Summary of High School Bell Times Work Group
February 28, 2013, 3:00–5:00 p.m.
Carver Educational Services Center, Room 162

Guest Speaker: Dr. Peter Hinrichs, Associate Professor, Georgetown Public Policy Institute, Georgetown University, Washington, D.C.

Next Meeting: Thursday, March 14, 2013, 3:00–5:00 p.m., Carver Educational Services Center, Room 127

Opening Remarks

John invited participants to contribute feedback gathered from their conversations with community stakeholders. Feedback was offered from conversations with middle school principals, a daycare provider, and bus drivers.

John set the context for the meeting as the third of three meetings devoted to gathering information and establishing common subject-matter knowledge for group participants.

Introduction of Speaker/Presentation

Dr. Addison-Scott and her colleague, Mr. Chris West, evaluation specialist with the MCPS Office of Shared Accountability, presented an overview of research on adolescent sleep patterns as well as research on educational institutions that adjusted start times. A bibliography of the research is provided below, and a PowerPoint of Dr. Addison-Scott's presentation is located on the MCPS High School Bell Times Workgroup web page at http://www.montgomeryschoolsmd.org/info/belltimesworkgroup/index.aspx.

Dr. Peter Hinrichs presented his own research on school start times and student achievement and responded to questions. A PowerPoint of Dr. Hinrichs' presentation is located on the MCPS High School Bell Times Workgroup web page at http://www.montgomeryschoolsmd.org/info/belltimesworkgroup/index.aspx.

- Dr. Hinrichs acknowledged the laboratory sleep research on adolescent sleep patterns but questioned the effects of changing school bell times on student achievement.
- Comparing two school districts matched on regional and demographic factors (Minneapolis and St. Paul), Dr. Hinrichs estimated the effects of school start times on attendance and the achievement of college-bound students (ACT scores). He found that changing school start times did not improve attendance or achievement.
- Using state assessment data from Kansas and Virginia that was not limited to college-bound students, Dr. Hinrichs similarly found no effect of changing school start times on school-level state assessment data.

Discussion

Topics raised by group participants after the presentations by Dr. Addison-Scott, Mr. West, and Dr. Hinrichs included the following:

- Limitations of available academic outcome measures: ACT scores, typically taken only by college-bound students, seemed limited in their ability to provide information on non-college-bound students. This was meaningful in light of research by Edwards et al that showed later start times positively affected lowest performing students. Dr. Hinrich noted that for this reason he has explored school systems changing start times in states where statewide, standardized tests are available as an academic outcome measure and found no difference in academic outcomes.
- How to assess studies/what evidence is needed to make a decision? While acknowledging that sleep research findings show negative effects of inadequate sleep, the group will need to assess whether changing start times increases the hours students sleep and what findings from research on changing start times are sufficiently compelling in light of other costs.
- Factors that might nullify the effects of a later start time on achieving more sleep for students include before school classes or practices.
- Other meaningful outcome measures that may be compelling include attendance, tardiness, automobile accidents.
- Factors to consider when assessing impact on elementary students include current use of before school care. Working families need child care early enough for parents to get to work. Edina, MN reports beneficial effects of combining early elementary start time with after school care.
- Concern was expressed about conducting a pilot test as a way to make a decision.
- Concern was expressed about the impact of a later high school start on sports.
- Other questions:
    - What are the sleep patterns of elementary students?
    - How soon and how long after a schedule change would effects be evident that could be attributed to the schedule change only?
    - How to understand the varying effects on high and low performing students?
- More information was requested about Wake County, NC as it appears they moved to later start times then switched back.

Bibliography of Reviewed Research:

- Edwards, F. (2012). Early to rise? The effect of daily start times on academic performance. *Economics of Education Review, 31,* 970-983.
- Fredericksen, K., Rhodes, J., Jeddy, R., and Way, N. (2004). Sleepless in Chicago: Tracking the effects of adolescent sleep loss during the middle school years. *Child Development, 75*(1), 84-95.
- Hinrichs, P. (2010). When the bell tolls: The effects of school starting times on academic achievement. *Education Finance and Policy, 6*(4), 486-507.

- Joo, S., Shin, C., Kim, J., Yi, H., Ahn, Y., Park, M., Jim, J., and Lee, S. (2005). Prevalence and correlates of excessive daytime sleepiness in high school students in Korea. *Psychiatry and Clinical Neurosciences, 59,* 433-440.
- Miller, N.L., Shattuck, L.G., Matsangas, P., and Dyche, J. (2008). Sleep and academic performance in U.S. military training and education programs. *Mind, Brain, Education, 2(1),* 29-33.
- Walstrom, K. (2002). Changing times: Findings from the first longitudinal study of later high school bell times. *National Association of Secondary School Principals Bulletin, 86(633),* 3-21.
- Wolfson, A.R., Spaulding, N.L., Dandrow, C., and Baroni, E.M. (2007). Middle school start times: The importance of a good night's sleep for young adolescents. *Behavioral Sleep Medicine*, *5,* 194-209.

The following studies focused on sleep patterns of adolescents:

- A longitudinal study (Fredericksen et al, 2004) followed Chicago students from 6th to 8th grades and assessed outcomes measures, including changes in sleep patterns, depressive symptoms, academic outcomes, and self-esteem.
- A cross-sectional study (Joo et al, 2001) surveyed South Korean 11th grade students and their parents regarding daytime sleepiness, sleep-wake patterns and sleep-related problems.

The following institutions or school systems altered start times and collected outcome data:

- Minneapolis Public Schools (Wolfstrom, 2002; and Hinrichs, 2010, draft)
- U.S. Naval Academy (Miller, 2004)
- Wake County, NC (Edwards, 2012)

Other school systems that altered their start times were identified for possible further follow-up, although no published research has been collected at this time:

- Arlington, VA
- Edina, MN
- Fayette, KY
- Wilton, CT

Feedback on the meeting:

Plus: Participants appreciated Dr. Hinrichs' presentation.

Delta: Participants wanted advance notice of articles to be discussed at a meeting.

Meeting adjourned at 5:05 p.m.