first expanded version of this report entitled, *Community College Workforce Participation Metrics Reporting: Analysis by Major.*

D. Research Series

The MLDS Center Research Branch hosts a virtual brown bag forum to bring together researchers, policy-makers, and practitioners to discuss in-progress research on academic and workforce outcomes. The forum, which meets monthly during the fall and spring semesters, focuses on research that is being conducted using the MLDS or topics of interest to the Center and its stakeholders. A link to the presentation slides is available on the MLDS website.[6]

1. The Career Trajectories and Retention of Urban Mathematics Teachers from a Nationally-Prominent Alternative Certification Program in New York

This presentation by Dr. Andrew Brantlinger[7] and Dr. Ashley Grant[8] was not based on research that used MLDS data. Many U.S. school districts have long faced and continue to face shortages of teachers in core subjects like mathematics. By attracting high-achieving college graduates and professional career changers, selective alternative certification programs like the New York City Teaching Fellows (NYCTF) have promised and continue to promise to address these shortages. The presenters provided a brief overview of a longitudinal, mixed methods research project examining the preparation, performance, and career trajectories of mathematics teachers trained in the NYCTF. The presenters then focused on research on the long-term retention and career trajectories of NYCTF teachers generally and also for specific teacher subgroups (e.g., career changers, Black and Latinx community insiders). Finally, the researchers shared results from an event history analysis examining how teachers' leaving patterns varied over the observed time (9 years) and was predicted by school demographics and school climate. Implications for research and policy in Maryland were discussed.

2. The Effects of a Statewide Ban on School Suspensions in Early Primary Grades

This presentation by Dr. Jane Lincove[9] discussed research on the effects of a statewide ban on school suspensions. Specifically, beginning in the fall of 2017, the State of Maryland banned the use of out-of-school suspensions for grades PreK-2. Students in PreK-2 can only be suspended if they pose an "imminent threat" to staff or students, while students in other grades can still be suspended for lesser infractions (COMAR 13A.08.01.11 C). In collaboration with MSDE, this research used the implementation of Maryland's suspension ban to test whether a top-down state-initiated ban on suspensions in early primary school can influence school behavior regarding school discipline. The research questions were: (a) What was the effect of the ban on discipline outcomes for students in grades with and without the ban? (b) Did schools bypass the ban by coding more events as threatening or increasing the use of in-school suspensions? (c) Are there differential effects for students in groups that are historically suspended more often?,

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[6] https://mldscenter.maryland.gov/ResearchSeries.html
[7] Andrew Brantlinger is an associate professor in the department of Teaching and Learning, Policy and Leadership at the University of Maryland.
[8] Ashley A. Grant is a Senior Researcher in the Center for Research and Reform in Education at Johns Hopkins University.
[9] Jane Arnold Lincove is a Professor of Public Policy at the University of Maryland, Baltimore County and Research Staff at the MLDS Center.

and (d) Did the ban have negative or positive effects on student attendance and academic outcomes? Implications for policy related to out-of-school suspensions were discussed.

3. Intervening to Improve Equity in the STEM Pipeline: Research from Morgan State University

Dr. Shondricka Burrell[10] and Dr. Frim Ampaw[11] discussed research (not using MLDS data) that evaluates interventions to help with the underrepresentation of women and poor and minoritized communities in STEM. Dr. Burrell presented her research on the efficacy of a pedagogical model of transformative science learning to promote understanding of environmental injustice in poor and minoritized communities; and Dr. Ampaw presented her research on the effect of an indoor agricultural program in urban middle schools on middle school girls' science achievement. Both speakers also presented implications for improving upon inequities in the STEM pipeline.

4. Using Machine Learning to Predict PARCC Algebra 1 Scores

Dr. Tracy Sweet[12], Ms. Brennan Register[13], and Ms. Ashani Jayesekera[14] presented their research project examining the extent to which machine learning algorithms can be used with MLDS data through an exploratory study to predict high stakes assessment scores in Algebra. Machine learning is a useful tool for data prediction and has been used in a variety of disciplines, including education. This project also examined whether these scores could be used as predictors in future analyses predicting college enrollment. Finally, this project examined the extent to which scores were equitably predicted across various subgroups.

5. Entry and Exit of Baltimore City Teachers Before and After COVID

Dr. Jane Lincove presented her study investigating whether Baltimore City schools experienced changes in teacher supply during COVID. Through descriptive evidence on teacher entry and exit from 2016 to 2022, this study examines: (a) Whether exit rates for City Schools changed relative to pre-COVID rates and relative to other Maryland LEAs; (b) Whether teacher demographics changed as a result of changing entry and exit patterns; (c) Whether undergraduate institutions preparing teachers in the teacher pipeline changed over time; and (d) How teacher certification at entry changed over time. The implications for a sustainable teacher pipeline in the context of the Blueprint for Maryland's Future were discussed.

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[10] Dr. Shondricka Burrell is an assistant professor in science education in the Department of Advanced Studies, Leadership & Policy in the School of Education and Urban Studies, at Morgan State University.

[11] Dr. Frim Ampaw is the Chair of the Department of Advanced Studies, Leadership, and Policy at Morgan State University and an Associate Director for the MLDS Center Research Branch.

[12] Tracy Sweet is an Associate Professor in the Quantitative Methodology: Measurement and Statistics program in the Department of Human Development and Quantitative Methodology at the University of Maryland College Park and an Associate Director of Research for MLDS Center Research Branch.

[13] Brennan Register is a fourth year PhD student in the Quantitative Methodology: Measurement and Statistics program at The University of Maryland, College Park.

[14] Ashani Jayasekera is a first year doctoral student in the Quantitative Methodology: Measurement and Statistics program at the University of Maryland College Park.

6. The Effects of High School Non-Promotion on High School Graduation, College, and Career Outcomes

Dr. Taylor Delaney[15] presented her study on students who are not promoted to the next grade (non-promotion), a common practice across the United States, and the impact of non-promotion in high school on student outcomes. Descriptive patterns in grade promotion versus non-promotion over time and by student subgroups were presented. The study examines the impact of non-promotion on students' likelihood of high school graduation and post-secondary outcomes, including college enrollment, remedial coursework enrollment, and persistence. This project also examines how non-promotion impacts students' early career annual wages and wage visibility. The researcher discussed implications for policy related to non-promotion in high school.

7. Secondary, Postsecondary, and Labor Market Effects of Career and Technical Education in Baltimore City Public Schools

Drs. Marc Stein[16] and Rachel Durham[17] presented research on the efficacy of career and technical education (CTE) participation in high school using a unique selection process into CTE Centers within Baltimore City Public Schools to estimate causal effects of participation in CTE. Students who were offered enrollment in a selective admissions CTE center were compared to students who were offered enrollment in non-selective high schools. The methodological approach (a fuzzy regression discontinuity design) is used because students close to either side of the admissions cutoff are likely similar except for the offer of admissions. This is due to CTE programs in these schools being oversubscribed, and therefore, many students who were eligible according to published cut-scores did not receive an admissions offer. Therefore, the results offer causal evidence on the benefits and mechanisms of CTE participation on secondary education, postsecondary enrollment/persistence, and labor market outcomes. Implications for CTE policy were discussed.

E. Conferences and Presentations

1. Maryland Data Summit - MLDS Center Data Management Coordinator Molly Abend presented at the inaugural Maryland Data Summit hosted by the State Chief Data Officer and State Chief Privacy Officer. Ms Abend's presentation focused on the collaboration between the MLDS Center and MSDE on the new Census tract and block data collection.

2. Society for Social Work Research - Dr. Dawnsha Mushonga presented research on the relationships between student disadvantage, college degree attainment and wage trajectories at the annual meeting of the *Society for Social Work Research.*

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[15] Taylor Delaney is an assistant professor at the University of Oklahoma and MLDS Center Research Branch member.

[16] Marc Stein is Executive Director of the CoLab @ Improving Education in Baltimore, Maryland and was previously associate professor at the Johns Hopkins School of Education.

[17] Rachel Durham is Associate Professor in the School of Education at Notre Dame of Maryland University.

3. American Educational Research Association (AERA) - Dr. Angela Henneberger and Dr. Laura Stapleton presented MLDS research and policy opportunities at the Fall Research Conference of the *American Educational Research Association* dissertation grantees.

4. Brown University Annenberg Seminar Series - Ms. Catherine Mata, Graduate Assistant with the MLDS Center, presented research conducted in collaboration with Dr. Jane Lincove at the Brown University Annenberg Seminar Series. This research, conducted with MSDE, focuses on the effects of a policy to ban suspensions in Maryland.

5. State Longitudinal Data Systems (SLDS) Webinar - SLDS Webinars are organized by the U.S. Department of Education's State Support Team to provide information and strategies for addressing common issues. Center staff provided an overview of how the Center uses contextual indicators in reports and dashboards to aid policymakers in interpreting results and how MLDS incorporates stakeholder feedback into the development of all reports and dashboards.

6. American Educational Research Association (AERA) - Dr. Angela Henneberger gave a presentation entitled *Leveraging State Longitudinal Data to Examine the Longer Term Effects of the Positive Behavioral Interventions and Supports Framework.* Additionally, Dr. David Miller gave a presentation entitled *Examining the Workforce Transition of Music Education Graduates.* Dr. David Miller and Ken Elpus gave a presentation entitled *Do Student Enrollment Trends Predict Music Teacher Turnover?*

7. Association for Education Finance and Policy - MLDS Center Research Branch members and affiliates gave presentations on the following topics at the Association For Education and Finance Policy Conference:
   ● *The Effects of a Statewide Ban on School Suspensions*
   ● *The Effect of Teacher-Student Race/Ethnicity Matching in High School on Academic Attainment and Career Path*
   ● *Exploring Avenues to Increase Teacher-Student Race Matching: Intersections between Career of Technical Education and Alternative-Route Teacher Certification*
   ● *High School Dual-Enrollment Programs as a Lever to Diversify the Teacher Workforce*
   ● *Mapping Diversity in Teacher Supply Pipeline: A Descriptive Analysis in Maryland*
   ● *Computer Science for All: Can the Teacher Labor Market Keep Up?*

8. Academy of Criminal Justice Sciences - Ms. Erin Tinney, Graduate Research Assistant at the University of Maryland, Department of Criminology and Criminal Justice, presented her research on *Assessing the Racialized and Gendered Impacts of Justice-System Involvement on Educational Outcomes* at the annual meeting of the Academy of Criminal Justice Sciences.

9. Society for Prevention Research - Dr. Henneberger presented research at the national conference of the *Society for Prevention Research.* This research examined student mobility

rates in K-12 and higher education by student and school characteristics. This presentation won an "abstract of distinction" award from the conference.

10. The U.S. Department of Education's 2023 National Center for Education Statistics' (NCES) STATS-DC Data Conference - MLDS Center staff and researchers presented at the conference.
- Molly Abend, MLDS Center Data Management Coordinator - presentation entitled, *E-ZPass or Toll Booth: Linking Student Addresses to Census Data*
- Ross Goldstein, MLDS Center Executive Director - panel discussion hosted by the NCES State Support Team on *Developing an Equity and Opportunity Centered Research Agenda for an SLDS*
- Ross Goldstein - panel discussion hosted by the Data Quality Campaign on *The time is Now: People Need Access to Data*

11. Association for Public Policy Analysis and Management - MLDS Center Research Branch members and affiliates gave presentations on the following topics at the Association for Public Policy Analysis and Management fall research conference in Atlanta, Georgia:
- *Grow-Your-Own Teachers Starting from High School: Evidence from a Dual-Enrollment/ CTE Program in Maryland*
- *Exploring Avenues to Increase Teacher-Student Race Matching: Intersections between Career and Technical Education and Alternative-Route Teacher Certification*
- *The Effects of a Statewide Ban on School Suspensions*
- *Computer Science for All? The Impact of High School Computer Science Courses on College Majors and Earnings*

12. Southern Economic Association - Ms. Catherine Mata, Graduate Assistant with the MLDS Center, also presented research conducted in collaboration with Dr. Jane Lincove and Kalena Cortes on the effects of a policy to ban suspensions in Maryland at the 93rd Annual Meeting of the Southern Economic Association in New Orleans, Louisiana.

13. American Criminology Society - Ms. Erin Tinney, Graduate Assistant with the MLDS Center, investigated whether extended school absences could be a way in which justice system contact impacts educational outcomes. Using data from the MLDS, results suggested that while justice-involved youth miss more school than their peers, this may not explain the entirety of the effect of justice system involvement on educational outcomes.

14. Wyoming SLEDS Conference. Dr. Ann Kellogg and Ms. Molly Abend presented *Building a Research Agenda that Supports and Informs Policymakers* and Dr. Ann Kellogg participated in a panel *Value of Data and Information*.

F. Research Agenda Revision[18]

Education Article § 24-704(g)(5), Annotated Code of Maryland, requires the MLDS Governing Board to, "establish the policy and research agenda of the Center." In 2021, as part of the

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[18] The revised Research Agenda can be found here - https://mldscenter.maryland.gov/ResearchAgenda.html

Governing Board's Annual Report, the Board noted that the current Research Agenda was over ten years old and a comprehensive review was needed to consider: the purpose the Research Agenda should serve; whether the current questions/topics are sufficient to address the Center's added scope of work as a result of legislative changes and new data sources; and how can the agenda address questions of social equity?

As a result of this recommendation, MLDS Center staff initiated a year-long process to review the Research Agenda and consider changes and updates to make it a more up-to-date and relevant document for the management of research and reporting using MLDS data.

The old Research Agenda contained an introduction that primarily focused on the requirement for research to include cross-sector data and cross-agency data, with a set of exceptions for when cross-agency data are not required. The old Research Agenda also required research to include examinations of how results vary by different student subgroups and backgrounds. Finally, the old research agenda provided 21 questions/topics divided into educational stages. The old Research Agenda and the 21 questions/topics were primarily used as a reference point to ensure that research under consideration addressed the subject matter or theme of a question - but not requiring research to be directly responsive to one of the questions. This approach was adopted because: the questions were overly broad; the questions may not be directly responsive to the questions facing policymakers; the questions did not contemplate new sources of data; and the questions did not contemplate the scope and breadth of new and innovative research and research methods that would be presented to the Center by internal and external researchers.

Based on the limitations of the old Research Agenda, the determination was made to create a new research agenda that could be more responsive to changing data, changing priorities, and unique research opportunities.   The new Research Agenda is organized into three parts and is intended to work closely with supporting documents:
1. Introduction - This section provides a brief overview of the MLDS Center and its purpose. The introduction also lists the specific research related requirements established in State law and provides the statutory authority for the Research Agenda and the purpose that the Research Agenda fulfills.
2. Research Agenda Categories and Themes - This section establishes and defines four broad categories of inquiry that guide the use of the MLDS for research and reporting purposes.
    a. Those categories include:
        i. (a) Pathways & Pipelines;
        ii. (b) Education, Service, & Workforce Outcomes;
        iii. (c) Program & Policy Evaluations; and
        iv. (d) Methodological Inquiries.
    b. In addition to the categories, this section also provides "cross-cutting themes" that must be addressed in all research and reporting. The themes include:
        i. Supports and Barriers,
        ii. Social Determinants, and

          iii. Equity and Inclusion.
          Examples of each category and the types of questions and cross-cutting themes contemplated are provided.

3. <u>Governance</u> - This section covers the applicability of the research agenda, describes how research topics will be reviewed, provides a revision schedule, and explains the requirement for multi-sector research.
4. <u>Supporting Documents</u> - The research agenda clarifies and lists the supporting documents that are intended to help inform and work with the Research Agenda, including: the *Project Approval and Management Procedures* and the *Research and Reporting Priorities and Procedures* document.

To develop the new Research Agenda, MLDS Center staff in partnership with the Research and Policy Advisory Board (RPB) started by reviewing the research agendas of other states. From those research agendas and discussions during RPB meetings, a list of attributes were developed that were determined to be necessary for a new research agenda that will meet the needs of the MLDS Center.

G. Published Research

The MLDS Center Research Branch members had 4 research papers published in prestigious academic journals.

1. Henneberger, A. K., Rose, B. A., Feng, Y., Johnson, T., Register, B., Stapleton, L. M., Sweet, T., & Woolley, M. E. (2023). Estimating Student Attrition in School-Based Prevention Studies: Guidance from State Longitudinal Data in Maryland. *Prevention Science*, 1-11. This manuscript was the result of collaboration between the synthetic data team and the MLDS Center research branch.
2. Lincove, J. A., Mata, C., & Cortes, K. E. (2023). A Bridge to graduation: Post-secondary effects of an alternative pathway for students who fail high school exit exams. *Education Finance and Policy*, 1-45. This manuscript was the result of a study conducted in coordination with MSDE.
3. Miller, D. S. (2023). Public High School Music Education in Maryland: Issues of Equity in Access and Uptake. *Journal of Research in Music Education*, 00224294231163848.
4. Elpus, K., & Miller, D. S. (2023). Do Declining Enrollments Predict Teacher Turnover in Music?. *Journal of Research in Music Education*, 00224294231206098.

H. Grant Funding

1. Dr. Henneberger, Associate Research Professor at the University of Maryland, School of Social Work and MLDS Center Research Branch Director and colleagues at UVA and JHU received a $1.5 million grant from the Institute of Education Sciences (IES) to leverage MLDS data for a long-term follow up of a Positive Behavioral Intervention and Supports (PBIS) randomized controlled trial. The study will test the main, moderated, and generalized effects of the PBIS intervention. The study will also examine generalizability and cost benefits.

2. Dr. Jane Lincove and colleagues submitted a grant to IES entitled *Using Maryland's SLDS to Strengthen and Diversify the Teacher Workforce Through High School to Career Pathways.* This 3-year project is a collaboration with MHEC to examine pathways into teaching for Maryland students. Award determination is still pending.

3. Juan Cortes, Graduate Student Researcher at Johns Hopkins University, was awarded an AERA Division H Graduate Student Research Award for his research using the Maryland Longitudinal Data System (MLDS) to examine how measures used in early-warning indicators vary in their ability to distinguish educational outcomes at the secondary and post-secondary levels both within and across district-level contexts.

4. Brennan Register, MLDS Center research assistant, was awarded an AERA-NSF Dissertation Grant for her research utilizing data from the Maryland Longitudinal Data System (MLDS) to advance the understanding of STEM education policy. This study aims to evaluate the effectiveness of standard and multilevel machine learning techniques in predicting attrition risk among STEM students in Maryland's four-year postsecondary institutions. Through her research, she hopes to provide valuable insights to inform decision-making related to STEM education and degree completion in Maryland.

I. Consulting with Other States

The MLDS Center, which has now been in operation for 10 years, is frequently cited as a model for other states implementing longitudinal data systems. The Center's innovative research, governance structure, data management, and other processes and procedures, including the newly revised research agenda result in staff of the Center serving as a resource for colleagues in other states.

Wyoming - Dr. Kellogg provided information on Maryland's experience incorporating Workforce Data integration products and developing a Research Agenda. As a follow-up, Dr. Ann Kellogg and Ms. Molly Abend were invited to attend Wyoming's state longitudinal data system conference to provide in-depth presentations on the development of a research agenda and data governance.

New York - Mr. Goldstein provided an overview of the MLDS Center and best practices for establishing a longitudinal data system.

New Mexico - Mr. Goldstein and Ms. Abend provided an overview of the MLDS Center and data governance practices.

Arizona - Mr. Ross Goldstein and Dr. Angela Henneberger met with researchers and government officials from Arizona who are working to implement a longitudinal data system and establish research protocols.

Nevada - Mr. Goldstein and Ms. Abend provided an overview of the MLDS Center and data governance practices.

J. Research Branch - Morgan State University

The MLDS Center Research Branch continues to partner with Morgan State University. Dr. Frim Ampaw is the new Associate Director of Research for the MLDS Center. Dr. Ampaw is also the Chair of the Department of Advanced Studies, Leadership, and Policy at Morgan State University, where her area of focus is higher education administration. Her research area focuses on understanding the experiences of students from low socioeconomic backgrounds and underrepresented minorities in transitioning to college, during college, and in the labor market. Dr. Ampaw is a quantitative methodologist who has conducted extensive research on women and minorities in STEM education to understand their selection and persistence within the major.

K. Service Year Option/Maryland Corp

Service Year Option/Maryland Corps is a new state funded public service program. The MLDS Center is hosting two Maryland Corps members. Maryland Corps provides an opportunity for people of all ages (compared to the Service Year Option which is only for 18-21 year olds) interested in performing public and community service in Maryland. Maryland Corps members work in organizations providing job training and professional development. The MLDS Center's members are engaged in web design, dashboard development and are receiving professional development training.

Section 2. List of All Studies Performed by the Center

2.1 Research

A. Machine Learning

Dr. Tracy Sweet and her team at UMCP applied common machine learning algorithms to MLDS K-12 data to predict student outcomes, particularly Algebra I assessments. They compared predicted assessments to the actual assessments to compare algorithms and investigated the impact of using predicted assessment scores instead of true scores for future analyses, such as 2-year vs 4-year college enrollment. The research team also examined algorithm bias in machine learning, defined as the extent to which algorithms performed differently across different subgroups, such as race, gender, FARMS, SPED, and ELL status. The research team also met with MHEC to better understand research questions of interest when applying data science methods to study the 15 to Finish policy initiative. Finally, Dr. Sweet is expanding her research to consider issues of equity in data science.

B. Best Practices for Modeling the Multilevel STEM Learning Environment

Dr. Eric Hedberg and colleagues used data from the MLDS to estimate 1) what portion of the variance in reading, math and science student achievement (e.g., test scores) is at the student, teacher, school, and local school system level, 2) what portion of the variance in whether or not a student enrolls in remedial coursework in math is at the student, teacher, school, and local school system level, and 3) how much of the variance at each level can be explained by student, teacher, school, and local school system characteristics. Results will be provided to the research branch in a research seminar/training session held in January 2024.

C. Career and Technical Education in Baltimore City

Drs. Marc Stein and Rachel Durham completed an IES-funded study offering causal evidence on the benefits and mechanisms of CTE participation on secondary education, postsecondary enrollment/persistence, and labor market outcomes. Please see the section on the research series for December 2023 for additional information.

D. Student Mobility

Dr. Angela Henneberger applied multiple methods to examine the relationship between elementary school and high school predictors and long-term outcomes when students are mobile over time. The findings suggested small, but meaningful, differences across methodological approaches.

E. Vertical Transfers

Dr. Taylor Delaney completed research for her project examining vertical transfers - students who transfer from 2-year to 4-year postsecondary institutions. Vertical transfers (2-year enrollees that transfer to 4-year schools) were less likely to earn bachelor's degrees within five years compared to initial and persistent four-year enrollees. These analyses also examined credit attainment, associate's degree attainment, and wages. These results were presented to MHEC.

F. Project NEXUS

Project NEXUS (Nurturing Excellence for Undergraduate Success) is a program established by the Abell Foundation. Citing the low graduation rate of Baltimore City Public School System students from USM institutions as evidence of systemic barriers and opportunity gaps, Project NEXUS seeks to address these barriers. The project as a whole comprises three main areas of investigation: (1) to what extent undergraduate students enrolled at USM institutions who graduated from a Baltimore City public high school are prepared for and how well they perform at college; (2) what support programs and services are available to these students at their institutions; and (3) how these students perceive and experience supports and challenges at their institutions. The first area is the subject of research conducted by Dr. Jing Liu, Professor at the University of Maryland, College of Education. Dr. Liu prepared a draft report of his findings on student success in Maryland postsecondary institutions.

G. School Based Diversity

Dr. David Blazar, Professor at the University of Maryland, College of Education and Mr. Francisco Lagos, graduate research assistant, examined how within-school changes in student demographics and peer diversity over time relate to changes in short- and long-term outcomes, including college and career outcomes, as well as how these relationships change depending on the operationalization of peer characteristics and diversity. Preliminary results showed that discrete changes in school diversity (rather than linear increments of diversity or concentration of same race/ethnicity peers) are associated with college and career benefits for students.

2.2 Dashboards

A. Maryland Public High School Graduates: College and Workforce Outcomes[19]

This series of dashboards examines the college-going patterns of Maryland public high school graduates, whether they obtain a college degree by age 25, and the median quarterly wages for high school graduates with and without a college degree by age 25. Results across the dashboards are available by gender, race, ethnicity and economic status. This year, the dashboards were further developed to include information on:
   ● College Majors and Degrees;

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[19] https://mldscenter.maryland.gov/Dashboards.html

- Labor Sectors;
- High School Diploma Type; and
- College Enrollment Intervals.

B. Dual Enrollment Dashboards

The Center website provides a comprehensive series of dashboards on *Dual Enrollment Trends of Maryland Public High School Students*. During the 2023 legislative session, the statutorily mandated *Annual Dual Enrollment Report* was eliminated and these dashboards, which must be updated annually, are provided in place of the report. The dashboards cover statewide trends, including reporting on the percentage of students who are dually enrolled, which grade students dually enroll, dual enrollment student demographic trends, college enrollment patterns of students who dually enrolled, and reporting on course of study of dually enrolled students. There are also a series of dashboards that allows the user to explore the dual enrollment patterns for a selected school system. Finally, a downloadable spreadsheet of the dual enrollment courses offered by each local school system is also included.

2.3 Reports

A. Career Preparation Expansion Act Report

The MLDS Center, in partnership with the Governor's Workforce Development Board, is required by the Career Preparation Expansion Act (see Ed. Art. § 21-206, Annotated Code of Maryland) to produce a report on the following outcomes for high school graduates five years after graduation: wages earned, hours worked per week, and the industry of employment. The 2023 report was completed and submitted to the General Assembly and the Governor and is available on the MLDS Center website.

B. Blueprint Teacher Preparation and Diversity Report

Pursuant to the Blueprint for Maryland's Future, Chapter 33 of 2022 (see Education Article § 5-413, Annotated Code of Maryland), the MLDS Center, in consultation with MSDE and MHEC, is required to produce a report on the progress made in increasing the preparation and diversity of teacher candidates and new teachers in the State as required by the Blueprint for Maryland's Future. The report was submitted on time to the Accountability and Implementation Board (AIB), the General Assembly, and the Governor on July 1, 2023. A full copy of the report is available on the MLDS Center website.[20]

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[20]https://mldscenter.maryland.gov/egov/publications/CenterReports/ProgressinIncreasingthePreparationandDiversityofTeacherCandidatesandNewTeachers/BlueprintTeacherDiversityReport_FINAL_7-1-2023.pdf

C. Foster Care Recipients and Homeless Youth

Education Article, § 24-703.1(c), Annotated Code of Maryland required the MLDS Center to submit an annual data dashboard on the experience of former children in out-of-home placements and how out-of-home placement affected participation in higher education. Last year, that reporting requirement was amended. Since the new provision requires the Center to conduct a similar analysis for two distinct groups, two separate reports were filed.
1. Foster care recipients; and
2. Homeless youth.

The statute specifies that the report must be disaggregated by the county, age, race, and ethnicity of the foster care recipients and homeless youth. Further the dashboard is required to include information on the rate of enrollment in institutions of higher education by placement; the type of institution of higher education in which foster care recipients and homeless youth are enrolled; the type of financial support provided to foster care recipients and homeless youth enrolled in an institution of higher education, including the number that received a tuition exemption during the previous academic year; and the number that previously received a tuition exemption at any point during their enrollment at the institution of higher education but did not receive the tuition during the previous academic year. Because of the small population size, several of these reporting requirements cannot be met and still ensure student privacy is maintained.[21]

D. Free Application for Federal Student Aid (FAFSA) Completion

During the 2023 legislative session, the General Assembly eliminated the requirement for the county boards of education to report FAFSA completions to the MLDS Center. Instead, the MLDS Center is required to report the information to the General Assembly using student FAFSA completion data provided by the Maryland Higher Education Commission (MHEC), Office of Student Financial Assistance. Specifically, MHEC maintains FAFSA completion data in the *Maryland College Aid Processing System* (MDCAPS). MHEC worked to provide the MLDS Center with MDCAPS data needed to complete this report. However, due to system limitations, data responsive to the report could not be obtained.

In light of the fact that data were not available, the MLDS Center fulfilled the reporting requirement using publicly available data reported by the Federal Student Aid office in the U.S. Department of Education. The Federal Student Aid office provides the number of FAFSA submissions by high school.

Over the next year, the MLDS Center will work with MHEC to determine how best to get the needed data directly from the MDCAPS. It should also be noted that MHEC is in the process of designing a new financial aid processing system. MHEC will work with the vendor designing the

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[21] Education Article 24-703(h) Annotated Code of Maryland prohibits the Center from reporting data that may be identifiable based on the size or uniqueness of the population under consideration.

new system and the MLDS Center to ensure that the new system can deliver data to meet the specifications of this report.

E. Outcomes Among DJS-Involved Youth

This report examines the high school completion, postsecondary enrollment, and labor force earnings of youth who have been in the juvenile justice system in Maryland. This report is a collaborative effort between the MLDS Center and the Department of Juvenile Services.

For this report, DJS-involved youth includes youth who have been on probation or who have been in a committed facility, and the outcomes are disaggregated by type of DJS involvement.

The first analysis uses a ninth grade cohort to examine high school completion rates. The analysis asks how many of the youth completed a high school diploma, earned a GED, are still in high school, and how many dropped out of high school. DJS involvement could have occurred before or after the ninth grade year.

To examine postsecondary enrollment, the second analysis examines a cohort of DJS-involved youth who completed high school or earned a GED. The cohort year is based on the year of earning a high school diploma or GED. The age of the DJS-involved youth at the time of high school diploma or GED attainment must be 21 or less. The analysis asks what portion of the youth enrolled in postsecondary education and if any attained a degree by age 25. Further, the analysis uses workforce data to examine earnings by age 25 by postsecondary degree status.

The final analysis examines labor force outcomes among DJS-involved youth who did not complete a high school diploma or GED by age 21. Cohort year is the year in which a youth turned 21. The analysis examines labor force earnings by age 25.

Section 3. Data Determined to be Unnecessary

The Maryland State Department of Education implemented a new state-level data collection of Census tract and block data for Maryland public school students for the 2022-2023 school year. In 2019, the MLDS Governing Board approved two data elements, census tract and census block, in preparation for this eventual data collection. However, the 15-Digit Geographic ID includes both the Census tract (6 digits) and block (4 digits) numbers. Therefore, the following two data elements were removed.

1. Student Census Tract
2. Student Census Block

Part of the Workforce Data Quality Initiative (WDQI) grant awarded in 2021 funds a project to expand the capacity and utility of the MLDS by integrating additional workforce data into the system. The Maryland Department of Labor, Division of Workforce Development and Adult Education received the WDQI grant from the U.S. Department of Labor and the project is a collaboration between Labor, the MLDS Center, and MHEC. The MLDS Center was informed that one item previously approved is unnecessary. The following data element was removed.

1. Service Description

Section 4. Proposed or Planned Expansion of Data

All data added to the MLDS are presented to and approved by the MLDS Governing Board. This section provides an explanation and listing all of the new data approved by the Governing Board during the 2023 calendar year.

A. Department of Labor

Part of the Workforce Data Quality Initiative (WDQI) grant awarded in 2021 funds a project to expand the capacity and utility of the MLDS by integrating additional workforce data into the system. The Maryland Department of Labor, Division of Workforce Development and Adult Education received the WDQI grant from the U.S. Department of Labor and the project is a collaboration between Labor, the MLDS Center, and MHEC. The data elements are from WIOA[22] Title I: Adult, Dislocated Worker, and Youth and WIOA Title III: Employment Services Data.

1. State ID
2. Social Security Number
3. First Name
4. Last Name
5. Middle Initial
6. Address 1
7. Address 2
8. City
9. State
10. Zip Code
11. Date of Birth
12. Gender
13. Individual with a Disability
14. American Indian or Alaska Native
15. Asian
16. Black or African American
17. Native Hawaiian/Other Pacific Islander
18. White
19. Race Not Provided
20. Hispanic/Latino Ethnicity
21. Veteran Status
22. Eligible Veteran Status
23. Disabled Veteran

35. Receiving SSI
36. Receiving SSDI
37. Receiving General Assistance
38. UC Recipient
39. WIB Name
40. Office Name
41. Program Eligibility Date
42. Participation Date
43. Program Offender
44. Program English Language Learner
45. Program Single Parent
46. Program Incumbent Worker
47. App ID
48. Program Exit Date
49. Program Exit Reason
50. Program Employed in 1st Q after Exit
51. Program Employed in 2nd Q after Exit
52. Program Employed in 4th Q after Exit
53. Program Employed in 8th Q after Exit
54. Funding Stream
55. Service Description
56. Provider Name
57. Provider Name 2

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[22] https://www.dol.gov/agencies/eta/wioa

24. TAP Workshop Veteran
25. Recently Separated Veteran
26. Homeless Veteran
27. Transitioning Service Member
28. Highest School Grade Completed
29. Education Status
30. Receiving TANF
31. Exhausting TANF within 2 Years
32. Long Term TANF

33. Receiving Food Stamps
34. Economically Disadvantaged

58. Service Name
59. Projected Begin Date
60. Actual Begin Date
61. Projected End Date
62. Actual Last Act Date
63. Completion Status
64. Foster Care Youth Status
65. Homeless
66. Date Rcvd English as 2nd Language Svcs
67. Type of Training Service

The following additional WIOA Title I and III data elements were also added.
1. Program
2. Program Eligible
3. Program Eligibility Date
4. Activity Code
5. Activity Description

The Maryland Department of Labor and its providers use LACES to collect and report performance data on participants of literacy programs, Adult Basic Education, and Correctional Education. One recent addition to the LACES data collection is, "Final Grade". This data element, when available, indicates the final grade a student received in a class.

1. Final Grade

B. Maryland Higher Education Commission

The Maryland Higher Education Commission (MHEC) added new elements to their established data collections: the Enrollment Information System (EIS) and the Maryland Approved Program Completer System (MAPCS). Additionally, one data element that was collected in previous versions of the End of Term System (EOTS) was inadvertently left out.

1. MAPCS Program Type (EIS)
2. Advanced Standing (EIS)
3. MAPCS Program Description (MAPCS)
4. MAPCS Program Type (MAPCS)
5. Citizen (EOTS)

During the 2023 legislative session, the General Assembly passed Chapter 688/SB 127[23] - *Maryland Longitudinal Data System Center - Student FAFSA Data - Reporting Requirement,*

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[23] https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/sb0127/?ys=2023rs

which assigned a new reporting requirement to the MLDS Center. The report requires the MLDS Center to report on the number of high school students who completed and submitted the FAFSA (Free Application for Federal Student Aid) in the immediately preceding year, the number of students who did not complete the FAFSA in the immediately preceding year, and the number of students who completed the FAFSA by the deadline for eligibility for State financial aid. To support this reporting requirement, the MLDS Center added data from MHEC extracted from the Maryland College Aid Processing System (MDCAPS).

1. Last Name	7. High School Graduation Date
2. First Name	8. FAFSA Status
3. Social Security Number	9. FAFSA Start Date
4. MHEC ID	10. FAFSA Submission Date
5. Date of Birth	11. FAFSA Completion Date
6. High School	12. Academic Year

The MLDS Center was informed of the following additional elements for the data collection.

1. Middle Name
2. Diploma Type
3. Driver's License Number
4. Driver's License State
5. County
6. Citizenship
7. Gender
8. Race
9. Ethnicity

C. Department of Juvenile Services

The Department of Juvenile Services (DJS) captures administrative data on youth who are involved in the Maryland juvenile justice system. The Maryland Comprehensive Assessment & Service Planning (MCASP) Risk & Needs Assessment is a standardized juvenile justice risk assessment utilized by DJS case managers to inform disposition and supervision/service decisions for adjudicated youth. It is designed to assess the youth's level of risk for recidivism, as well as service needs related to the youth's risk for recidivism.

1. MCASP Overall Risk Level
2. MCASP Date

D. Maryland State Department of Education

The Maryland State Department of Education implemented a new state-level data collection of Census tract and block data for Maryland public school students for the 2022-2023 school year. The data collection supports the work towards incorporating neighborhood indicators of

poverty to improve the measurement of poverty in the State and as required in the Blueprint for Maryland's Future.

1. Academic Year	20. Homelessness Status
2. LEA Number	21. Title I Indicator
3. School Number	22. Free/Reduced Price Meal Eligibility
4. SASID	23. Migrant Status
5. Local Student ID	24. Foreign Exchange Student Indicator
6. Last Name	25. Special Education (SE) Indicator
7. First Name	26. Special Education End Date
8. Middle Name	27. Special Education Certificate Status
9. Generational Code or Suffix	28. English Learner (EL) Status
10. Preferred Name (Optional)	29. English Learner Entry into the US Date
11. Date of Birth	30. English Learner Service Begin Date
12. Grade	31. English Learner Service End Date
13. Gender	32. English Learner ELA Assessment Exempt Status
14. Hispanic/Latino Ethnicity	33. Foster Care Status
15. American Indian or Alaska Native	34. Military Connected Indicator
16. Asian	35. Gifted/Talented Indicator
17. Black or African American	36. Direct Certification
18. Native Hawaiian or Other Pacific Islande	37. 15-Digit Geographic ID
19. White	38. Maryland Neighborhood Tier (MNT)

E. Correctional Education

Staff from the Department of Labor's Division of Workforce Development and Adult Learning informed the MLDS Center about an additional data element for their data collection, the Inmate ID Number. This will be in addition to another ID number Labor provides, Student ID Number. Having both IDs allows for the most accurate identity resolution.

1. Inmate ID Number

F. External Data

External Data are data that are not part of the Center's regular data collections and are being provided for a unique study or program evaluation.

1. Long-term follow-up of a PBIS[24] Randomized Controlled Trial
Researchers from the University of Maryland School of Social Work have proposed to add temporary external data to the MLDS to evaluate the long-term impacts of a multi-tiered system of support framework called Positive Behavioral Interventions and Supports (PBIS). This data

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[24] Positive Behavioral Interventions and Supports - https://www.pbis.org/

will be brought into the system, matched, and removed from the system when they have completed their research. The data consist of student-level, staff-level, and school- level elements.

Student Level Data	**Staff-Level Data**
1. Last Name	1. Last Name
2. First Name	2. First Name
3. Middle Name	3. Middle Name
4. Date of Birth	4. Staff ID
5. SASID	5. School Teacher Worked in
6. School Number	6. Year Teacher Worked in School
7. Grade Level	7. Teacher Efficacy
8. Year	8. Teacher Preparedness
9. Cohort	9. Burnout
10. Treatment Indicator	10. Perceptions of School Environment
11. Free/Reduced Price Meals	11. Perceptions of parent/student Involvement in School
12. Gender	12. Study ID
13. Race	13. Study Teacher Number
14. Ethnicity	14. District Code
15. Teacher Obs.Classroom Adaptation - Student Behavior	15. District Name
16. Teacher Observation of Classroom Adaptation - Student Academics	16. Training Hours
17. Teacher Observation of Classroom Adaptation - Student Referrals	17. Gender
18. Suspensions (in school)	18. Grade Level
19. Suspensions (out of school)	19. Age
20. Special Education Need	20. Race/Ethnicity
21. Targeted Program Need	21. Role in School 1
22. Mental Health Services Need	22. Role in School 2
23. Study ID	23. Years in Role
24. Study Teacher Number	24. Years in Education
25. Study Student Number	25. Years in School
26. District Code	26. Degree
27. District Name	27. Certification
28. TOCA* - Length of Time	28. Organizational. Health Index (OHI) Mean
29. TOCA* - Emotion Regulation	29. Collegial Leadership
30. TOCA* - Internalizing Problems	30. Resource Influence

31. TOCA* - Family Problems

School Level Data

1. Systems Evaluation Tool Tier 1 Score
2. Individual Student Systems Evaluation Tool Scale 1
3. Individual Student Systems Evaluation Tool Scale 2
4. Individual Student Systems Evaluation Tool Scale 3
5. Individual Student Systems Evaluation Tool Scale 4
   *TOCA: Teacher Observation of Classroom Adaptation

31. Academic Influence
32. Teacher Affiliation
33. Organization
34. PBIS Tier 2 Support
35. PBIS Tier 3 Support
36. Professional Development

2. Towson University - Baltimore County Public Schools - Model United Nations Program

Researchers from the Towson University proposed adding temporary external data to the MLDS to evaluate the longitudinal outcomes of TU-Baltimore County Public Schools (BCPS) Model United Nations high school participants. This data will be brought into the system, matched, and removed from the system when the research is complete.

1. First Name
2. Last Name
3. High School
4. LEA
5. Year of Participation

Section 5. Recommendations Made by the Governing Board

No recommendations were made.