Findings and Results of Root Cause Analysis for Comprehensive Support and Improvement Schools

Reginald F. Lewis High School

September, 2019

MORGAN STATE UNIVERSITY

UNIVERSITY OF MARYLAND
COLLEGE OF EDUCATION
CENTER FOR EDUCATIONAL INNOVATION AND IMPROVEMENT

BOWIE STATE UNIVERSITY
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I. INTRODUCTION

The purpose of this report is to share outcomes of a Root Cause Analysis (RCA) conducted to support Reginald F. Lewis High School in identifying underlying causes of school performance problems. The report provides an overview of the RCA process, school profile, problem statement, the RCA conducted at the school, and recommendations to address the root causes.

The Maryland Every Student Succeeds Act (ESSA) Consolidated State Plan requires schools that have been identified for comprehensive support and improvement (CSI) engage in an RCA process facilitated by a third party. CSI schools are defined as follows: the lowest achieving 5 percent of Title I schools, high schools that do not graduate one third or more of their students, or schools that have federal school improvement grants. Reginald F. Lewis High School was identified as a CSI school due to low graduation rates. Outcomes of the RCA must be used to inform the development of intervention plans to improve school performance.

CSI schools that were identified in the 2018-2019 school year have three years to exit CSI status. CSI school leaders will receive a leadership coach to support the development and implementation of the intervention plan. CSI principals will be required to participate in the Leading for School Improvement Institute, which provides customized professional learning experiences to support school improvement. CSI principals will be required to engage in monitoring visits by the Maryland State Department of Education (MSDE) to ensure that progress is being made toward school improvement goals.

The MSDE established a memorandum of understanding with the University of Maryland College Park to facilitate the RCA process. The University of Maryland College Park collaborated with the American Institutes for Research to develop RCA tools and train field teams. Field teams consisted of researchers, data analysts, and education practitioners from Bowie State University, Morgan State University, Johns Hopkins University, and other organizations. Field team members worked with all CSI schools to go through an RCA process. MSDE will support each school to engage in a long-term continuous improvement process that includes RCA outcomes, recommended interventions, and evaluations of employed interventions. As part of this procedure, CSI schools were first required to go through a needs-assessment process that was used to drive the RCA work.

RCA Process for CSI Schools

A Root Cause Analysis Facilitator Guide was developed to promote consistency in the root cause analysis process. The Facilitator Guide contains protocols designed to engage school leaders and stakeholders in identifying a specific problem and prioritizing root causes for the problem.

There was a four-step process used to facilitate the root cause analysis:

1. Craft a Problem Statement Based on Data
2. Brainstorm Causal Factors
3. Analyze Underlying Causes to Identify Root Causes
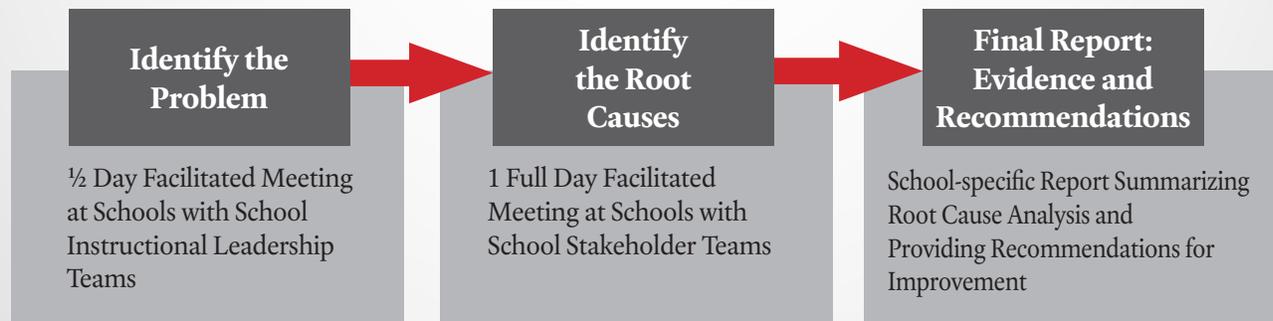4. Prioritize Root Causes for Intervention

The root cause analysis process translates the successes and challenges identified through the CSI needs assessment into priorities to inform actionable improvement planning. The work with schools was staged in three steps: 1) identify the problem; 2) identify the root causes; 3) draft a school report with recommendations for improvement.

First, the RCA team worked with school leadership teams to craft a problem statement in a half-day meeting. Using the available school, school system, and state data, the school team selected a problem that relates to their CSI status and provides a direction for the root cause analysis.

Second, the facilitators returned to the school for a full-day meeting with the school's stakeholder team to better understand the root causes of the problem. Once the stakeholders worked through the process of determining the root causes, they prioritized those root causes based on importance, feasibility, and alignment to CSI status.

As a third and final step, the RCA teams created these school-specific reports with recommendations for addressing the problem and root causes in improvement planning.

Identify the Problem	→	**Identify the Root Causes**	→	**Final Report: Evidence and Recommendations**
½ Day Facilitated Meeting at Schools with School Instructional Leadership Teams		1 Full Day Facilitated Meeting at Schools with School Stakeholder Teams		School-specific Report Summarizing Root Cause Analysis and Providing Recommendations for Improvement

I. INTRODUCTION

An RCA starts with asking the question: What problem do we face that, if solved or mitigated, would most effectively lead to our desired outcomes (in this case significant improvement in student outcomes that would lead to the school being removed from CSI status)? This "Problem Statement" is then studied and interrogated by a team of stakeholders through the RCA process that answers questions such as:

- Why do we get these outcomes?
- Who are the people involved in this problem?
- What policies, procedures, or rules contribute to this problem?
- What resources are currently engaging with this problem?
- What environmental issues impact this problem?

This process led to a small number of "root causes" to the problem designed to help school stakeholders design strategies and programs that are more likely to lead to significant improvement for students. In addition, the process will include conducting research on the problem and prioritized root causes and recommending evidence-based strategies for improvement.

School Name: Reginald F. Lewis High School
6401 Pioneer Dr, Baltimore, MD 21214
(410) 545-1746

Total Teachers: 34

Student Demographics								
Total Students	Asian	Black African Americans	Hispanic/ Latino	White	Other	% Economically Disadvantaged	% English Learners	% Students with Disabilities
564	<10	483	65	<10	<10	53.12%	12.68%	19.66%

Reginald F. Lewis High School
MSDE School Report Card Profile for 9-12

Academic Achievement		School Quality and Student Success		Graduation Rate		Progress in Achieving English Language Proficiency		Readiness for Postsecondary Success	
% Proficient in Mathematics	6%	Students Not Chronically Absent	28.8%	Four-Year Adjusted Cohort Graduation Rate	43.2%	% English Learners Making Progress Toward Learning English	39.3%	Credit for Well Rounded Curriculum	93.3%
Average Performance Mathematics	1.5								
% Proficient in English Language Arts (ELA)	5%	Access to Well Rounded Curriculum	29.3%	Five-Year Adjusted Cohort Graduation Rate	52.8%			On Track in Ninth Grade for Graduation	35.8%
Average Performance ELA	1.3								
Earned Points	5.0/30	Earned Points	3.9/25	Earned Points	7.0/15	Earned Points	3.9/10	Earned Points	6.3/10
Total Earned Percent:			30%						

To view this school's full report card, visit www.mdreportcard.org

III. PROBLEM STATEMENT

Description of the Process

The first step in the RCA process was to convene a half-day meeting that was facilitated by a two-member RCA team. The Reginald F. Lewis administrative and instructional leadership team met for a half day on April 11, 2019 to examine school-level data and to craft a problem statement. The group included content-area lead teachers (e.g., mathematics, social studies), the principal, and the assistant principal (see Appendix A). The primary goal of this meeting was to craft a "problem statement" that would drive the RCA. A problem statement is defined as a statement describing a situation, issue, barrier, impediment, or challenge that a school must address to significantly improve student outcomes, related particularly to those outcomes that led to the school being placed on the CSI list.

The goals of the first day were as follows: 1) to determine a problem statement to drive the analysis of the root cause, and 2) to identify stakeholders for day two of the RCA.

The primary data sources reviewed were the MSDE CSI Needs Assessment Report, the Maryland State School Report Card, and the School Climate Survey data and qualitative data from school stakeholders.

Problem Statement Criteria

Participants arrived at a problem statement by examining how CSI schools were identified, using data to understand why the school received CSI status, organizing data trends into themes, evaluating the feasibility of addressing those themes, and prioritizing addressable themes to identify the RCA area of focus. The problem statement was crafted based on the following criteria:

1.   *How important is the problem to addressing our needs?*

Importance is determined by whether student outcomes will be improved, teacher efficacy is increased, and/or organizational systems will be improved.

2.   *How feasible is it to address this problem?*

Feasibility is defined by the availability of adequate resources, staff, and capacity, and whether there is sufficient support and buy-in.

3.   *How aligned is the problem to our needs?*

The problem statement should be related to the reason the school was identified as a CSI school. Also the school should be able to address the problem and its root causes by the effective selection and implementation of evidence-based practices.

III. PROBLEM STATEMENT

Key Data Themes

Data Source	Key Takeaways
Maryland State School Report Card	• Students are not engaged and, therefore, are frequently absent, fail to complete courses, and perform poorly on assessments.
MSDE CSI Needs Assessment Report	• Students transition into the school at varying points in the school year with minimal opportunity to become acclimated to the school environment or to progress academically. • The school has high teacher attrition (many are early career at one to three years). Teachers are also assigned, e.g., from Teach for America or Baltimore Urban Teachers Program.

Themes Across Data Sources (Topics) (1 being highest priority)	Ranking
Teacher and student engagement	1
Student mobility patterns	2
Teacher attrition	3

III. PROBLEM STATEMENT

Final Problem Statement

> *81 percent of students are chronically absent.*

Evidence Base for Problem Statement

This section represents a brief research summary of the evidence related to the significance and impact of the problem statement identified above.

Students' commitment to school is the most important predictor of absenteeism (Demir & Karabeyoglu, 2016). Both full- and part-day absenteeism show a discrete jump at the point of transition from middle school to high school. Full-day absenteeism then declines, whereas part-day absenteeism remains high in grades ten and eleven and increases again in grade twelve. Fifty-five percent of full-day absences are unexcused, while 92 percent of part-day absences are unexcused. Absenteeism from individual classes varies considerably by time of day, but less by class subject matter (Whitney & Liu, 2017).

Gottfried and Kirksey (2017) found that student test performance is most affected by missing school in the days and months leading up to the test date, and that different support systems are needed to address subgroups of students.

Performance gaps in mathematics scores between eighth grade students who did not miss any school and those who missed three or more days of school vary from 0.3 standard deviation (for students who missed three to four days of school the month prior to when the assessment was taken) to close to two-thirds of a standard deviation (for those who missed more than ten days of school). The gap between students who did not miss any school and those who missed just one to two days of school was 0.10 standard deviation, a statistically significant but relatively small difference in practice (García & Weiss 2018).

Rogers and Feller (2016) found that 61 percent of parents and guardians of students in the bottom fifth in terms of attendance (missing on average twenty-seven days of school by the time of the survey) believed that their student's attendance rate was the same as the rate of their student's classmates, believed that it was better than the rate of their student's classmates, or did not know how it compared with the rate of their student's

Day Two Summary

The Reginald F. Lewis stakeholder team met for the second day of the RCA process on April 26, 2019. The same leadership team members from day one participated in the second day. They were joined by five content teachers one community representative, and one parent representative (see Appendix A).

The stakeholder team started the day by reviewing the draft problem statement and modifying the final version. The team was then divided into four groups with each group generating causal influences labeled in the following overlapping categories: staff and student relations; academic challenges; intake schedule, i.e., mobility; and travel. Each group created a fishbone diagram to represent their thinking that was then shared and combined into one composite fishbone. The final fishbone

reflected the group's perceptions on a host of issues. The team focused on factors over which they had agency.
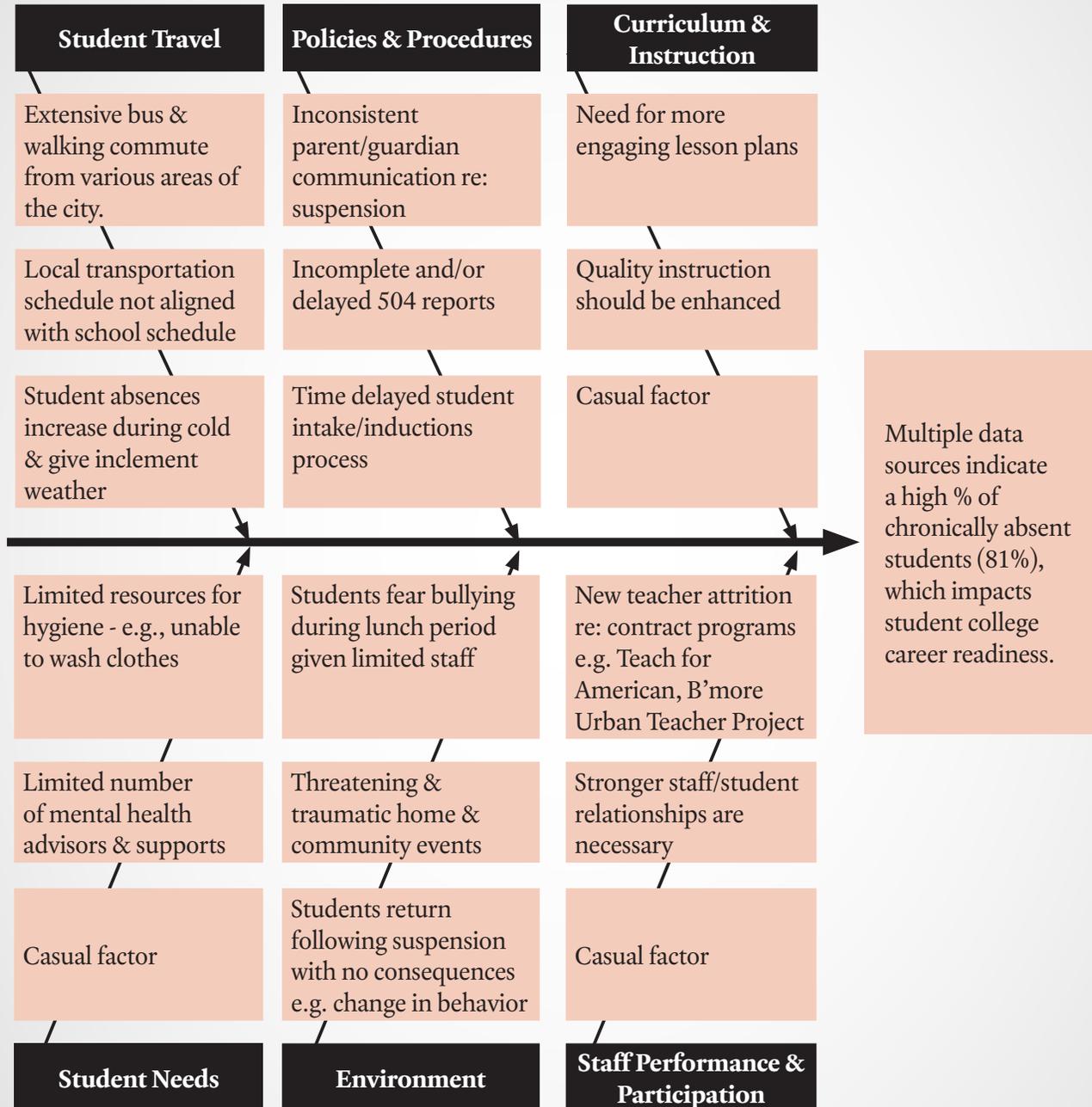
Specifically, the goals for day two included:

- Determine factors contributing to the problem statement.
- Identify underlying causes of the problem and determine which underlying causes are primary "root" causes.
- Prioritize the root causes for the importance of impacting student outcomes and the feasibility of implementing strategies to address them.

Casual Factors

The "Fishbone" diagram represents the stakeholder group's initial assessment of all of the individual factors contributing to the existence or recurrence of the problem statement.

IV. ROOT CAUSE ANALYSIS OF THE PROBLEM STATEMENT

Reginald F. Lewis High School Fishbone: Exploring Causes

Student Travel	Policies & Procedures	Curriculum & Instruction	
Extensive bus & walking commute from various areas of the city.	Inconsistent parent/guardian communication re: suspension	Need for more engaging lesson plans	
Local transportation schedule not aligned with school schedule	Incomplete and/or delayed 504 reports	Quality instruction should be enhanced	
Student absences increase during cold & give inclement weather	Time delayed student intake/inductions process	Casual factor	Multiple data sources indicate a high % of chronically absent students (81%), which impacts student college career readiness.
Limited resources for hygiene - e.g., unable to wash clothes	Students fear bullying during lunch period given limited staff	New teacher attrition re: contract programs e.g. Teach for American, B'more Urban Teacher Project	
Limited number of mental health advisors & supports	Threatening & traumatic home & community events	Stronger staff/student relationships are necessary	
Casual factor	Students return following suspension with no consequences e.g. change in behavior	Casual factor	
Student Needs	Environment	Staff Performance & Participation	

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IV. ROOT CAUSE ANALYSIS OF THE PROBLEM STATEMENT

Prioritized Root Causes

Following several group exercises, the stakeholder group came to consensus on the priority root causes. These are the causes most critical to addressing the problem based on the criteria of importance, feasibility, and alignment.

Final Output. Prioritized Root Causes:	Ranking
Teacher instability and instruction result in weak staff and student relationships.	1
Poor academic performance leads to student disengagement in courses and testing.	2
The school has an insufficient intake and induction process.	3
Transportation challenges lead to high levels of absence and tardiness.	4

Evidence Base for Prioritized Root Causes

- Academic and social engagement are key predictors of high school success, including achievement and dropping out (Rumberger, 2011; Wang & Holcombe, 2010; Wigfield & Cambria, 2010).

- Substantial research suggests that student engagement varies by the environment created by the school and teacher, and by the learning opportunities teachers create in their classrooms (Boaler & Staples, 2008; Kelly & Turner, 2009; Nasir, Jones, & McLaughlin, 2011; Walker & Greene, 2009).

- Caraway, Tucker, Reinke, and Hall (2003) suggest that students who fear failure have a tendency to demonstrate less engagement in school-related tasks. The finding that the more confident adolescents are about their general level of competence, the more likely they are to get better grades in school and to be more engaged in various aspects of school is important information.

- Research refers to the continuous transfer of students as a student mobility issue (Welsh, 2018; Voight, Giraldo-García, & Shinn, 2017). Studies suggest that student transfers have consequences at both the student and school levels, such as lower test scores, increased grade retention, and higher rates of school dropout (Welsh, 2018; Mehana & Reynolds, 2004; Reynolds, Chen, & Herbers, 2009). Additionally, school mobility may influence school climate, the pace of instruction, and the interaction of teachers and students as it relates to learning (Kerbow, 1996).

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V. RECOMMENDATIONS FOR IMPROVEMENT

Recommendations for Evidence-Based Improvement

Final recommendations for this report have been developed by the University of Maryland College Park in consultation with RCA facilitators and leaders at MSDE. Recommendations were developed using the following process:

- Reviewing the ideas, notes, and stakeholder perspectives gathered throughout the Root Cause Analysis process;

- Conducting a scan of the research literature related to the problem statement and prioritized root causes identified throughout the process. While a comprehensive research analysis was outside the scope of this project, the team reviewed research using the standards of evidence model outlined in the Every Student Succeeds Act (ESSA) to offer research that had moderate or strong evidence of effectiveness (Level 2 or Level 1 on the ESSA framework);

- Compiling, organizing and categorizing over 150 recommendations submitted by UMD/RCA facilitators.

These recommendations are offered by the University of Maryland College Park in consultation with MSDE. They represent only a portion of the potential strategies and interventions that will become a part of the school's three-year improvement plan developed in concert with the MSDE Title I office.

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION	Four Domains Domain of Rapid School Improvement[1]
Adopt student-centered, active-learning instructional practices across all classrooms. While there is a large research literature on effective learner-centered instructional practices, two leading researchers who represent the current field are Deborah Ball and Robert Marzano. Both Ball's "High-Leverage" Practices and Marzano's spotlighted strategies are research-vetted frameworks that could be useful starting points with teachers. The first strategy for improvement is the elevation of instructional practices across classrooms to engage students as active agents of their own learning. Researchers highlight the importance of activating students' "voice" and "choice" in enlivened classroom learning and engagement, as well as designing and delivering lessons that reflect students' cultural knowledge and experiences and are connected to their adolescent lives (Dary et al., 2016; Pyle & Wexler, 2012; Bridgeland et al., 2006). Examples of such instructional strategies include: student goal-setting, student-led discussions, and student voting (www.marzanoresearch.com; www.teachingworks.org). Other research-based engagement strategies include: Project-based learning; inquiry based learning-allowing students time to delve deeply into questions and content; relevance-making connections to the real world outside of school; high expectations through rigorous content; students engaged in their own progress monitoring; and students exercising choices (Taylor & Parsons, 2011).	*Instructional Transformation*

[1] *The MSDE uses the Center on School Turnaround at WestEd's Four Domains for Rapid School Improvement: A Systems Framework as a framework for continuous improvement. The framework identifies four areas as central to rapid and significant improvement: turnaround leadership, talent development, instructional transformation, and culture shift. The recommendations in this report are aligned to the four domains as a way to organize and frame the improvement efforts. For more information: https://centeronschoolturnaround.org.*

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION	Four Domains Domain of Rapid School Improvement[1]
Provide credit recovery to ensure opportunities for students to get back on track after failing a course. Academic course failures, especially during ninth grade, are associated with notable declines in four-year graduation rates. Research suggests that students who fail even one core class their ninth-grade year – English, mathematics, science, or social studies – are four times less likely to graduate from high school on time (Roderick, Kelley-Kemple, Johnson, & Beechum, 2014). To get back on track, students who fail classes, especially core classes, need opportunities to recover credit and to help them avoid falling further behind in school. Credit recovery courses may be made available to students using a variety of strategies, locations, settings, and schedules. Some options include traditional classrooms during school hours; self-paced learning using an online platform; evening, weekend, and summer school; at-home or learning centers; and student-teacher correspondence (Powell, Roberts, & Patrick, 2015). Research shows that no significant differences have been found between students taking an online credit recovery course compared to students taking an in-person credit recovery course in their likelihood of on-time graduation (Rickles, Heppen, Allensworth, Sorensen, & Walters, 2018). Therefore, schools should invest in a delivery strategy that will have the greatest advantage to their students.	*Instructional Transformation*

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION	Four Domains Domain of Rapid School Improvement[1]
Adopt a school-wide progress monitoring system that uses data to track key academic indicators in order to identify students who are at risk of falling off track. Monitoring and integrating multiple aspects of student data that can be used for direct implementation of student support strategies is an essential foundation for an effective progress monitoring system. Often schools establish inquiry teams and monitoring cycles to address monitoring needs, such as attendance, student performance at progress reporting periods, and on-track status for graduation (Gallimore et al., 2009). A comprehensive and well-coordinated monitoring system of multiple indicators helps produce a complete picture of a student's progress that can then help predict student failure before it occurs. The following steps should be considered in establishing an effective data management system: • Analyze attendance data to identify students who are at risk of chronic absenteeism. Create a school-wide attendance action plan that establishes a set of prescribed interventions and actions for teachers when students are absent, and provides incentives for students with favorable attendance records. • Establish a team to monitor the four-year graduation cohort list for each grade level and identify those students at risk of not graduating on time. Fully utilize an early warning system and develop an action plan to address all students who are off track for on-time graduation, and any students who are listed on the cohort but are non-attending. Research shows that identifying potential high school dropouts through an early warning data system can have a positive impact on graduation rates. The University of Chicago Consortium on School Research suggests that staying on track in ninth grade is a predictor of graduating in four years. Ninth graders who end the year on track are four times more likely to graduate than their off track peers (Allensworth & Easton, 2006). The Institute of Education Sciences (IES) Regional Educational Laboratory Program (see: https://ies.ed.gov/ncee/edlabs/projects/data_use.asp) provides tools that would help the school staff adopt a data-driven culture and provides tools to train staff on how to extract and analyze their data.	*Culture Shift* *Turnaround Leadership*

V. RECOMMENDATIONS FOR IMPROVEMENT

RECOMMENDATION	Four Domains Domain of Rapid School Improvement[1]
Review entry patterns and create internal mechanisms to establish immediate and coherent transcript review and placement. Reginald F. Lewis staff concluded that their school had a number of students who transferred in and out of the school frequently throughout the year. This continual transfer is referred to as "student mobility" in the scholarly literature. Recommendations for working with student mobility suggest that staff should gain a better understanding of who is transferring (in-school versus out-of-school transfers), when students transfer, and what grade level is most impacted. This data will give school administrators the information they need to make informed decisions about how to serve students once they arrive in their school, and how to share information with other schools for those who leave. Educators must collect and analyze data effectively, yet many schools simply do not have the capacity to collect, extract, or analyze the data available in a way that leads to deep changes or improved outcomes. The IES Regional Educational Laboratory Program (see: https://ies.ed.gov/ncee/edlabs/projects/data_use.asp) provides tools that would help the school staff adopt a data-driven culture and provides tools to train staff on how to extract and analyze their data.	*Turnaround Leadership*

VI. CONCLUSION AND NEXT STEPS

Collaboratively with the Local School System (LSS) and stakeholders, Comprehensive Support and Improvement (CSI) school teams will develop intervention plans that identify SMART (Specific, Measurable, Achievable, Realistic, Time-bound) intervention goals with measurable annual outcomes and progress indicators that will guide schools toward meeting annual targets and exit criteria in three years. The outcomes of the root cause analysis must be used to inform the development of the SMART intervention goals and identification of evidence-based strategies included in the intervention plan. Any evidence-based strategy must meet the Every Student Succeeds Act (ESSA) evidence requirements (level 1, 2, or 3). Intervention Plans will be approved by the school, LSS, and the Maryland State Department of Education (MSDE), and monitored annually by staff from the LSS and the MSDE. Additional information and resources are available on the MSDE Resource Hub. https://www.marylandresourcehub.com/

APPENDICES

Appendix A: List of Stakeholders

	Name	Position
Day 1 **April 11, 2019**	Yolanda Arana	*Mathematics and Special Education Teacher*
	Camille Basoco	*Advanced Placement Teacher*
	Matthew Biegel	*Career and Technical Education Lead Teacher*
	Shonda Duncan	*Mathematics Lead*
	Sara Foster	*Special Education and Science Teacher*
	Erica Gravette	*Title I Specialist*
	Madeleine Grewell	*ELA Lead Teacher*
	Janine Patterson	*Principal*
	Erik Sunday	*Social Studies Lead*
	Yolanda Whitaker-Cherry	*Attendance Coordinator*

	Name	Position
Day 2 **April 26, 2019**	Yolanda Arana	*Mathematics and Special Education Teacher*
	Camille Basoco	*Advanced Placement Teacher*
	Matthew Biegel	*Career and Technical Education Lead Teacher*
	Maray Brandon	*Parent*
	Kamal Dawson-Quest	*BTU Collective Barganing Representative*
	Erica Gravette	*Title I Specialist*
	Madeleine Grewell	*ELA Lead Teacher*
	Sarah Ann Heilbron	*ELA Content Liaison*
	Starletta Jackson	*Instructional Leadership Executive Director*
	Janine Patterson	*Principal*
	Erik Sunday	*Social Studies Lead*
	Ebony Tyroe	*Science Teacher*
	Yolanda Whitaker-Cherry	*Attendance Coordinator*

Appendix B: Bios of Facilitators

Dr. Mary E. Dilworth's career is centered on teacher quality and preparation, with a keen focus on racial/ethnic and linguistic diversity and equity issues. She is an advisor to a number of nonprofit education organizations and institutions and has led a host of education policy, research, and program initiatives as vice-president of the National Board for Professional Teaching Standards, senior vice-president of the American Association of Colleges for Teacher Education and as a visiting professor and director of the Center for Urban Education at the University of the District of Columbia.

Dilworth has written, edited, and contributed to scores of scholarly books, articles, policy and research reports, and essays. Her recent contributions include: the 2018 edited book, Millennial Teachers of Color (Harvard Education Press); a 2018 Urban Review article, Understanding the Black Teacher Through Metaphor; the report, Time for a Change: Diversity in Teaching Revisited; and a chapter in the International Guide to Student Achievement.

Her professional memberships include American Educational Research Association, Phi Delta Kappa, and Association for Education Finance and Policy. She is a member of the Theory Into Practice editorial board. Dilworth currently chairs the District of Columbia Higher Education Licensure Commission, and has held a number of elected and appointed positions on boards and commissions including: the American Educational Research Association, the Educational Testing Service, the National Education Association, the American Federation of Teachers, and the Ford Foundation. She earned Bachelor of Arts and Master of Arts degrees from Howard University and a doctorate from Catholic University of America, each in the field of education.

Stephanie Timmons Brown is the executive director of the Maryland Institute for Minority Achievement and Urban Education and assistant clinical faculty in the College of Education at UMD. She has served as the principal investigator (PI) or co-PI on several grants, including two National Science Foundation grants, one National Institutes of Health research grant, one National Security Agency grant, and several state grants. She has developed, implemented, and studied educational programs designed to transition underrepresented minority (URM) students into college, with a particular emphasis on science, technology, engineering, and mathematics-related college majors and careers. Over the past twelve years and through school and community partnerships, she has worked with multiple Prince George's County and Baltimore City schools to develop programs to help underserved students realize their academic potential and embrace their academic identities. She also mentors and advises several undergraduate and graduate students, advising students on academic courses, their research, and academic integration. Her research interests include understanding effective strategies to increase the college awareness of URM middle school and high school students, to help underserved minority students persist and graduate from higher education institutions, and to determine how URM parents' use their social capital to help their students navigate the college application process. Dr. Timmons Brown holds a Bachelor of Science from the University of California Berkeley and a PhD in educational policy from the University of Virginia.

Appendix C: Citations of research

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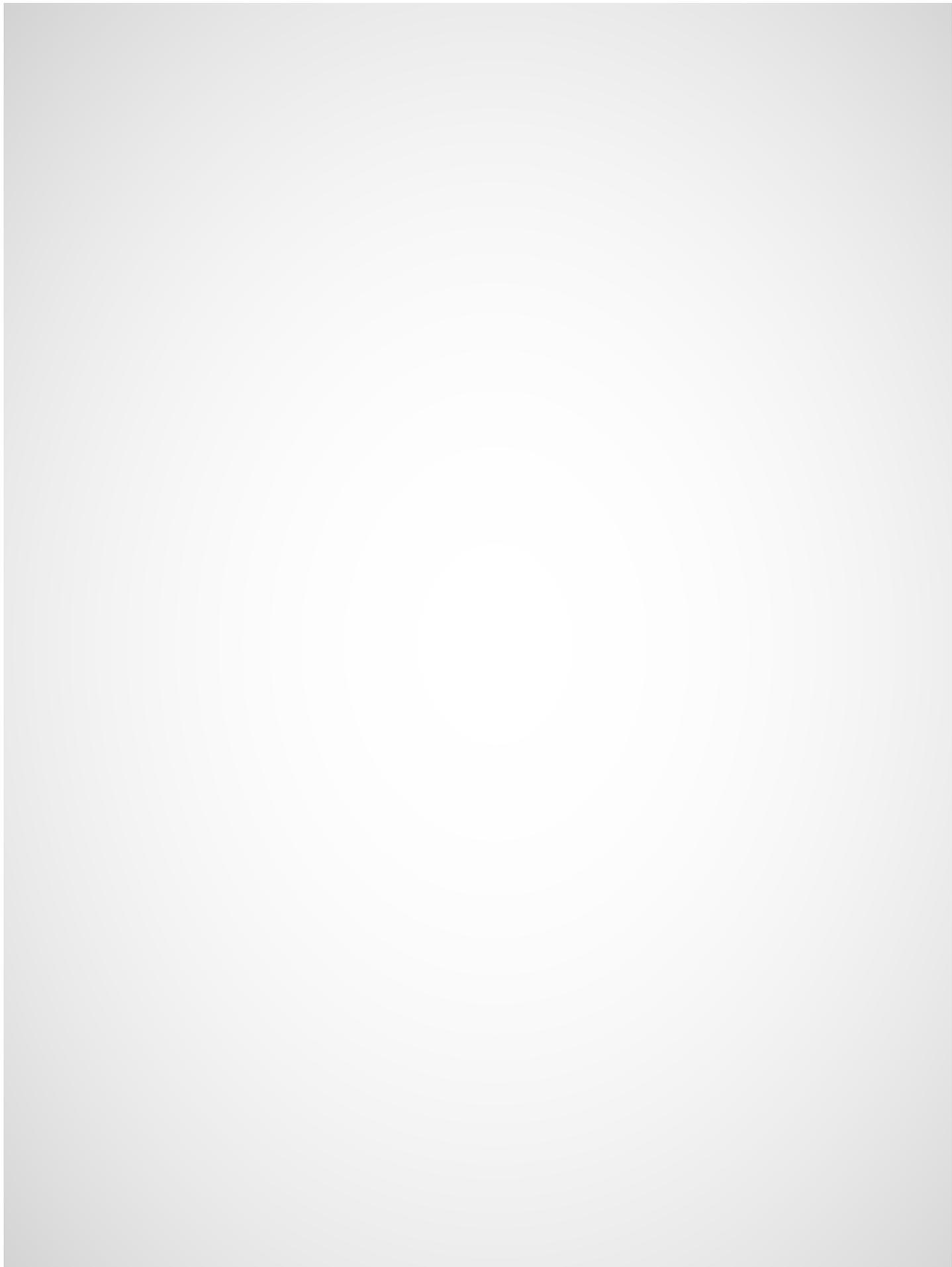
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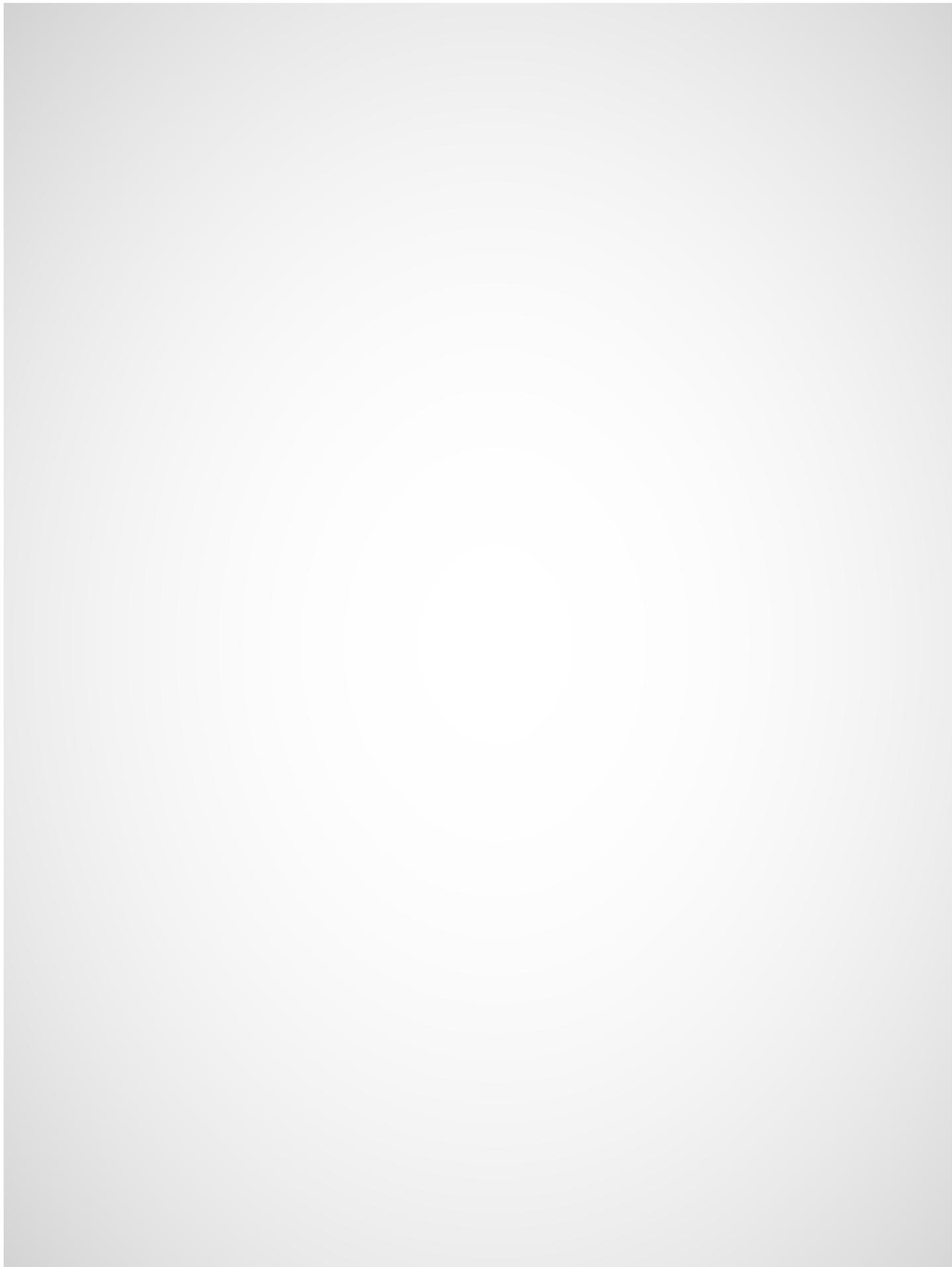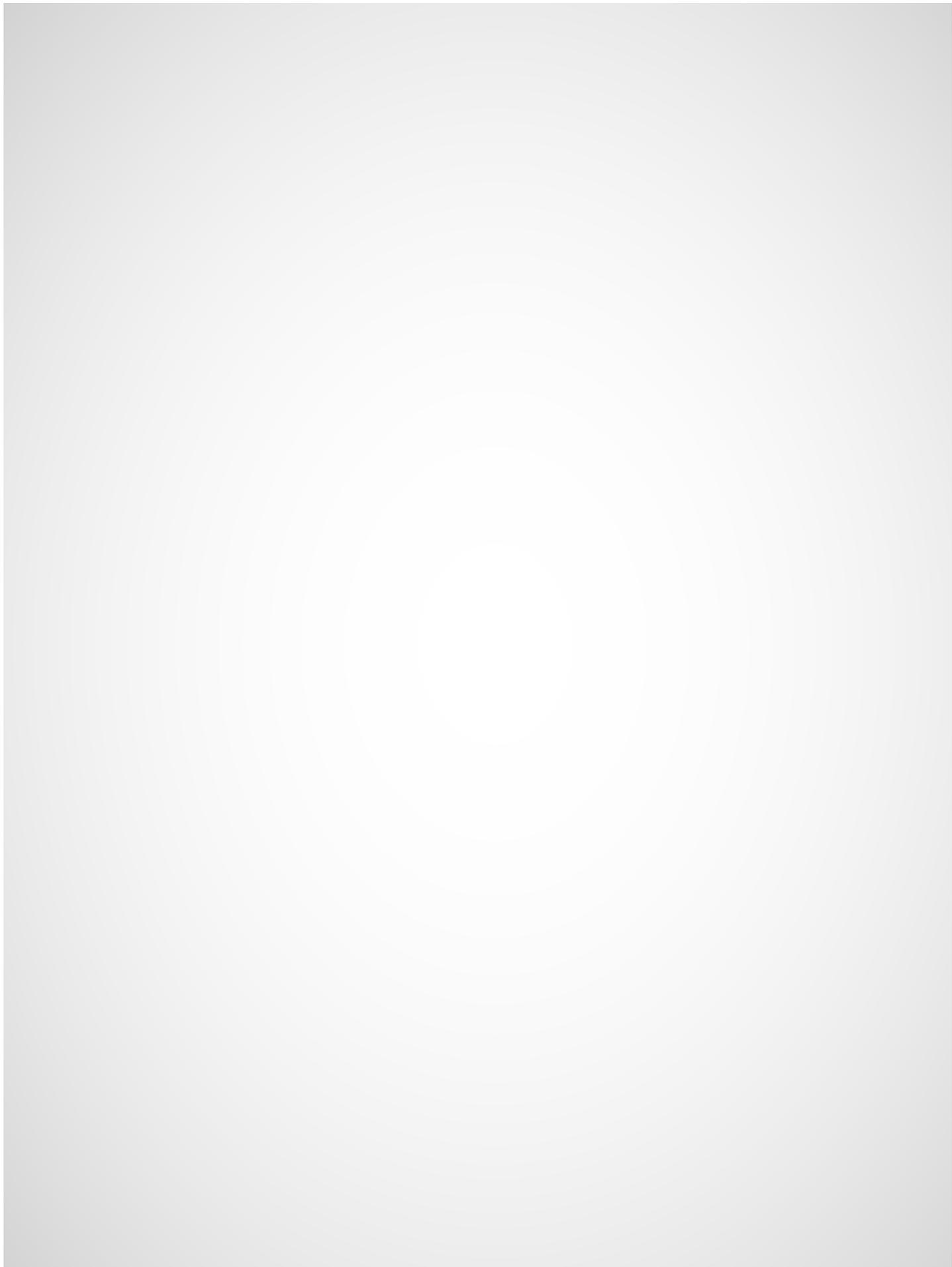
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