

Testimony before the Board of Education of Howard County

February 7, 2017 Public Hearing on Later Start Times

Anne Rossier Markus
Chair, SY 2015-2017, Howard County School Health Council

Introduction and Background

As Howard County students transition from middle to high school, they experience major sleep pattern

Percentage of Howard County Students Reporting 8 Hours or More of Sleep on an Average School Night, 2014

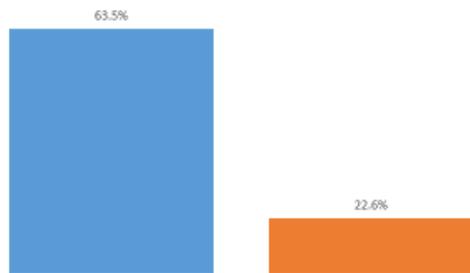


Figure 1

Got 8 hours or more of sleep on an average school night
■ Middle School ■ High School

disturbances on an average school night.

In 2014, 64% of middle school students reported sleeping 8 hours or more on an average school night; this number drops to 23% of high school students (**Figure 1, left**).¹ In other words, the majority of middle

school students are able to sleep adequately, whereas the vast majority of

students become sleep deprived once they reach high school. Scientists have recently discovered that the natural biological rhythms of teens and adolescents are different from those of younger children and adults due to changes associated with puberty.² As a result, teens and adolescents' sleep patterns shift, with a tendency to feel sleepy and to actually fall asleep later at night while waking up later the following morning.²

As many of us have experienced, we feel good the next day when we have a good night sleep. Even if one does not care about the evidence and what it says, these personal experiences are common and cannot be denied. We are fortunate to know, however, that this experiential feeling is supported by the scientific evidence to date, which documents that sleeping well is absolutely necessary for good physical and mental health and alertness, executive functioning, quality of life and safety for those around us.² Several studies also show an association between lack of sleep and

depression/anxiety.² According to the most recent survey of a representative sample of Howard County parents, 1 in 9 children under age 18 had a diagnosis of depression/anxiety.³ Researchers have found additional associations between insufficient sleep and decreased academic performance, increased tardiness and absenteeism, and lower motivation to learn.²

In addition to biological reasons, factors contributing to less than ideal sleep for teens and adolescents include increasing demands from coursework and the need to complete hours of homework into the wee hours of the night, especially (but not only) if enrolled in multiple AP and higher level courses, participating in extracurricular activities, especially (but not only) varsity sports and music/band/choir, being socially involved with the community, friends and family, working outside of school for an income and/or to build an interesting resume appealing to colleges, being high consumers of all kinds of technology, exacerbated by decades-old school bus schedules requiring high schools to start at 7:25am and students boarding buses as early as 6:20am.

Pushing back school start times – the focus of today’s public hearing – is one way to help improve the quality of sleep among Howard County students by aligning when adolescents get up in the morning with their biologically documented sleep patterns. There are other, or additional, ways but they are not our concern today, though we include some examples in our recommendation on pages 6-7. Pushing back school start times is simply the right thing to do and many school jurisdictions are making this important change to improve the health and readiness of their students to learn. For these reasons, the Superintendent - at the request of the Board - has been leading a multi-year effort to understand the evidence, the benefits of doing this, what is at stake and to propose alternatives to the current model (*status quo*). However, the initiative fell short of considering what accommodations need to be included to make this work with the least amount of disruption and to ensure a smooth transition as well as alleviate concerns of teachers, parents, and students.

To be in school half asleep or to be in school more ready to learn, that is the question from a school and academic perspective. The most consistent and convincing evidence shows that alertness increases by 22% on average when schools start later (Figure 2) and that the number of extra minutes of sleep increases between 53 minutes when the delay from early start times is 1 hour or more and 19 minutes on average when the delay is less than 1 hour, (Figure 3).¹

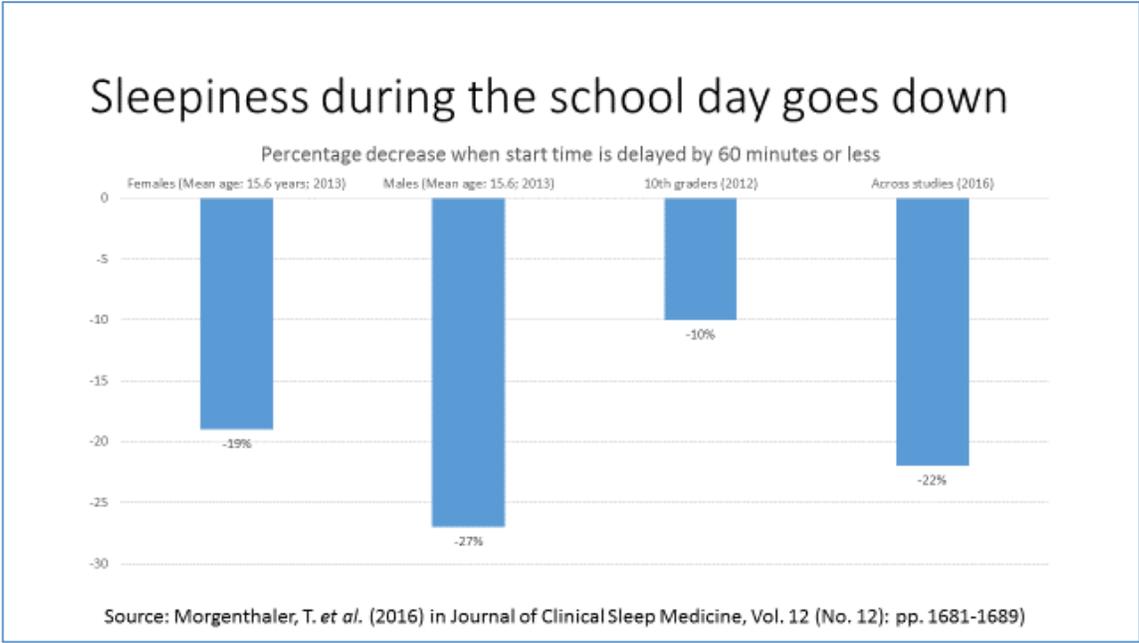


Figure 2

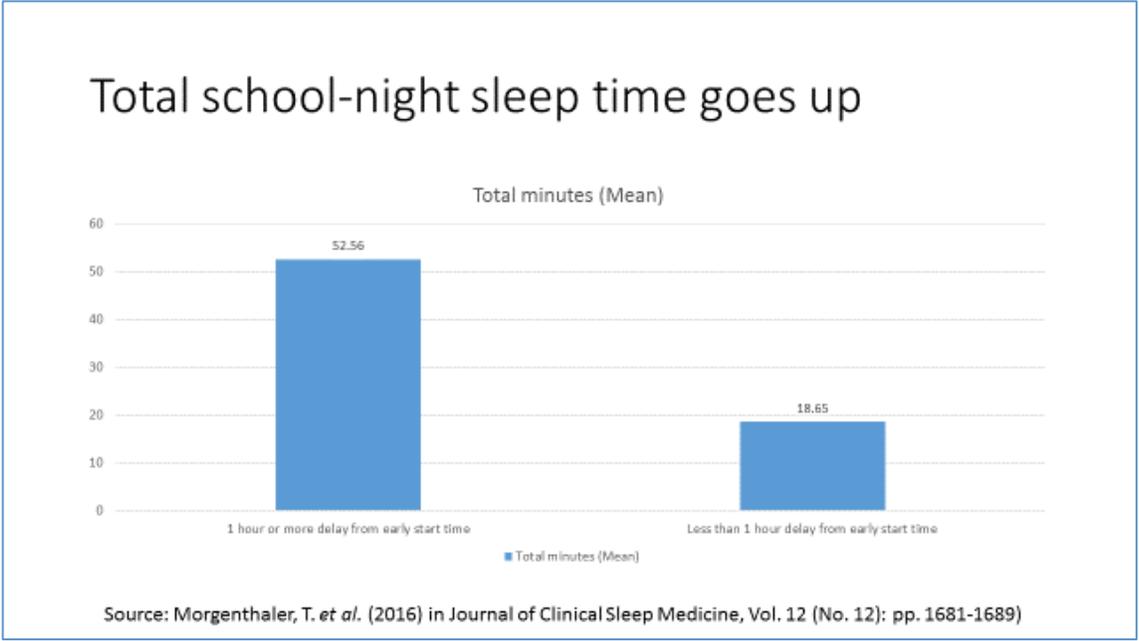


Figure 3

Additional data and synthesis can be found in the excellent and very recent literature review by lead author Dr. Morgenthaler from the Mayo Clinic (see **Attachment**). The article, which we were able to obtain directly from the publisher, is attached for your convenience and reference. Dr. Morgenthaler is also an expert and a resource who could be called upon by the Board, if needed. Please let us know if we can help with the connection between the Board and Dr. Morgenthaler.

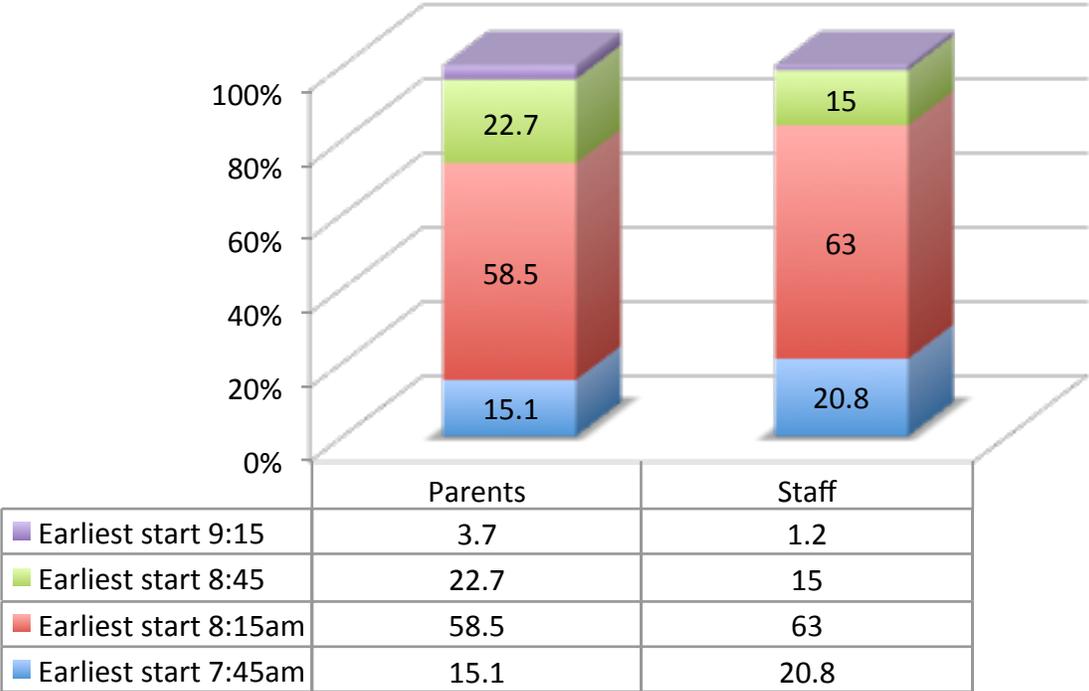
Since quite a few jurisdictions have only recently changed their start times, evidence of the impact is still anecdotal. We do know that, in one jurisdiction in Indiana, which is two years into implementation of the change, students report they are more focused at school in the morning and “have gone from mostly being in class to being active and being a part of the class and part of the conversation,” and that teachers believe it is “helping with graduation and attendance rate” and have found that they have more time to plan ahead and collaborate with each other on activities for the day.⁴ This enhanced coordination can also help reduce stress by ensuring that multiple tests are not given on the same day or that too much of the homework overlaps, which in turn can help with depression/anxiety, sleep disturbance and other issues documented elsewhere.⁵

Minimum Criteria to Assess Models Proposed in January 2017 Board Report

School system staff have proposed 4 new models for the Board to consider.⁶ Models 1 and 2 are really the same model except middle and high school start times are “flipped.” Similarly, models 3 and 4 are really the same model except middle and high school start times are “flipped.” Only bus costs are included even though costing the change is not solely a bus issue. The feedback received through the online survey and the community meetings clearly favored the *status quo* but both the survey and the meetings were designed and implemented in such a way that it biased the information collected through these means. Several School Health Council members attended the meetings in-person and filled out the survey and observed how the models were presented at the community meetings and in the online survey with very little to no information on why the need for a delayed start

time for high school students is so crucial to their well-being and performance and no or very cursory presentation of the scientific evidence to date. Including the *status quo* as an option immediately foreclosed an opportunity to have a more balanced and informed conversation about the other models and potential accommodations – such as a slightly shorter school day for elementary school students or a limit on practice time after school – that are necessary to make this work, as jurisdictions that were successful in making the change have concluded.⁷ Finally, elementary school parents were disproportionately represented at the community meetings but we personally heard that they would be open to the change if none of the models started elementary schools before 8:00am. The recent survey by HCPSS from March 2015 confirms this stance and shows that the majority of parents and staff favor a start time after 8am (**Figure 4**), yet none of the models currently before the Board align with the preferences reflected in the survey.

Figure 4
Survey of Howard County Stakeholders Regarding
Elementary School Start Time Preferences
(Survey Conducted March 2015)⁸



In 2016, the Maryland State Legislature adopted HB 39-Orange Ribbon for Healthy School Hours, which is based on the scientific evidence to date as well as numerous professional and expert recommendations, and spells out some criteria that are useful to consider in assessing the current and any future models for later start times. These criteria are presented in **Table 1**, which also summarizes how each model as well as the *status quo* fare against the criteria. It becomes quite clear that, in some instances, none of the models meet the criteria for elementary school students and that, in other instances, the models may not meet the criteria for middle and high school students. For this reason, the Board should request HCPSS staff to come up with new models where all elementary school students start at 8am or later and do not board a school bus before 7am and where all middle and high school students start at 8:30am or later and do not board a school bus before 7:30am. Dismissal and bus arrival times for each model should also be calculated and provided explicitly. And specific accommodations should be proposed to alleviate some of the concerns raised throughout this protracted exercise, taking inspiration from other jurisdictions that have successfully adopted the change.

Orange Ribbon Criteria (HB 39)	Status quo (current bus schedule)	Model 1	Model 2	Model 3	Model 4
No ES student boards a school bus before 7am	✓	Quite possible*	Quite possible*	Likely no*	Likely no*
No ES student is in class before 8am	✓	x	x	x	x
No MS or HS student boards a school bus before 7:30am	x	Likely no*	Likely no*	Likely no*	Likely no*
No MS or HS student is in class before 8:30am	x	✓	✓	✓	✓

- * Information provided by HCPSS at community fora, on the survey, at the HCASC meeting, and in the board reports shows bell times only, not earliest bus pick-up times. Board reports also indicate that a set aside for validation runs was calculated as part of the marginal increase in transportation cost.
- ✓ Criterion met
- x Criterion not met

Recommendation

For all of the reasons briefly described in this testimony, it is the strong recommendation of the Howard County School Health Council that the Board of Education should approach this issue as a

health issue, not a bus issue, and continue to examine models that meet the minimum criteria spelled out in HB 39, while taking the opportunity and time to better inform the public about the importance of adequate sleep, particularly during adolescence, and how it will improve individual student and school system performance in a multi-faceted way and overall. In addition, the Board should examine special accommodations that may be possible to 1) transition from the *status quo* to a new model and 2) make the change possible over the long term. Finally, a change in start times should be accompanied by general education about, and encouragement to, adopt other known strategies that facilitate falling and staying asleep, such as creating a bed time ritual with lights dimmed or completely off, being regularly physical active during the day, and managing stress. Moving forward, the Board should provide more oversight of future HCPSS efforts in this area to ensure that outside resources and guidance on how to transition next year are used.

Thank you for the opportunity to submit our testimony and share the expertise and consensus of the School Health Council membership. We look forward to our continued collaboration with the Board on these important issues.

REFERENCES

- 1 Youth Risk Behavior Survey (YRBS), Howard County Middle and High Schools, 2014 data.
- 2 Morgenthaler, T., Hashmi, S., Croft, J. *et al.* (2016). High School Start Times and the Impact on High School Students: What We Know and What We Hope to Learn. *Journal of Clinical Sleep Medicine* Vol. 12 (No. 12): pp. 1681-1689 - See **Attachment**.
- 3 Communication with Howard County Health Department, 2016
- 4 Nguyen, V. (2016) School district sees success with late start for high school. Indianapolis (WISH). Published July 27, 2016.
- 5 Howard County School Health Council (2017) Summary of the *Howard County Adolescent Mental Health Symposium: A Call to Action* Proceedings. Available for download at http://www.howardcountyschoolhealthcouncil.com/uploads/4/4/4/2/44423955/final_hcamhs_proceedings_document_-_1.6.2016_to_all.pdf
- 6 Howard County Public School System (2017) School Start and Dismissal Time Committee Report. *Report to the Board of Education of Howard County*. Presented by Frank Eastham, Executive Director of School Improvement and Administration and David Ramsey, Director of Transportation on January 12, 2017.
- 7 See, e.g., Lissau, R. (2016) Lincolnshire school to start later in 2017 so kids can sleep more. Published December 16, 2106.
- 8 Howard County Public School System (2015) School Start and Dismissal Time Committee Report. *Report to the Board of Education of Howard County*. Presented by Frank Eastham, Executive Director of School Improvement and Administration on June 2011, 2015.

Dr. **Anne Markus** is a long time resident of Howard County and has two children in the Public School System. Anne is Associate Professor at The George Washington University in Washington, DC, in the Milken Institute School of Public Health Department of Health Policy and Management. She is the Chair (at-large) of the Howard County School Health Council (HC-SHC) for SY 2015-2017.

The **Howard County School Health Council** (HC-SHC) is a state-mandated, advisory committee composed of three main groups: (1) individuals and organizations from the community, (2) public school system and health department staff, and (3) parents from the PTA Council of Howard County and students from the Howard County Association of Student Councils (HCASC). Although the School Health Council as an entity is mandatory for each local school district in Maryland, many of its members participate on a completely voluntary basis. Why? Because investing in health and wellness in our schools (and in our community) is not only important to improve health outcomes, it is also the key to brain health and academic performance, the main goal of the school system.

###