



Contents lists available at ScienceDirect

# Sleep Health

Journal of the National Sleep Foundation

journal homepage: [sleephealthjournal.org](http://sleephealthjournal.org)

## Creating regional consensus for starting school later: A physician-driven approach in Southern Maine<sup>☆</sup>

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## ARTICLE INFO

Available online xxxx

## ABSTRACT

In April 2016, several contiguous school districts and an independent high school academy in southern Maine voted simultaneously to start school later, beginning with the 2016–17 academic year. They became Maine's first school districts to implement the American Academy of Pediatrics<sup>1</sup> and the American Medical Association's<sup>2</sup> health policy recommendations that middle and high schools should not start before 8:30 AM. Local physicians' presentations to school staff and parents on the medical evidence of the health benefits of a later start solidified early consensus. The action required special permission from the Maine Municipal Association to hold a joint school board vote, impacted approximately 6500 students across the region, resulted in no increase in busing costs, and took 8 months to implement after the first formal school board discussions.

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## Introduction

This paper discusses our local experience of building community consensus and changing policy so that our region's middle and high schools now start school at 8:30 AM. The movement's facilitators comprised a three-part coalition: school and other local pediatricians, key administrators working across school district boundaries, and parent advocates in the local chapter of Start School Later.<sup>3</sup> Here we reflect on the sequence of events and extract lessons from our multi-school district approach. Our work had three components: (1) We gathered early opinions and identified perceived obstacles to public support, and we formulated responses and articulated them directly and repeatedly; (2) We engaged local physicians to consistently present school start times as a research-based public health issue; and (3) We measured the impact of the later start times on students and their activities in and outside of school.

## Southern Maine's context

Maine's population of 1.3 million is the most homogeneous and elderly in the US.<sup>4</sup> School enrollment is declining and students now comprise just 13% of the population.<sup>5</sup> Covering 31,000 square miles, Maine is larger than all other New England states combined. Only four cities have a population over 25,000; the largest, Portland, has just 66,881 people.<sup>6</sup> Despite the relatively small population, Maine remains proudly local in terms of governance practices with 242 dispersed School Administrative Units and 492 municipalities.<sup>7</sup> As in many states, low incomes are widespread, with nearly half of Maine's students (and a growing share of them) eligible for free and reduced lunch.<sup>8</sup> Opioid abuse is rampant; Maine saw nearly a 40% increase in drug overdose deaths in 2016 (to 376) over the previous year.<sup>9</sup> These features of Maine, including local control, tight budgets, low incomes, and other pressing social and demographic challenges, set the context in which efforts to start school later began.

The coalition of physicians, administrators, and parent advocates decided to approach the start school later effort at the regional level, despite some obstacles to cooperation. We targeted the four school districts in the urban region of Biddeford, Saco, Dayton and Old Orchard Beach, plus Thornton Academy in Saco. Thornton is one of Maine's 11 town academies that receive public tuition if, as in this case, local communities do not have their own public schools

<sup>☆</sup> Conflicts of interest: None.

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Please cite this article as: Collins TA, et al, Creating regional consensus for starting school later: A physician-driven approach in Southern Maine, *Sleep Health* (2017), <https://doi.org/10.1016/j.sleh.2017.10.002>

(Saco's school district oversees primary and middle schools). Thornton Academy has been Saco's high school for two centuries. In recent years, Thornton has successfully pursued international boarding students, mainly from China, Eastern Europe and South America, in part to compensate for declines in local enrollment and state and local funding. The cities of Biddeford and Saco are a half-hour drive south of Portland and on opposite sides of the Saco River. Dayton and Old Orchard Beach are within 10 miles of both cities. The combined regional population is 50,348, while the student population is just under 6500.

Despite their contiguity, these four towns have distinct demographic and economic compositions. Biddeford and Saco have been historic rivals since the 18th century. In the 18th and 19th centuries textile manufacturing thrived and immigrant labor tended to live in Biddeford and owners and managers in Saco. Since then, the rivalry has been economic, religious, political, and athletic, and has often hindered educational policy cooperation.

More recently, there have been other regional divides that would need to be addressed for a multi-district agreement on delaying school start times. In 2014, the communities of Dayton, Saco, and Old Orchard Beach dissolved their joint school district union due to irreconcilable differences in financial governance and school choice. Dayton has 1 K-5 elementary school and its own limited school board that contracts 1.5 days/week for Biddeford school district administrative services. Dayton retains a school choice option to send students to Biddeford High School or Thornton Academy. Students in all four communities access vocational programs through Biddeford's Center of Technology.

Biddeford, in particular, and the urban region as a whole, present some other notable contrasts and differences. Biddeford educates more than half of York County's minority population. Sixty percent of its students are eligible for free and reduced lunch compared to only 24% in Dayton. Twenty percent of Biddeford's 2016 eighth grade class was new to the district.<sup>10</sup> At the same time, some of Maine's most valuable beachfront property is in Biddeford Pool. Saco is increasingly a bedroom community for Portland and has the second highest property tax rate in Southern Maine. Dayton is rural. Old Orchard Beach is a major summer tourist destination. Along with Saco students, Thornton Academy also educates approximately 250 private pay students from neighboring towns and foreign countries. Across the region, student bus rides range from 10–30 minutes in more urban parts such as in Biddeford, to more than 70 minutes in rural Dayton.<sup>11</sup>

#### *Other challenges and barriers to starting secondary school later*

Maine is a local control state with municipal governments setting school budgets with voter approval. In 2015, the Legislative Standing Committee on Education and Cultural Affairs voted down a proposed state law mandating an 8:30 AM start for all secondary schools. Opposition from the Maine Municipal Association, the Maine Education Association representing 22,000 teachers, and the Maine Principals' Association, which among other things oversees athletics, influenced the vote. The Maine Principals Association cited rural transportation to and from athletics as their primary reason to oppose, while the majority of committee members deemed start times a local control issue.

A law governing Maine's 27 Regional Technology Centers, of which Biddeford's Center of Technology is our region's unit, restricts local school board control over calendar decisions. Technology centers serve as vocational schools for multiple communities including the four in our region. By law, all sending school districts must align their school schedules with the regional technology center's calendar.<sup>12</sup> This makes school calendar changes difficult if not impossible without broader, regional buy-in. For example, to change Saco's traditional 7:20 and 7:45 AM middle and high school starting times to

8:30 AM would require community support and school board approval from all four communities plus Thornton Academy's trustees. This arrangement led the coalition to pursue a regional approach to starting school later.

#### *The steps toward a regional agreement*

The movement to start school later in Southern Maine began in Saco in 2014 with physician-parents of middle school children. By law, Maine school districts must retain pediatricians of record who guide school health policy and oversee nurses.<sup>12</sup> Following the 2014 American Academy of Pediatrics' policy directive,<sup>13</sup> these physicians began to make their case that adolescent sleep is as important as nutrition and athletic safety. They presented their position in a letter addressed to the Saco school board and signed by nine pediatric and family practice physicians, who collectively cared for 80% of the region's children.<sup>14</sup>

Swayed by the local physicians, Saco's school board began to consider what it would take to add buses to change the middle school start time, but it quickly became obvious that there would be no change without cooperation from Biddeford's vocational school. The river had, for centuries, divided the two communities both physically and perceptually, but start school later advocates hoped to build a bridge of cooperation.

Parent advocates and their physician partners began organizing and educating about school start times through Southern Maine Start School Later,<sup>3</sup> which is under the umbrella of the non-profit Start School Later national organization. These parents sought out a leadership ally in Jeremy Ray, Superintendent of Biddeford and Dayton Schools and the Center of Technology. Ray, as an elementary school principal in near-by Westbrook prior to his Biddeford/Dayton appointment, had been instrumental in moving the start time to 8 AM. Six months after the State legislative defeat in 2015, The American Medical Association announced its support for delayed start times to improve adolescent wellness.<sup>2</sup> Ray hosted a broad regional discussion on start times for all school boards and administrators in York and Cumberland counties. These are Maine's two most populous counties, and between them educate nearly half of Maine's students. Representatives from 14 school districts attended, as did the head of the Maine Principals' Association, State Legislators with local constituents, and the Maine School Board Association president. While all of these attendees had recently opposed a start later mandate at the state level, their presence suggested support for a regional change.

Ray invited school pediatricians to present on adolescent sleep research to the school leaders. Only two of the 14 school districts attending, Westbrook and Old Orchard Beach, had thus far moved school start times later, and it was to 8 AM for the previous year. Nonetheless, these schools' representatives were able to report qualitatively on noticeable improvements in students' early morning mood and attention. After these influential presentations, school boards met in sub-regional groups to brainstorm barriers and solutions.

The Maine Department of Education does not track school start times, and so a tangible and valuable outcome from Ray's meeting was an accurate calendar of secondary school start times across Southern Maine. The meeting also revealed that seven of the 14 school districts present supported a move to start school later. Supporters included the Cumberland County stand-alone districts of Scarborough, South Portland, and Gorham. In York County, Biddeford and its three vocational school neighbors, Saco, Dayton, and Old Orchard Beach, all indicated support for the change. Other attending districts pursued different options. Kennebunk schools, for example, decided to change vocational centers rather than change start time with Biddeford's Center of Technology.

Next, rather than appointing the typical steering committee to study the issue, the superintendents from Biddeford/Dayton, Saco

and Old Orchard Beach agreed to co-lead the adoption of an 8:30 AM start based on the physicians' evidence that adolescent sleep deprivation is a public health issue. Local superintendents sought out support from Southern Maine Start School Later. This local organization became a unifying catalyst across town boundaries and provided administrators with a steadfast community voice that was sometimes better able to respond to the parent concerns. When schools faced multiple view points and needed to be issue-neutral and inclusive, the parent advocacy group could respond in person or on social media unequivocally with the medical evidence on school start times.

#### *Responding to the concerns of parents and staff directly and with evidence*

After studying common obstacles outlined by Owens and colleagues in *The Blueprint for Change*,<sup>15</sup> school leaders and parent members of Southern Maine Start School Later worked to address parental and staff concerns that typically hinder moving to later start times. Before publicizing any proposed time change, the superintendents and their allies sought to create solutions for four common concerns that starting school later will have a negative impact on academic scheduling, athletics scheduling and performance, bus transportation, and childcare.

#### 1) Academic Schedules

There were many creative responses to concerns about changes to the academic day, as three examples illustrate. First, responding to skepticism from some Biddeford administrators and teachers, principals were asked to conduct 2 weeks of classroom observations during the first period during the school year prior to time change. After observing students' greater alertness beginning around 8:30 each morning, skeptical principals became some of the biggest champions of the change. Second, Saco school district proposed an additional schedule change, by replacing their monthly half-day dismissal with a weekly, one-hour early release each Wednesday for teacher professional development. The predictability of a consistent weekly schedule helped parents plan and increased staff professional development time. Third, Old Orchard Beach implemented a change from 7:20 to 8 AM for the prior year. When Biddeford student council members raised concerns that a later release would negatively impact homework time, Superintendent Ray requested that students meet with Old Orchard Beach peers about their experience with the 40-minute shift. Where the research evidence failed in messaging, direct conversation between students succeeded.

#### 2) Athletics

Although many assumed there would be major athletics disruptions, Biddeford school district's athletic director reviewed the 2015–16 athletic schedules and discovered less than 1% of sport matches would be affected by a later dismissal. Thornton Academy's schedule was similarly found to be minimally impacted, and the two directors collaborated on creative solutions for the 2016–17 year. These included scheduling travel for fall sports earlier in the season when days are longer. Superintendents approved limited early dismissals for athletes in good academic standing and negotiated with the local ice arena for weekend hockey practice in lieu of before-school practice. Coaches and players also visited a sports medicine physician to learn about the value of sleep for athletic performance and injuries.

#### 3) Transportation

School officials pledged that the new schedule would meet three criteria: 1. No increase in busing cost; 2. No elementary schools start before 8 AM; and 3. No child waiting for a bus in the dark. All towns had been using a two-tiered bus system, with 45–60 minutes between runs, first for secondary school then for primary

school students. Administrators initially considered purchasing additional buses for the later start, but budgets precluded it. They then committed to figuring out how to keep transport costs neutral. They reviewed routes and schedules, and identified logistical efficiencies to accommodate a new "flipped busing" model, whereby all secondary schools start at 8:30 AM and primary schools at 8 AM (a 30-minute shift earlier). Many primary school parents already used before-school care programs at schools, so starting earlier meant no change for them.

#### 4) Childcare

The near-by communities of Portland and Scarborough initially met community opposition to later start times after surveying teachers and parents about their willingness to change their schedules. Biddeford and Saco succeeded by choosing more precise, issue-oriented survey questions such as: Does your family rely on older students to care for younger siblings?; Does your family rely on before and after-care for elementary students?; What kinds of childcare do you use (e.g., Parks and Recreation, private home, family member?); and What are your childcare costs?

With most secondary school students remaining on campus after school for athletic and other extracurricular activities, fewer than 7% of those surveyed indicated they relied on older students to watch younger siblings after school. The survey also revealed how Biddeford, which is among Maine's poorest communities, had some of Maine's highest childcare costs. Parks and Recreation departments in neighboring towns provide more affordable after-care at Saco and Old Orchard Beach schools. Biddeford set up a similar \$4.00 per afternoon program at its elementary schools. Each town established family rate caps for parents with multiple children. Starting elementary schools earlier eliminated before-school childcare costs for 60–70% of working parents. Biddeford and Saco opened middle and high school libraries before school for children needing to be dropped off early. They also made breakfast available to them, some of whom qualified for free or reduced cost meals. As Saco Superintendent Dominic DePatsy remarked, "They will be eating breakfast here, just like they would at home, instead of sitting hungry and sleepy in a 7 AM math class".<sup>16</sup>

#### Approval

By first doing the background work to anticipate community concerns before announcing a change in start times, school leaders were prepared for the public education phase. In January 2016, school pediatricians presented the science on adolescent sleep at public school board meetings in each of the four communities. In the following month, superintendents organized a roundtable discussion between school boards and Thornton Academy to discuss organizational challenges. Again, local physicians attended and emphasized the importance of adequate sleep for health and overall wellbeing. The last barrier, scheduling a regional vote, was resolved when Biddeford received permission from the Maine Municipal Association to hold an historic joint school board vote. The location for the joint meeting, in the open commons at the renovated Pepperell Mill, was chosen for its historic significance and neutral territory, representing Southern Maine's reviving industrial central space.

On April 6, 2016, School Administrations and Boards from Biddeford, Dayton and Saco, and Thornton Academy convened a joint meeting in front of a substantial audience. Advocates for change turned out in numbers and heard testimony from parents, physicians, and local legislators. Each of the four school boards was required to make a motion and call for a vote before all four board chairs simultaneously hammered their gavels. These school districts became the first in Maine to move school start times to 8:30 AM. Neighboring

Old Orchard Beach held their vote 2 months later to move from 8:00 to 8:30 AM and thereby align with the region. After years of discussions at many levels, starting school later took 3 months of intensive planning and discussion to final regional approval, and 5 months to implement for the 2016–17 school year.

#### *On-going data gathering to assess the impact of starting school later*

Since delaying school start times in August 2016, data have been gathered through qualitative and quantitative measures to assess impact. As of 6 months into implementation, findings were very preliminary and tentative, but pointed in the direction that starting school later is a positive change. Early data suggest similar sleep, behavior, and health benefits to schools in other states. For most schools in Maine's later start region, attendance increased, while tardiness, suspensions, and morning school nurse visits declined. Longer-term evidence on these issues is required and is being collected.

An unanticipated benefit of later start was the elimination of the gap of up to two hours between dismissal and the start of athletic practice, because many coaches arrive later from off-campus jobs. Principals, city councilors, and school resource officers have become enthusiastic supporters of a schedule that could help to reduce afternoon disciplinary issues, on and off campus, by decreasing unsupervised and delinquent behaviors while parents are working.

Biddeford and Saco superintendents have committed to follow student sleep, health, and academic trends over time. School physicians administered an abbreviated version of Wolfson and Carskadon's Sleep Habits survey<sup>17</sup> to 1479 students mid-year after the time change. Students answered 30 questions related to sleep duration and patterns, fatigue, and breakfast consumption. Assessment of school attendance, suspensions, and achievement, athletic injuries, and teen automobile violations are a part of the on-going data collection.

#### **Conclusion**

Our region of southern Maine fairly efficiently moved secondary school start times to 8:30 AM. Local physicians' presentations to school staff and parents on the medical evidence of the health benefits of a later start solidified early consensus. Administrators, aided by the local chapter of Start School Later, avoided appointing a steering committee to study the pros and cons. Instead they united across school district boundaries, presented starting later as a public health issue based on physician evidence, and did creative scheduling work to anticipate and resolve logistical concerns. A regional meeting of school administrators and supporters in a central, historic location culminated with a multi-district vote to change start times for the next academic year. Now in its second year, later start has become the new normal and early evidence of positive impact is encouraging. The flipped busing system appears to have had limited impact on

elementary children now starting at 8 AM. As Biddeford Superintendent Jeremy Ray recently noted, "If you told our kids we'd be going back to the old system we'd have a revolt."<sup>18</sup> Schools are committed to continued data collection and assessment.

#### **Disclosures**

Start School Later Southern Maine <http://www.startschoolater.net/me-southern.html> is one of 96 local chapters of Start School Later, Inc., a 501(c)(3) non-profit organization funded by diverse donors (2016 Annual Report).

#### **References**

1. The American Academy of Pediatrics (AAP). Policy statement: school start times for adolescents. *Pediatrics*. 2014;134(3):642–649.
2. AMA (American Medical Association). AMA Supports Delayed School Start Times to Improve Adolescent Wellness; 2016 [Retrieved from <https://www.ama-assn.org/ama-supports-delayed-school-start-times-improve-adolescent-wellness>].
3. Start School Later Southern Maine. Retrieved from <http://www.startschoolater.net/me-southern.html>; 2017.
4. Miller K. Census: Maine Oldest, Whitest State in Nation. Bangor Daily News, 2009 [Retrieved from <http://bangordailynews.com/2009/05/13/politics/census-maine-oldest-whitest-state-in-nation/>].
5. Maine Department of Education. A snapshot of education in Maine. Retrieved from <http://www.maine.gov/doe/inside/snapshot.html>.
6. Suburban Stats. Retrieved from <https://suburbanstats.org/population/how-many-people-live-in-maine>; 2016.
7. Maine Department of Education. Summary of Maine school systems. Retrieved from <http://maine.gov/doe/schools/summary.html>.
8. Maine Department of Education, March 27, 2017. [Retrieved from Students Eligible for Free/Reduced Price Lunch].
9. Russell, E. Maine Attorney General: Report on Overdose Deaths Highlights Need for More Treatment. Portland Press Herald, 2017 [Retrieved from <http://www.pressherald.com/2017/04/11/maine-breaks-record-for-drug-overdose-deaths-in-2016/>].
10. Maine Department of Education. Data warehouse. Retrieved from [http://dw.education.maine.gov/DirectoryManager/Web/Maine\\_report/MaineLanding.aspx](http://dw.education.maine.gov/DirectoryManager/Web/Maine_report/MaineLanding.aspx).
11. Unpublished data from Biddeford School Transportation Department, 2014–2015 school year accessed June 1, 2017.
12. Maine legislature revised statute MRSA title 20-a, chapter 13, 8305-a (1). Retrieved from <http://www.mainelegislature.org/legis/statutes/20-a/title20-ach0sec0.html>.
13. The American Academy of Pediatrics (AAP). Policy Statement. op. cit. 2014.
14. Physicians' letter to Saco School Board. Retrieved from: [http://www.startschoolater.net/uploads/9/7/9/6/9796500/dr.letter\\_of\\_support\\_for\\_late\\_start.pdf](http://www.startschoolater.net/uploads/9/7/9/6/9796500/dr.letter_of_support_for_late_start.pdf); January 14, 2014.
15. Owens J, Drobnich D, Baylor A, Lewin D. School Start Time Change: An in-Depth Examination of School Districts in the United States. The Children's National Medical Center's Blueprint for Change Team, 2014 [Retrieved from <http://www.startschoolater.net/uploads/9/7/9/6/9796500/blueprint-change-school-start-time-change-reportfinal4-14-14.pdf>].
16. Ray Quoted during the Start School Later Southern Maine Physician Presentation to Saco Middle School Staff; 2016.
17. Wolfson R, Carskadon MA. Sleep schedules and daytime functioning in adolescents. *Child Dev*. 1998;69:875–887.
18. Ray quoted in: Morelli, P. These Maine communities are age-friendly for seniors and students. AARP livable communities. Retrieved from: <http://www.aarp.org/livable-communities/network-age-friendly-communities/info-2017/age-friendly-school-start-times-southern-maine.html>.