Wellness Council Meeting
Teams Meeting
January 19, 2021
2:00 - 4:00 p.m.

Desired Outcomes:
- Share knowledge of new Wellness initiatives to all students, staff, parents, and community members within the group I represent
- Understand the importance of building and maintaining school-based wellness teams
- Review, evaluate and provide feedback related to health education, physical education and physical activity sub committees’ new goals and objectives

2:00	Welcome/Introductions	Ms. Jackson
2:05	Review Agenda	Ms. Risse

Updates:
2:10	Wellness Council Meeting Debrief	Ms. Walker

2:20	School Wellness Highlights	Elementary, Middle

2:30	Council Announcements	Council Members

2:40	Professional Development
- School Health and Wellness Teams in Maryland	Dr. Hager

3:10	Brain Boost	Ms. Parker

3:15	Subcommittee Updates
- Health Education	Ms. Grizio
- Physical Education & Physical Activity	Ms. Walsh/Ms. Falls

3:45	Feedback/Next Steps	Council Members

4:00	Close

Next Meeting: February 16, 2021 - Teams – 1:30-3:30 p.m.
Wellness Council Meeting Minutes
January 19, 2021
Anne Arundel County Public Schools
Virtual Teams Meeting

Attendees:

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Amy Baer</td>
<td>Amy Falls</td>
<td>Ann Heiser Buzzelli</td>
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<tr>
<td>Barbara Balazek</td>
<td>Carol Laverdiere</td>
<td>Cathy Steen</td>
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<td>Christiana Walsh</td>
<td>Colleen Mallonee</td>
<td>Erin Hysom</td>
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<td>Isaphine Smith</td>
<td>Isha Alston</td>
<td>JoAnn Escobosa</td>
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<td>Jodi Risse</td>
<td>Katie Lewis</td>
<td>Katara West</td>
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<td>Kathryn Feuerherd</td>
<td>Kim Winterbottom</td>
<td>Maneka Monk</td>
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<tr>
<td>Maureen Grizio</td>
<td>Melanie Parker</td>
<td>Miesha Walker</td>
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<tr>
<td>Monique Jackson</td>
<td>Nelson Horine</td>
<td>Ryan Voegtlin</td>
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<tr>
<td>Sherry Cassilly</td>
<td>Stacy Pellegrin</td>
<td>Stacey Smith</td>
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<td>Susan Chittim</td>
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Welcome, Introductions
Ms. Jackson
- Thank you for scheduling this meeting into your busy day
- As we move forward nothing is more important the wellness of our students

Review Agenda
Ms. Risse

Updates:

Community Involvement – Debrief
Ms. Walker, Ms. West
- Community Involvement Component of WSCC- Lens through Equity Update
  - The team is promoting Social Justice with Community Partners
  - Various platforms are being utilized for professional learning
  - The question being examined- How can AACPS support our Community Partners through Social Justice/Equity and vice versa?
  - The team is seeking feedback through surveys and creating action plans for moving forward.
- Dr. Heidi at PGD- reminder that PGD has a lending library around Equity, Social Justice and Antiracism where books can be checked out by AACPS Staff.

School Wellness Highlights
Elementary, Middle, High School Principals
- Elementary is focusing on Mental Health and Self-Care of Staff and Students
  - Weekly Tips, Kindness Calendar, 5-minute meditation each meeting,
  - Virtual Wellness Nights – see attached document
- Middle School is focusing on Staff and Student Support
  - Virtual Gatherings (game nights, trivia, talent shows), check-in buddies, peer mentors, student/staff input surveys, admin opening links to chat/connect, Pop Up Pantries
- High School- see attached document for activities

Council Announcements
Council Members
- PGD- March Madness is coming- stay tuned for information
- Secondary Hybrid Video/PPT- coming soon with a “tips” sheet for Principals to use with staff
- Student Services- Mental Health Well-Being Survey for HS on January 21st and 22nd; this was a Board motion by Drake Smith and findings will be presented on February 3rd.
  - COVID Vaccine- now in phase 1B; you can visit the following links to schedule an appointment to be vaccinated-
    - aahealth.org
    - http://aacounty.org/covidvax
*All health room staff are running clinics at this time and moving towards re-opening all health rooms will be supplied with an air purifier and plexy glass for safety
- CRASC- there are numerous activities being planned by CRASC for students.
- Wellness Scorecard visits are almost complete.

- **Professional Development**
  - School Health Councils and Wellness Teams in Maryland- Erin Hager
    - There are three levels:
      - Maryland State School Health Council
      - Local School Health Council (24 school systems)
      - School Based Wellness Teams (1400)
    - MD State School Health Council
      - Reorganized in 1966 with the mission to develop, maintain and promote comprehensive school health programs
      - They have focused on three areas of expansion/refinement: Legislation, Networking and Communication
      - WSCC is the 10-component modeled followed and AACPS is mirroring WSCC in our Local School Health Council (see picture below)
      - You can visit [http://maylandpublicschools.org/msshc](http://maylandpublicschools.org/msshc) for more information.
    - Local School Health Council
      - Each must include a partnership with the local health department
      - Role is to promote wellness at the system and individual school level

- Health Education and Physical Education Update- Focus on Equity and Opportunity for All Students
  - PE- Increase representation of diversity to enhance equity and inclusion in the Elementary, MS and HS Physical Education Curriculum.
    - Evaluate Curriculum/Identify Gaps
    - Provide Instructional Strategies and Resources on how to plan/teach for diversity, equity, and inclusion
  - HE- Increase awareness, knowledge and skills for diversity, equity, and inclusion with MSDE Health Education Framework with an emphasis on Family Life and Human Sexuality
    - Review new Resources
    - Meet with HE teachers yearly for review of curriculum/resources and provide professional learning opportunities
    - Provide MS and HS teachers with Instructional Strategies and Resources- collaborating with Advocates for Youth; focusing on age-appropriateness

- **Brain Boost**
  - Move and Stretch

- **Subcommittee Updates**
  - Health Education
  - Physical Education & Physical Activity
  - TAG Analysis

- **Feedback/Next Steps**
December & January Elementary Wellness Initiatives

- **Fort Smallwood** - 5-minute meditation or desk-yoga before staff meetings
- **Central** - Teachers recorded themselves preparing healthy snacks on the school announcements. Each Friday afternoon teachers join a Google Meet to practice some form of wellness (yoga, meditation, laughing, dancing, playing games).
- **Folger McKinsey** - Continued with schoolwide monthly wellness calendars, 12 days of kindness, planning for Fit February, weekly exercise activities shared on morning announcement, mindfulness strategies shared on morning announcements, continued implementing positivity project
- **Rolling Knolls** - A kindness calendar was given to each child in their google classroom. Community Circle questions include ways students have been kind to others and ways others have showed them kindness. Fitness calendars were used in various grade levels. Staff Kahoot after school to build relationships. Staff scavenger hunt where staff had to work in teams. Rolling Knolls Personal Staff Facebook page that is private only to staff members to be able to interact with each other since we are not in school.
- **Oak Hill** - December: continued Mental Health Minute at the beginning of every counseling session; counseling lessons to all 3rd-5th grade students on drug awareness, prevention, and resisting peer pressure; schoolwide PBIS event in January provided a menu of activities for students to select in various grade level classrooms so they could visit old teachers and see friends; partnered with Infants and Toddlers to adopt families, Mental Health Minute WeVideo distributed to parents; schoolwide spirit days, continuation of Second Step lessons (twice a week) and community circles (three times per week). January: continued Mental Health Minute; month-long participation in The Great Kindness Challenge including Green School activities; Second Step; community circles; daily morning announcements with students with daily theme including Mindful Mondays; weekly Ravens Report videos with custodian and special guests (including a student).
- **Oakwood** - Wellness Wednesdays (Part of our Morning Announcement each Wednesday in December and January), Virtual Family Fitness Night (1-Time Event on January 26th in Partnership with PTA)
- **Maryland City** - December - Staff Pedometer Challenge (Interested teachers logged their steps over the course of the month in order to earn a prize) January - Virtual Wellness Night (1/25) - Students and families are invited to attend our Virtual Wellness Night. We will be offering nine different sessions for families to choose from, and they may attend four sessions that evening. Each session is run by a teacher volunteer for families.
- **South Shore**: Workout and Wellness Wednesdays, Winter Wonderland Activities, we have proper hand washing videos to share on morning announcements, have reached out to PTA to purchase mask holders for students when hybrid begins, discuss self-care for staff and included self-care calendar for December.
- **Quarterfield**: After speaking with Stacey Mazcko from Food and Nutrition and doing our annual Wellness survey we have added our daily lunch menu as part of our virtual morning announcements.
- **Van Bokkelen**: Weekly self-care tips for staff
- **Meade Heights**: December - healthy holiday recipes - January - Fitness challenge among staff members
- **Ferndale**: Weekly staff community circles, staff holiday celebration, student daily community circles, lessons on healthy eating, Distribution of healthy snacks and books through read for health
- **Linthicum**: Implementing Tiger Time for students and teachers to have a meet to have open conversations about topics of their choice. Staff shout outs.
- **Tyler Heights**: December - "Wellness Wednesday Workouts with Ms. Weaver," an opportunity for students and families to receive a virtual wellness lesson and workout.
- **Shady Side**: Dance Team, Mindfulness activities, self-care reminders/activities
- **Point Pleasant**: Panther Fitness Club - Tuesday & Thursday 6:00-6:30 fitness classes (through Google Meet) for PPES teachers and staff - Led by Ms. Millett, PPES PE Teacher
### High School Wellness Updates – December 2020/January 2021

<table>
<thead>
<tr>
<th>School Name</th>
<th>Staff Wellness Activities</th>
<th>Student Wellness Activities</th>
<th>Community Wellness Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annapolis</strong></td>
<td>December:</td>
<td>December:</td>
<td>December:</td>
</tr>
<tr>
<td></td>
<td>Virtual Staff Party</td>
<td>Cross Collaboration amongst clubs for Community Drive</td>
<td>School wide donation drive for the Panther Pantry specific to needs of babies and small children.</td>
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<tr>
<td></td>
<td>NEW Bitmoji Wellness Room: Trauma Sensitive Virtual Classroom</td>
<td>January:</td>
<td>January:</td>
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<td></td>
<td>January:</td>
<td>Cross collaboration amongst clubs to prepare for Baby Panther Pantry event on January 6 (organizing from December drive and setting up for event)</td>
<td>Baby Panther Pantry event on January 6</td>
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<tr>
<td></td>
<td>Virtual Coffee and Connect</td>
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<td>Parent Wellness Night on 1/13</td>
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<td></td>
<td>ReNew YOU Virtual Yoga and Wellness Fair on 1/23 at 10AM:</td>
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<td><a href="https://sites.google.com/aacps.org/renewyou/home">https://sites.google.com/aacps.org/renewyou/home</a></td>
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<td><a href="https://video.link/w/S4XCb">https://video.link/w/S4XCb</a></td>
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<tr>
<td><strong>Arundel</strong></td>
<td>Weekly Staff Yoga Classes</td>
<td>Weekly Yoga club offered to all students</td>
<td>Harvest for Hungry food collection</td>
</tr>
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<td></td>
<td>Staff Wellness reminders during faculty meetings</td>
<td>Numerous club activities/meetings held weekly</td>
<td>Arundel Signature club ran Thankful 100xs event</td>
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<tr>
<td></td>
<td></td>
<td>Mindfulness lessons during community wellness lessons</td>
<td>Arundel staff provided holiday gifts and food to over 20 families in need</td>
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<tr>
<td><strong>Centered of Applied Technology – North</strong></td>
<td>Virtual /In-person walking Wednesdays</td>
<td>Mindfulness embedded into instruction</td>
<td>N/A</td>
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<tr>
<td></td>
<td>Mindfulness Monday</td>
<td>AHP department mindfulness choice boards for students during small group time.</td>
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<td>Calm.com at faculty meeting</td>
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<tr>
<td><strong>Center of Applied Technology – South</strong></td>
<td>Staff Holiday Gift Exchange – Virtual Style!</td>
<td>N/A</td>
<td>N/A</td>
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<td><strong>Crofton</strong></td>
<td>Wellness Committee meets once per month</td>
<td>Virtual December Dash (see previous column)</td>
<td>Virtual December Dash (see details in second column)</td>
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*Note: N/A indicates not applicable.*
Self-Care options for professional development for all staff

December Dash Virtual Event/SGA fundraiser; open to all staff, students, families, and community. The event took place from December 14-December 23, a virtual 5k run or 1-mile walk to help build school spirit in the community and benefit the SGA! Prizes were awarded to the fastest runners and to those with the most spirited attire! The prizes included: $50 Chick-Fil-A gift card, $100 Amazon gift card, various gift card bundles to local restaurants, Crofton High School swag, and more!

Currently considering offering yoga and other wellness activities during after school hours for staff and students.

Currently planning book study event (Stamped by Reynolds and Kendi) with our Anti-Racism Workgroup to support social health and wellbeing.

Student Wellness block with lessons on Mondays and Fridays

Mindfulness/Stress Relief/Calming strategies on each school counselors Bitmoji classroom

Crofton Conversations Podcasts by School Counseling Department. Shared on Google Classrooms and by Connect-Ed message, Friday Cardinal Call messages, Twitter. Students and families can also submit topics for future consideration.

School counselors are also hosting Wellness Wednesdays Workshops focused on academic skills and Welcome All Wednesdays (formerly Free Play Friday) during FLEX Time on to help provide social experiences for students, both new to the community and for existing Crofton area students.

Wellness-related student clubs/activities – Basketball Club, Cooking Club, Dance Club, Football Club, Students Against Destructive Decisions, Soccer Club, Wellness Club, Yoga Club

Currently considering offering yoga and other wellness activities during after school hours for staff and students.
| Glen Burnie | 1. Monthly Wellness newsletters to staff. December- Click here January- Click here  
2. Surveyed staff on what kind of wellness opportunities they would like. The response was minimal. We are re-evaluating how to support our staff outside of monthly newsletters.  
3. Weekly emails to staff with positive affirmations.  
11/24 we started “Together Tuesday”. Together Tuesday is our take on Wellness Wednesday. There are 8 offerings for students to attend during club time that helps support their wellness. Our most attended session is financial management. Click here to view our Together Tuesday Choice Board  
December Topic- loneliness and connecting to family and friends you will not get to see over the holidays. Click here to view  
January Topic- Financial wellness. Students created lessons by a group of BMAH juniors in PBL3. Click here to view |
| --- | --- | --- |
| Old Mill | December:  
Self-Care PD  
Secret Santa Gift Exchange  
Patriot Cookbook  
PRIDE Awards  
Monday Morning Messages  
January:  
Biggest Loser Competition  
Staff Holiday Décor Contest  
PRIDE Awards  
Monday Morning Messages  
December:  
STAR Student Awards  
Student Trivia Night  
SGA Coat Drive  
Various Clubs  
January:  
STAR Student Awards  
Weekly Morning Announcements  
Polar Bear Plunge  
Various Clubs  
Winter Music Concert  
Teen Talk hosted by SGA  
December:  
Coffee with Mikeska  
Weekly Patriot Post  
January:  
Coffee with Mikeska  
Weekly Patriot Post  
Winter Music Concert |
| Phoenix Academy | SST completed a Wellness Pd focused on identifying stress  
Students are invited to attend Clubs:  
Phoenix Academy is a CBC school. Period 1 Teachers will continue CBC lessons every Wednesday. |
and strategies to address and minimize stress.

In keeping with reducing stress, SST will focus on humor. We know that laughing releases feel-good brain chemicals. Therefore, during our Friday morning meetings, SST will engage staff with weekly jokes. A staff member volunteers to tell a joke or show a funny video.

| South River                          | Crafts                                      | SR Giving Tree: adopt a family for the holiday-
|                                     | Virtual field trips                         | Multiple clubs and sports teams (Dec)
|                                     | Movie club                                  | YourChoice menstrual product drive (Dec)
|                                     | Culinary                                    | Postcards for senior living centers (Dec)
|                                     | Keyboarding                                 | Cards for Hospitalized Children (Dec)
| South River                          | Walking                                     | Wreaths Across America cleanup (Dec)
| Virtual social happy hour (Dec and Jan) |                             | Toys for Tots (Dec)
| Yoga and meditation (Dec)            | Paint Night for Students (done in Spanish language) (Jan 13th) | Virtual Polar Bear Plunge (Jan 16)
| Paint Night for Teachers (Jan 13th)  | Virtual 5K for Veterans (Dec)               |                                  
| Project e-Heroes! Students created posters for their teachers to thank them for everything they have done during eLearning. Posters were collected until Winter Break. Programs of choice leads delivered the posters to teachers on 1/6 | Backpacks for Baltimore supply drive and email drive (Dec and Jan) |                                  
| Wellness PD for staff in December on Wednesdays; 2 days- 3 options each day. | Chinese Cooking, Crafts, Music, Movie (Dec and Jan) |                                  
|                                  | Masked Student assignment where students guess expressing feeling about life |                                  
|                                  | Dancing during games and brain breaks       |                                  
|                                  |                                  |                                  
|                                  |                                  |                                  
School Health Councils and Wellness Teams in Maryland

Erin Hager, PhD
Associate Professor, University of Maryland School of Medicine
Chair, Maryland State School Health Council
Objectives

Learn about:

1. Maryland State School Health Council role and activities
2. Increasing capacity, outcomes, and collaborations of Local School Health Councils
3. Importance of building and maintaining school-based wellness teams
Maryland School Wellness Structure

- Maryland State School Health Council
- Local School Health Councils (24 school systems)
- School-Based Wellness Teams (~1400 schools)

Sidebar: WSCC Model

Sidebar: Local Wellness Policies & MWPPP
Maryland State School Health Council
Maryland State School Health Council -History-

• “formally reorganized in 1966”

• Purpose:
  - “to assist in the development and maintenance of school health programs and promote effective and comprehensive school health programs.
  - “The Council studies, plans, and recommends action aimed at the identification of health needs and remediation of health programs of school age children, and it serves as a forum for the Department of Education and Department of Health, their local counterparts, and other groups concerned with the health of school age children.”
Maryland State School Health Council

Changes: 2018

• Updated bylaws, focus on WSCC model

• New officers (“Executive Committee”; 3-year term)
  • Chair + Two Vice Chairs (3 individuals representing MSDE, MDH, and outside agency) + secretary/treasurer

• Executive Board Membership: purposeful expansion

• Themes (from 2018 listening tour): Legislation, Networking, and Communication
Maryland State School Health Council

Accomplishments

1. Legislation:
   • Partnership with University of Maryland Carey School of Law
   • Weekly legislative updates (during session)
   • Support for local school health councils

2. Networking:
   • In-person meeting at SHIP 2019
   • Dr. Alan Lake Award for School Wellness Promotion

3. Communication
   • Bi-monthly webinars
Webinars:

- All WSCC Components discussed between 2018-2020
- Local or national speaker followed by highlighting a local school health council
- During session: legislative updates
- All are recorded and posted on our website
Sidebar: WSCC

Whole School, Whole Community, Whole Child Model
Maryland State School Health Council

What can you do?
• Visit our website: marylandpublicshools.org/msshc
• E-mail marylandssshc@gmail.com to get on our distribution list
Local School Health Councils
Local School Health Councils

• Exist in all 24 school systems

• Must include Local Health Departments

**No two are the same!**
Local School Health Councils

• Vary by:
  • Name
  • Membership: numbers, how to join, etc.
  • Free-standing vs. Subcommittee
  • Purpose/Focus
  • Structure

+ More!
Sidebar: Local Wellness Policies

• The Child Nutrition and WIC Reauthorization Act of 2004 (PL 108-265, Section 204) :
  • Required districts/agencies that participate in the school meal programs to have a LWP in place by September 2006

• LWPs are required to include:
  1. goals for nutrition education
  2. an assurance that school meal nutrition guidelines meet the minimum federal school meal standards
  3. guidelines for foods and beverages sold outside of school meal programs (i.e., “competitive foods and beverages”)
  4. goals for physical activity and other school-based activities
  5. implementation plans

# Summary of the Final Rule (must be in compliance by June 30, 2017)

## Content of the Wellness Policy
- Specific goals for nutrition promotion and education, physical activity, and other school-based activities that promote student wellness.
- Standards and nutrition guidelines for all foods and beverages sold to students on the school campus during the school day that are consistent with Federal regulations for:
  - School meal nutrition standards, and the
  - Smart Snacks in School nutrition standards.
- Standards for all foods and beverages **provided, but not sold**, to students during the school.
- Policies for **food and beverage marketing** that allow marketing and advertising of only those foods and beverages that meet the Smart Snacks in School nutrition standards.
- Description of public involvement, public updates, policy leadership, and evaluation plan.

## Wellness Leadership
One or more LEA and/or school official(s) who has the authority and responsibility to ensure each school complies with the policy.

## Public Involvement
- Permit participation by the general public and the school community in the wellness policy process.

## Triennial Assessments
- Compliance with the wellness policy
- How the wellness policy compares to model wellness policies
- Progress made in attaining the goals of the wellness policy

## Documentation
- Copy of the current wellness policy
- Documentation on how the policy and assessments are made available to the public
- The most recent assessment of implementation of the policy
- Documentation of efforts to review and update the policy, including who was involved in the process and how stakeholders were made aware of their ability to participate.

## Updates to the Wellness Policy
LEAs update or modify the wellness policy as appropriate.

## Public Updates
- The wellness policy, including any updates to and about the wellness policy, on an annual basis, at a minimum, and
- The Triennial Assessment, including progress toward meeting the goals of the policy.
Sidebar: Local Wellness Policies

LWPs are only effective if implemented!

- Federal Legislation
- Written LWPs (School System)
- LWP Implementation (System & School)
- Enhanced Opportunities for Health and Wellness
- Improved Child Health & Academic Performance
Sidebar: Maryland Wellness Policies and Practices Project (MWPPP)

Federal Legislation

Written LWPs (School System)

LWP Implementation (System & School)

Enhanced Opportunities for Health and Wellness

Improved Child Health & Academic Performance

Quality

Implementation

Impact
Sidebar: MWPPP

Maryland School Wellness Program

INSTRUCTIONS

This scorecard is a school-level assessment tool designed to assess and prioritize your school's wellness practices. Federal and/or State requirements are highlighted in green, while the "Needs," "Needs Improvement," and "Not Applicable" columns are displayed in red and black, respectively.

Step 1: Assess and Prioritize

Use pages 2 and 3 to assess and prioritize your school's wellness practices.

Assess

Use the following scale to assess current nutrition and physical activity practices:

High = 4; Medium = 3; Low = 2; Needs Improvement = 1; Needs = 0

Prioritize

Use the following scale to rate the level of priority for each item in your school's wellness policy:

High = 4; Medium = 3; Low = 1

Step 2: Implement

Use page 4 to develop a plan to implement three or more of the wellness practices that you prioritized.

Implement

Select at least three high priority practices to implement in your school with the support of school-level leaders.

Maryland Nutrition Standards for All Foods and Beverages Sold in Schools

The Maryland Nutrition Standards for All Foods Sold in Schools are referenced in the rubric. The Federal Smart Snacks Standards and should be in place from 12:00 p.m. to 3:00 p.m.

The regular school day throughout this tool. Time outside of these hours is referred to as "extra time." The "Regular school day" is defined as the time during which the school is in session and the "Extra time" is defined as the time outside of the school day.

Food must be in one of these categories and meet nutrient criteria:

- Be whole grain-rich (at least 50% whole grain by weight, or at least 25% whole grain)
- Be fat-free or low-fat
- Be a combination of foods that consists of at least 1/4 cup of fruit and/or vegetable

Beverages and Non-caloric Energy Drinks:

- Be calorie-free or low-calorie
- Be fat-free or low-fat

Comprehensive Assessments

To complete a comprehensive assessment on nutrition and physical activity for Healthy Kids or the Alliance for a Healthier Generation, visit the CDC's School Health Action Plan.

To complete a comprehensive assessment on all school health initiatives, visit the CDC's School Health Action Plan.

Acknowledgements, Contact Information

Figure 1

Wellness Teams Work!

Wellness teams outline a whole school approach to wellness. An effective wellness policy and team will support a school in building a culture of health.

Wellness policies can address:

- Limits on unhealthy food marketing
- Physical activity opportunities
- Research and evaluation

August 2018
Local School Health Councils

• Responsible for developing or informing the content in the LWPs
  • MWPPP LWP Overall scoring (average of 24 school systems)
    • 59/100 for Comprehensiveness
    • 31/100 for Strength
  • MWPPP 2018-2019 school survey
    • Of the 994 schools that responded: only 48% knew that their school system had a Local School Health Council
Local School Health Councils

What can you do?

• Read your Local Wellness Policy
• Find out more about your Local School Health Council & consider joining
• Ask your local school health council for a copy of your MWPPP report and your LWP scoring report
• Already a local school health council member? Consider attending a School Health Council meeting for another school system
School-Based Wellness Teams
School-Based Wellness Teams

• Strong scientific evidence: wellness teams support LWP implementation
  • Much of this has come from Maryland!
  • Impact on student health and academics-building

• Recommended by federal government agencies and school wellness organizations
School-Based Wellness Teams: MWPPP findings

1. Factors associated with LWP implementation in schools
   • School Wellness Teams! *Hager, 2016*

2. Role of “Active School Wellness Teams” (meeting best practices)
   • Greater LWP implementation (versus schools with teams not meeting best practices) *Profilli, 2017*

3. Impact of change in wellness team formation over time on LWP implementation *McIree, 2019*
   • **Stable:** maintain high levels
   • **New:** improvement
   • **Discontinued:** decline
   • **Never:** maintain low levels
Wellness Teams Impact Wellness Policy Implementation

Change in LWP Implementation Over Time by School Wellness Team Stability Category

- New
- Established
- Discontinued
- Never

Mean LWP Implementation Score

2012-2013 School Year vs. 2014-2015 School Year
School-Based Wellness Teams: MWPPP findings 2018-2019

The percentage of schools with wellness teams increased over time:

- 2014-15: 44%
- 2016-17: 53%
- 2018-19: 62%

**COMPENSATION**
The majority of wellness team leaders volunteered their time.

**MEMBERSHIP**
Wellness teams included the following members:

<table>
<thead>
<tr>
<th>Role</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Teacher (Non-PE/Health)</td>
<td>78%</td>
</tr>
<tr>
<td>PE Teacher</td>
<td>76%</td>
</tr>
<tr>
<td>Administrator</td>
<td>79%</td>
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<tr>
<td>Nurse</td>
<td>39%</td>
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<tr>
<td>Parent</td>
<td>20%</td>
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<td>School Counselor</td>
<td>43%</td>
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<td>Health Teacher</td>
<td>32%</td>
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<td>Community Organizations</td>
<td>5%</td>
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<tr>
<td>Food Service</td>
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<tr>
<td>Student</td>
<td>11%</td>
</tr>
</tbody>
</table>
School-Based Wellness Teams

What can you do?

• Find out if your school has a wellness team
  • If so, ask to join
  • If not, consider starting one!
    • Training for Wellness Champions is available!
• Learn about the characteristics of an “active wellness team”
• Advocate for pay for Wellness Champions
Summary

• Maryland State School Health Council
  • Aims to support Local School Health Councils

• Locals School Health Councils
  • Guide the development of LWPs & support health and wellness in schools

• School-based wellness teams
  • Recommended approach to supporting LWP implementation
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Implementation of Local Wellness Policies in Schools: Role of School Systems, School Health Councils, and Health Disparities

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ABSTRACT

BACKGROUND: Written local wellness policies (LWPs) are mandated in school systems to enhance opportunities for healthy eating/activity. LWP effectiveness relies on school-level implementation. We examined factors associated with school-level LWP implementation. Hypothesized associations included system support for school-level implementation and having a school-level wellness team/school health council (SHC), with stronger associations among schools without disparity enrollment (majority African-American/Hispanic or low-income students).

METHODS: Online surveys were administered: 24 systems (support), 1349 schools (LWP implementation, perceived system support, SHC). The state provided school demographics. Analyses included multilevel multinomial logistic regression.

RESULTS: Response rates were 100% (systems)/55.2% (schools). Among schools, 44.0% had SHCs, 22.6% majority (≥75%) African-American/Hispanic students, and 25.5% majority (≥75%) low-income (receiving free/reduced-price meals). LWP implementation (17-items) categorized as none = 36.3%, low (1-5 items) = 36.3%, high (6+ items) = 27.4%. In adjusted models, greater likelihood of LWP implementation was observed among schools with perceived system support (high versus none relative risk ratio, RRR = 1.63, CI: 1.49, 1.78; low versus none RRR = 1.26, CI: 1.18, 1.36) and SHCs (high versus none RRR = 6.8, CI: 4.07, 11.37; low versus none RRR = 2.24, CI: 1.48, 3.39). Disparity enrollment did not moderate associations (p > .05).

CONCLUSIONS: Schools with perceived system support and SHCs had greater likelihood of LWP implementation, with no moderating effect of disparity enrollment. SHCs/support may overcome LWP implementation obstacles related to disparities.

Keywords: health policy; nutrition and diet; physical fitness and sport.


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Schools are an ideal public health pediatric obesity prevention target because the majority of US children attend school, children spend a great deal of time in school (second only to home), and children consume up to half of their daily calories in school. To promote healthy eating and physical activity in schools, the federal government passed the Child Nutrition Reauthorization Act (CNRA) of 2004 which mandated that all school systems participating in the United States Department of Agriculture (USDA) National School Lunch and/or Breakfast Program have a written Local Wellness Policy (LWP) in place by September 2006. A LWP is a written document of policies that guides system- and school-level efforts to establish nutrition and physical activity standards. In response to this mandate, the majority of US school systems now have written LWPs in place. LWPs are only effective, however, if implemented. More recent legislation, the Healthy Hunger-Free Kids Act (HHFKA) of 2010, expanded upon the LWP provision in the CNRA to focus more heavily on the implementation, evaluation, and reporting of LWPs in schools.

Following the CNRA, researchers developed tools to evaluate and conducted studies to examine the existence, strength, and comprehensiveness of school...
implementing LWPs. Few studies have examined implementation. Development of policies and programs to enhance LWP system- and school-level factors, together with an assessment of the relations among factors, will provide a comprehensive analysis and facilitate the development of policies and programs to enhance LWP implementation.

As part of the HHFKA, both school systems and schools are encouraged to form school health councils (SHCs) or wellness committees to aid in implementing LWPs. Few studies have examined the role of SHCs in LWP implementation. Two studies recently found that having both a system- and school-level SHC is associated with fewer low nutrient, energy-dense vending options compared with system-level only or no SHCs. Additional research is needed to determine the role of school-level SHCs in implementing LWPs, particularly in the context of other system- and school-level factors.

Two national surveys have reported health disparities surrounding LWP implementation in schools. Schools with a higher percentage of minority youth were significantly less likely to have a SHC and a higher percentage of white students were positively associated with availability of physical activity facilities for community use, number of health services policies and programs, and not offering brand-name fast foods. Examining the moderating role of health disparities in LWP implementation will inform federal, state, and school-system officials when initiating programs and policies to promote LWP implementation.

The Social Ecological Model (SEM), based in Ecological Systems Theory, is often referenced in conceptualizing how a policy or program may impact individual behavior. Systems science complements the SEM, recognizing that the impact of a policy on an individual is complex, with evolving, interplaying relationships among systems. These systems theories provide a strong framework for conceptualizing how LWPs are implemented in schools and impact students. Multiple systems and factors are included in this conceptual framework, representing school systems and schools. In addition, other factors, including disparities in access to opportunities for healthy eating and physical activity based on income and race/ethnicity may moderate the implementation of policies.

In Maryland, the State Department of Education (MSDE), the State Department of Health and Mental Hygiene, and academic partners, developed the Maryland Wellness Policies and Practices Project (MWPPP), to promote healthy eating, physical activity, and academic achievement by helping schools and school systems create and implement strong and comprehensive written LWPs. Using baseline data from the MWPPP and a systems framework, the objective of this study is to examine system- and school-level factors associated with school-level LWP implementation, defined as recommended/evidence-based wellness policies and practices. We tested 2 hypotheses. First, system-level factors (system-reported and school-perceived system support for implementation), and school-level factors (SHC) are associated with greater school-level LWP implementation. Second, the relationship between system- and school-level factors with LWP implementation is moderated by disparities, with stronger associations between system- and school-level factors with LWP implementation in schools without majority racial/ethnic minority or low-income students.

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METHODS

Participants

Data from school system representatives and school administrators were collected via an e-mail survey during the summer of 2013 (referencing the 2012-2013 school year). All systems were eligible to participate (N = 24). The school sample was limited to public schools, with exclusion criteria: part-time, alternative, exclusively prekindergarten, or exclusively special education (N = 1349/1452 public schools were eligible, 93%).

Instrumentation

The MWPPP survey was informed by the School Nutrition Policies and Practices Survey,^25^ Maryland Wellness Policy Implementation Checklist (developed by MSDE), Alliance for a Healthier Generation healthy schools program framework (active in 2013^24^), and the HHFKA. Following MWPPP team review, the survey was pilot-tested with school administrators (N = 5) for clarity and content. Two versions of the survey were developed: 1) the System Survey targeted the “designated official who ensures school-level implementation of wellness policies, preferably the chairperson of the school system’s SHC”); 2) the School Survey targeted the “person with the responsibility of supporting implementation of wellness policies at the school-level, preferably an administrator”). Responses were on a 6-item Likert scale (Fully in Place, Partially in Place, Under Development, Not in Place, Don’t Know, Not Applicable), dichotomized into “fully in place” versus “not fully in place.” Scales were examined for internal consistency using Cronbach’s alpha, with summary scores (sum of “fully in place”) generated.

The system survey included 21-items on system-level support for LWP implementation, and this summary score (sum of “fully implemented”) exhibited high internal consistency (α = .865). The summary score was normally distributed (skewness = 0.128), and examined as a continuous variable (M = 10.8, range 1-19). Table 1 shows the item responses.

The school survey included 8-items on the school’s perception of system support for LWP implementation and 17-items focusing on school-level LWP implementation (primary outcome, Table 1). Test-retest reliability of the School Survey was examined through repeat administration (1 month) among a subset (N = 57) of school administrators, yielding a Spearman Correlation of 0.70 (p < .001), and item-by-item % agreement of 75.6%. The school-perceived system support for LWP implementation scale (8 items) exhibited high internal consistency (α = .922) and the summary score was normally distributed (skewness = 0.293, M = 3.32, range = 0-8). The school-level LWP implementation scale (17 items) exhibited high internal consistency (α = .923). The summary score was not normally distributed (skewness = 1.245) and was examined as a categorical variable.

The presence of a school-level SHC was determined by the School Survey question “My school had a SHC responsible for implementing LWPs in place during the 2012-2013 school year,” with options “Yes”/“No”/“Don’t Know,” dichotomized as yes versus no/don’t know.

School demographics were provided by MSDE, including the percentage of students eligible for free/reduced-price meals (FARMs, a proxy for income) and racial/ethnic composition of student body (% of “white, black or African-American, Hispanic/Latino of any race, Asian, American Indian or Alaskan Native, Native Hawaiian or other Pacific Island, or 2 or more races”). Categorical variables were generated for schools with ≥75% racial/ethnic subgroup or FARMs to identify schools where the majority of students were a single racial/ethnic group or low income.

Procedure

E-mail addresses of system-level wellness leaders and school administrators were provided by MSDE and then updated through Internet searches. Surveys were administered via e-mail using SurveyMonkey (Palo Alto, CA, www.surveymonkey.com), over a period of 7 weeks during the summer months, following the end of the 2012-2013 school year.

Data Analysis

Analyses were performed using SPSS statistical software (version 20.0). Test-retest reliability was determined using Spearman Correlations and percent agreement. Demographic characteristics of responding and non-responding schools were compared using independent t tests. Descriptive statistics were employed and continuous variables tested for skewness. Bivariate analyses, including Spearman correlations, chi-square statistics, and 1-way analyses of variance (ANOVA) were used to examine unadjusted associations with the outcome and collinearity among predicting variables. Multilevel multinomial logistic regression models were employed, with the 3-category LWP implementation variable included as the dependent variable, school system entered as a random, level 1 effect, and factors hypothesized to be related to school-level LWP implementation entered as fixed effects in the model. These factors were examined in separate and comprehensive models, including an interaction term to examine the moderating effects of FARMs eligibility and race/ethnicity.

RESULTS

System and School Surveys

All 24 school systems responded to the system survey (100%). Respondents included Supervisors of
Table 1. School Survey (N = 744) and System Survey (N = 24) Items With Prevalence of Affirmative Responses*

<table>
<thead>
<tr>
<th>School Survey Items</th>
<th>% Fully in Place</th>
<th>System Survey Items</th>
<th>% Fully in Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>My School System...</td>
<td></td>
<td>My School System...</td>
<td></td>
</tr>
<tr>
<td>1. has a school health council to address general health and wellness issues</td>
<td>47%</td>
<td>1. has a school health council to address general health and wellness issues</td>
<td>88%</td>
</tr>
<tr>
<td>2. has a school health council that focuses on healthy eating and physical activity in schools</td>
<td>45%</td>
<td>2. has a school health council that focuses on healthy eating and physical activity in schools</td>
<td>83%</td>
</tr>
<tr>
<td>3. coordinates services related to healthy eating and physical activity in schools</td>
<td>45%</td>
<td>3. coordinates services related to healthy eating and physical activity in schools</td>
<td>75%</td>
</tr>
<tr>
<td>4. has a mechanism in place to encourage teachers and school health professionals to participate in developing and updating LWPs</td>
<td>43%</td>
<td>4. provides opportunities for teacher/school health professional input in updating LWPs</td>
<td>71%</td>
</tr>
<tr>
<td>5. promotes healthy eating and physical activity for staff members</td>
<td>43%</td>
<td>8. promotes healthy eating and physical activity for staff members</td>
<td>71%</td>
</tr>
<tr>
<td>6. encourages staff members to model healthy eating and physical activity behaviors</td>
<td>43%</td>
<td>5. provides opportunities for parent input in updating LWPs</td>
<td>67%</td>
</tr>
<tr>
<td>8. provides public updates on the implementation of LWPs</td>
<td>36%</td>
<td>9. encourages staff members to model healthy eating and physical activity behaviors</td>
<td>58%</td>
</tr>
<tr>
<td>7. provides technical assistance to schools for evaluating LWP implementation in schools</td>
<td>28%</td>
<td>16. collects data from schools to monitor implementation of LWP goals related to physical education/physical activity</td>
<td>50%</td>
</tr>
<tr>
<td>My School...</td>
<td></td>
<td>20. requires the identification of LWP coordinators in each school</td>
<td></td>
</tr>
<tr>
<td>12. exceeds school system requirements regarding physical education</td>
<td>32%</td>
<td>15. collects data from schools to monitor implementation of LWP goals related to nutrition education/health education</td>
<td>46%</td>
</tr>
<tr>
<td>13. exceeds school system requirements regarding physical activity (physical activity breaks during the day, active recess, etc.)</td>
<td>31%</td>
<td>19. provides schools with other resources to support nutrition and physical activity policies/practices</td>
<td>46%</td>
</tr>
<tr>
<td>16. has activities for staff members that support and promote healthy eating and physical activity in schools</td>
<td>31%</td>
<td>12. provides schools with technical assistance to evaluate LWP implementation in schools</td>
<td>42%</td>
</tr>
<tr>
<td>1. monitors implementation of the LWP</td>
<td>29%</td>
<td>13. collects annual progress reports from schools on school-level implementation of LWPs</td>
<td>42%</td>
</tr>
<tr>
<td>3. communicates the status of school-level implementation of LWPs to school staff</td>
<td>26%</td>
<td>14. collects data from schools to monitor implementation of LWP goals related to nutrition guidelines</td>
<td>42%</td>
</tr>
<tr>
<td>14. partners with community organizations to support and promote healthy eating and physical activity among students</td>
<td>22%</td>
<td>6. provides opportunities for student input in updating LWPs</td>
<td>38%</td>
</tr>
<tr>
<td>15. has activities involving families to support and promote healthy eating and physical activity among students</td>
<td>21%</td>
<td>21. requires the integration of nutrition and physical activity goals into the overall school improvement plan</td>
<td>38%</td>
</tr>
<tr>
<td>11. exceeds school system requirements regarding nutrition/health education</td>
<td>21%</td>
<td>18. provides schools with funding to support nutrition and physical activity policies/practices</td>
<td>33%</td>
</tr>
<tr>
<td>10. exceeds school system requirements regarding nutrition guidelines for foods served outside of the national school breakfast and lunch programs (a la carte, vending, etc.)</td>
<td>20%</td>
<td>10. includes “LWP implementation” as a standing agenda item for administrative meetings</td>
<td>25%</td>
</tr>
<tr>
<td>2. provides annual progress reports to the school system on school-level implementation of LWPs</td>
<td>20%</td>
<td>17. provides public updates on the implementation of LWPs</td>
<td>25%</td>
</tr>
<tr>
<td>17. has provided training/education to encourage staff to model healthy eating and physical activity behaviors</td>
<td>20%</td>
<td>11. includes “LWP implementation” as a standing agenda item for board of education meetings</td>
<td>17%</td>
</tr>
<tr>
<td>9. has integrated nutrition and physical activity goals into the overall school improvement plan</td>
<td>18%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. communicates the status of school-level implementation of LWPs to parents/families</td>
<td>16%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. has secured funds from the school system to support nutrition and physical activity priorities for students and staff</td>
<td>16%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. has secured outside/private funds to support nutrition and physical activity priorities for students and staff</td>
<td>14%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. provides opportunities for parent input on LWP implementation</td>
<td>12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. provides opportunities for student input on LWP implementation</td>
<td>11%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Presented in order from most- to least-endorsed; original item numbering is included for possible future survey administration.
Table 2. Description of Schools

<table>
<thead>
<tr>
<th>School Characteristics</th>
<th>Schools (N = 744)</th>
<th>Mean (Range) or N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of students per school</td>
<td>647.3 (63-2839)</td>
<td></td>
</tr>
<tr>
<td>Type of school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>459 (61.7%)</td>
<td></td>
</tr>
<tr>
<td>Elementary/Middle</td>
<td>53 (7.1%)</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>110 (14.8%)</td>
<td></td>
</tr>
<tr>
<td>Middle/High</td>
<td>11 (1.5%)</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>111 (14.9%)</td>
<td></td>
</tr>
<tr>
<td>Race/ethnicity of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Majority (≥75%) White Students</td>
<td>156 (21.0%)</td>
<td></td>
</tr>
<tr>
<td>Majority (≥75%) Black/African American or Hispanic/Latino Students</td>
<td>168 (22.6%)</td>
<td></td>
</tr>
<tr>
<td>Low-income status of students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Majority low-income students (≥75% free/reduced price meals)</td>
<td>190 (25.5%)</td>
<td></td>
</tr>
</tbody>
</table>

Health and/or Physical Education (45.8%), Supervisors of Instruction (20.8%), Food Services Directors (8.3%), and other leadership (25.0%). Of 1349 eligible schools, 744 completed the survey (55.2%), and most were from elementary schools (61.7%, Table 2). About one-fourth of the schools (25.5%) had majority low-income students (≥75% FARMS), and 21.6% had majority (≥75%) black/African American student body with an additional 0.9% majority Hispanic/Latino. Other racial/ethnic subgroups did not represent a majority in any school; thus, the black/African-American and Hispanic/Latino subgroups were merged into 1 variable (AA/His). The primary respondents were administrators (91.4%), followed by teachers involved in wellness activities (4.6%). When comparing schools that did not respond to the survey to schools that did respond, responding schools had higher FARMS rates than non-responding schools (51.4% versus 46.0%, t = 3.64, p < .001), a higher percentage of black/African-American students (39.4% versus 35.0%, t = 2.52, p = .012), and a lower percentage of white students (40.4% versus 43.9%).

Among the items in the School LWP Implementation scale, most were endorsed by fewer than 25% of the respondents (Table 1). The items with the greatest endorsement included exceeding school system requirements regarding physical education (32%) and physical activity (31%) and having activities for staff members that support/promote healthy eating/physical activity (31%). This scale was summarized by categorizing the sum as: “no implementation” (0 items endorsed, 36.3%), “low implementation” (1-5 items endorsed, 36.3%) and “high implementation” (6 or more items endorsed, 27.4%). In addition, as part of the school survey, nearly half of schools (44.0%) reported having a school-level SHC.

Disparities Related to School-Level LWP Implementation

The percentage of schools with majority AA/His students differed by school-level LWP implementation in bivariate models (Table 3). In a multilevel model, adjusting for clustering of schools within school systems, schools with a majority AA/His students were 56.8% less likely to be in the high implementation group compared with no implementation, with no difference observed for low versus no implementation (Table 4).

In bivariate models, the percentage of schools with majority low-income students differed by school-level LWP implementation (Table 3). In a multilevel model, schools with majority low-income students were 43.2% less likely to be in the low implementation versus no implementation, with no difference in the likelihood of high versus no implementation (Table 4).

The percent agreement between majority low-income and majority AA/His student body was 79.6%, and the mean FARMS rate in schools with a majority AA/His students was 75.7% versus 44.3% in schools without a majority AA/His students (t = 17.5, p < .001). Because of these similarities, race/ethnicity, and income were examined separately and not included together in the comprehensive model.

System-Level Factors Associated With School-Level LWP Implementation

System support for LWP implementation was associated with school-level LWP implementation in both the bivariate model (Table 3), demonstrating a mean difference in system support score by degree of LWP implementation (F = 16.6, p < .001), and the multilevel model (Table 4), such that, when adjusting for clustering of schools within school systems, schools had 10% greater likelihood of being in the low implementation group and 11% greater likelihood of being in high (compared with no implementation) for each additional item endorsed by the system.

School-perceived system support for LWP implementation was also associated with school-level LWP implementation in both the bivariate model (Table 3), demonstrating a mean difference in perception of system support by degree of LWP implementation (F = 132.9, p < .001), and in the multilevel model (Table 4), such that schools had 31% greater likelihood of being in the low implementation group and 70% greater likelihood of being in high (compared with no implementation) for each additional item endorsed.
Table 3. Bivariate Associations Between School-Level Local Wellness Policy (LWP) Implementation and School Demographics, System-Reported Support, Perceived System Support, and Presence of School Health Councils in Schools

<table>
<thead>
<tr>
<th>School-Level LWP Implementation Score</th>
<th>% of schools</th>
<th>% of schools</th>
<th>% of schools</th>
<th>χ² (p) or F (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No (0 Items Fully Implemented)</td>
<td>36.3%</td>
<td>36.3%</td>
<td>27.4%</td>
<td>—</td>
</tr>
<tr>
<td>Low (1-5 Items Fully Implemented)</td>
<td>29.8%</td>
<td>22.1%</td>
<td>15.4%</td>
<td>13.30 (.001)</td>
</tr>
<tr>
<td>High (6+ Items Fully Implemented)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Majority (≥75%) Black/African American or Hispanic/Latino Students—state provided</td>
<td>33.3%</td>
<td>21.7%</td>
<td>21.0%</td>
<td>12.25 (.002)</td>
</tr>
<tr>
<td>Majority low-income students (≥75% free/reduced price meals)—state provided</td>
<td>9.6</td>
<td>11.7</td>
<td>11.9</td>
<td>16.6 (&lt;.001)</td>
</tr>
<tr>
<td>System support for LWP implementation (mean)—system report</td>
<td>1.4</td>
<td>3.5</td>
<td>5.6</td>
<td>132.9 (&lt;.001)</td>
</tr>
<tr>
<td>Perceived system support for LWP implementation (mean)—school report</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School has a school health council (% yes)—school report</td>
<td>23.7%</td>
<td>43.6%</td>
<td>71.5%</td>
<td>102.1 (&lt;.001)</td>
</tr>
</tbody>
</table>

Table 4. Multilevel Multinomial Logistic Regression Models Adjusting for Clustering of Schools Within School Systems

<table>
<thead>
<tr>
<th>School-Level Local Wellness Policy (LWP) Implementation</th>
<th>Separate Models Likelihood (95%CI)</th>
<th>Comprehensive Model Likelihood (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Versus No Implementation</td>
<td>High Versus No Implementation</td>
<td>Low Versus No Implementation High Versus No Implementation</td>
</tr>
<tr>
<td>Majority (≥75%) Black/African American or Hispanic/Latino students—state provided</td>
<td>.779 (47, 1.30)</td>
<td>.432 (24, .78)</td>
</tr>
<tr>
<td>Majority low-income students (≥75% free/reduced price meals)—state provided</td>
<td>.568 (35, .91)</td>
<td>.627 (37, 1.07)</td>
</tr>
<tr>
<td>System support for LWP implementation (mean)—system report</td>
<td>1.10 (1.06, 1.15)</td>
<td>1.11 (1.05, 1.18)</td>
</tr>
<tr>
<td>Perceived system support for LWP implementation (mean)—school report</td>
<td>1.31 (1.22, 1.40)</td>
<td>1.70 (1.56, 1.85)</td>
</tr>
<tr>
<td>School has a school health council (% yes)—school report</td>
<td>2.71 (1.81, 4.06)</td>
<td>9.10 (5.75, 14.38)</td>
</tr>
</tbody>
</table>

*p < .05.

School-Level Factors Associated With School-Level LWP Implementation

Schools with a SHC were more likely to implement LWP compared with schools that responded no/don’t know. The bivariate model (Table 3) demonstrates a difference in the percentage of schools with a SHC by degree of LWP implementation. When adjusting for clustering of schools within school systems (Table 4), schools with a SHC were 2.71 times more likely to be in the low implementation group and 9.10 times more likely to be in the high implementation group, compared with no implementation.

System- and School-Level Factors Associated With School-Level LWP Implementation

In the comprehensive, multilevel model (Table 4), compared with the no implementation group, schools were 7% more likely to be in low implementation for each item endorsed on the system support scale; however, no relationship remained regarding the high implementation group in this completely adjusted model. School-perceived system support for LWP implementation remained associated with school-level LWP implementation, with 26% greater relative risk of being in low implementation and 63% greater relative risk of being in high implementation for each additional item endorsed, compared with no implementation. Having a school-level SHC remained associated with LWP implementation, such that schools with SHCs were 2.24 times more likely to be in low implementation and 6.81 times more likely to be in high implementation compared with no implementation. Majority low-income student body (included in the model described above) and majority AA/His student body (data not shown) were no longer associated with LWP implementation in the comprehensive model.

Moderating Effects of Income and Race/Ethnicity

Neither income nor race/ethnicity moderated the association between school-reported system support or having a SHC with school-level LWP implementation.
The association between system support and LWP implementation was marginally moderated by both income (relative risk ratio, RRR = 0.897, 95%CI: .80, 1.01, p = .070) and race/ethnicity (RRR = 0.900, 95%CI: .80, 1.02, p = .088), such that greater system support was associated with LWP implementation among schools with FARMS <75% or AA/His <75%; however, these models did not reach statistical significance.

DISCUSSION

Systems science provides a framework for conceptualizing how LWP are implemented in schools. This study contributes to the LWP implementation literature by identifying system- and school-level factors associated with LWP implementation; and finding that school and system-level factors can lessen the association between disparity enrollment and LWP implementation.

School system support was associated with LWP implementation both through the systems’ actions and perceptions by school administration. In a comprehensive model, system support was associated with low-level implementation, but not high, suggesting that system actions alone may encourage a small degree of LWP implementation, but to have a large impact, system-level actions need to be perceived by the school. In addition, the role of the school system in supporting LWP implementation may differ by the race/ethnicity and income status of the student body, based on a statistically marginal association suggesting that system support is associated with LWP implementation in schools without a majority low-income or AA/His students; however, this should be explored further. These findings support conceptualizing LWP implementation in a systems framework. Systems should be encouraged to provide support to schools that is well communicated to the school administration such that the support is perceived on the school level. In addition, schools should be encouraged to seek support from the system for wellness initiatives. The interplay between the school systems and schools, and external factors that may influence this interplay, is a key component of systems theory and underscores the bidirectional nature of LWP implementation. To understand the interplay between systems and schools with respect to LWP implementation, longitudinal studies are needed.

Schools with SHCs were more likely to implement LWPs when adjusting for clustering of schools within school systems and other factors associated with LWP implementation. This finding supports prior studies and the promotion of SHCs by national programs such as Alliance for a Healthier Generation and Action for Healthy Kids and recent legislation stemming from the HHFKA. Prior studies have identified disparities in LWP implementation with respect to race/ethnicity and income. In unadjusted models, a clear and significant pattern emerged, where the “no implementation” group had the highest percentage of schools with majority low-income or AA/His students and the “high implementation” group had the lowest percentage, demonstrating disparities related to LWP implementation. In completely adjusted models, controlling for clustering of schools within school systems and other factors associated with LWP implementation, neither race/ethnicity nor income was related to LWP implementation, suggesting that system and school-level factors, such as having a SHC or providing system support for LWP implementation, can lessen the association between disparity enrollment and LWP implementation.

Limitations

Among the strengths of this study included the statewide investigation and strong partnerships with state agencies. There are also limitations related to the cross-sectional study design and self-reported measures. Although the surveys targeted knowledgeable respondents, were based on existing measures, and included psychometric testing, validity was not examined and single respondents represented entire schools or school systems. Input from other system and school personnel or audits/observations would have allowed for the triangulation of responses and enhanced the validity of the findings, and should be considered in future studies. Another limitation is that this study focused only on schools and school systems in 1 state. There may be factors specific to Maryland that may limit generalizability to other states. In addition, the school level response rate was low, with slightly more than half of eligible schools responding to the survey. This response rate is comparable with a national study of wellness activities in elementary schools, and schools that were represented in the survey had higher proportions of low-income and black/African-American students compared with those that did not respond, indicating that schools with disparity enrollment were represented.

Conclusions

In conclusion, this study identified system- and school-level factors associated with LWP implementation. School systems and schools should be encouraged to collaborate to ensure the full implementation of LWPs through the formation of school-level SHCs supported by system-level resources that are well-communicated and accurately perceived. Because school systems and schools face competing pressures, academic institutions, and state agencies...
play an important role in assisting the implementation of LWPs. In future reauthorizations of child nutrition programs, policymakers should include resources to provide schools with expert technical assistance to support the implementation of LWPs.

**IMPLICATIONS FOR SCHOOL HEALTH**

Findings from this study support SHCs or wellness committees in schools, given the strong association with LWP implementation. One action that school systems and schools can do to support the formation of school-level SHCs is to establish a formal position for a SHC chairperson (sometimes called the “wellness champion”) within the school in a similar manner to other school leadership positions or coordinators of extracurricular activities (stipend, planning time, duty release, etc). The SHC chairperson works with the SHC to set wellness goals, develop an action plan, and report progress/accomplishments to the school, school system, and general public. A review addressing the connection between health and academics in schools came to a similar conclusion, calling for a school-level SHCs or wellness teams to assess wellness practices within schools and develop plans for creating health-promoting school environments.²⁸ In addition, findings suggest that systems should provide clearly articulated support for school-level wellness activities. Schools need to be aware of the health promotion supports provided by systems for those supports to impact students. An ideal point of communication for wellness efforts between schools and school systems would be through school-level SHC chairperson. Finally, the survey developed for this study to gather information on school-level LWP implementation was shown to have high internal consistency and demonstrated test-retest reliability and can thus be used by schools and school systems for tracking purposes and to comply with federal LWP implementation reporting guidelines.¹⁵

**Human Subjects Approval Statement**

All procedures were approved by the University and State Health Department Institutional Review Boards. Respondents reported on policies/practices within their school or school system, in the absence of personally identifying/personal information, therefore written informed consent was not required.

**REFERENCES**

School wellness team best practices to promote wellness policy implementation

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1. Introduction

Poor nutrition and inactivity can negatively impact child health and academic achievement (Edwards et al., 2011; Donnelly and Lambourne, 2011). To promote student wellness, the federal government mandated Local Wellness Policies (LWP) for healthy eating/physical activity. Best practices have been developed for wellness teams based on minimal empirical evidence. The purpose of this study is to determine, among schools with wellness teams, associations between LWP implementation and six wellness team best practices (individually and as a sum score). An online survey targeting Maryland school wellness leaders/administrators (52.4% response rate, 2012–2013 school year) was administered that included LWP implementation (17-item scale: categorized as no, low, and high implementation) and six wellness team best practices. Analyses included multiple-level multinomial logistic regression. Wellness teams were present in 311/707 (44.0%) schools, with no (19.6%), low (36.0%), and high (44.4%) LWP implementation. A sum score representing active wellness teams (mean = 2.6) included: setting healthy eating/physical activity goals (66.9%), informing the public of LWP activities (71.4%), meeting ≥4 times/year (45.8%), and having school staff (46.9%), parent (25.4%), or student (14.8%) representation. In adjusted models, goal setting, meeting ≥4 times/year, and student representation were associated with high LWP implementation. For every one-unit increase in active wellness team sum score, schools were 41% more likely to be in high versus no implementation (Likelihood Ratio = 1.41, 95% C.I. = 1.13, 1.76). In conclusion, wellness teams meeting best practices are more likely to implement LWPs. Interventions should focus on the formation of wellness teams with recommended composition/activities.

September 2006 (Child Nutrition and Women, Infants, and Children Reauthorization Act of 2004, n.d.). LWPs, which are written at the LEA-level and school-level efforts to create health-promoting school environments. For example, if a LEA's LWP includes language specifying the nutrition content of all foods sold in school and prohibiting food as a reward in the classroom, LEA-level efforts would ensure that all foods sold in schools meet the specified nutrition content and school-level efforts would ensure that food is not being used as a reward. The effectiveness of LWPs depends on the degree of school-level implementation, which can be strengthened by involvement of teachers and staff (Budd et al., 2012; Wall et al., 2012). A recent Healthy, Hunger-Free Kids Act (HHFKA) final rule (July 2016) indicates that LEAs must establish LWP leadership at the school and/or LEA level (United States Department of Agriculture, 2016a). Additionally, the U.S. Department of Agriculture (USDA) provided a Local School Wellness Policy Outreach Program for wellness team recommendations stemming from the 2016 Healthy, Hunger-Free Kids Act final rule.
Toolkit for LEAs following the final rule, which specifies the importance of forming school-based wellness teams (United States Department of Agriculture, 2016b).

Creating school-level wellness teams is endorsed by researchers (Budd et al., 2012; Murray et al., 2015; Hager et al., 2016), school wellness promotion programs (Alliance for a Healthier Generation, 2013; Action for Healthy Kids, n.d.), and federal agencies (United States Department of Agriculture, 2016b; Centers for Disease Control and Prevention, 2014). Studies have shown that schools with wellness teams report greater LWP implementation (Hager et al., 2016; Rasberry et al., 2015), including a recent study by our team. Wellness team best practices have been developed (United States Department of Agriculture, 2016b; Alliance for a Healthier Generation, 2013; Action for Healthy Kids, n.d.; Centers for Disease Control and Prevention, 2014), yet not fully evaluated. Studies are needed that go beyond examining only wellness team formation and further investigate, among schools with wellness teams, how best practices, including composition and activities, are associated with LWP implementation.

This study examines, among schools with wellness teams, the association between having a high-functioning or “active” wellness team (based on established wellness team best practices (United States Department of Agriculture, 2016b; Alliance for a Healthier Generation, 2013; Action for Healthy Kids, n.d.; Centers for Disease Control and Prevention, 2014)) and school-level LWP implementation. Specifically, the objectives are to examine associations between LWP implementation and school wellness team best practices (individually and as an active wellness team sum score).

2. Methods

An online (SurveyMonkey, Inc. Palo Alto, CA) survey was developed and emailed to school administrators or school wellness leaders in 1349 schools in all 24 Maryland public LEAs in summer 2013 (Hager et al., 2016). All procedures were approved by the University and State Department of Health Institutional Review Boards.

2.1. Study sample

The response rate was 52.4% (707/1349) for the entire survey, with 311 schools (44.0%) responding “yes” to: “my school had a school health council or wellness team responsible for implementing LWPs” during 2012–2013.

2.2. Measures

2.2.1. Active wellness team sum score

Six questions determined composition/activities of wellness teams based on best practices (Alliance for a Healthier Generation, 2013; Action for Healthy Kids, n.d.; Centers for Disease Control and Prevention, 2014), including: (i) set goals for healthy eating/physical activity; (ii) met ≥ 4 times during 2012–2013 school year; (iii) included at least 3 of the following: administrator, physical education teacher, cafeteria manager, school nurse; (iv) included a parent; (v) included a student; and (vi) mechanism in place for making wellness team activities publicly available (website, PTA meetings, or newsletter). Each was scored 0 or 1 (1 = met the criterion, 0 = did not meet criterion) and summed to generate an active wellness team sum score (higher scores = a greater number of best practices).

2.2.2. LWP implementation

LWP implementation was assessed using a 17-item scale (test-retest reliability = 0.70, Cronbach’s alpha = 0.92). The full scale has been published (Hager et al., 2016) and is available online (Maryland School Wellness Partnership, 2013). Two examples of items included in this scale are: “My school provides annual progress reports to the LEA on school-level implementation of LWPs” and “My school has provided training/education to encourage staff to model healthy eating and physical activity behaviors”. Each item was dichotomized to “fully implemented” or “not fully implemented”. This scale has been previously summed and categorized as: no (0 items), low (1–5 items), and high (6 or more items) implementation to account for skewness (Hager et al., 2016).

2.2.3. School demographics

The State Department of Education provided the percentage of students per school eligible for Free and Reduced-price Meals (FARMS), dichotomized at <75% and ≥75% as a proxy for majority low-income student body, as was done in a previous study (Hager et al., 2016).

2.3. Statistical analysis

Analyses (SPSS version 20.0) included bivariate statistics (Chi-Square analyses and ANOVA with LSD post-hoc testing) and multi-level multinomial logistic regression [adjusting for clustering within LEAs, majority low-income student body, respondent (administrator versus other) and school type (3 categories: elementary or elementary/middle, middle, and high)] and were conducted in 2016–2017.

3. Results

All Maryland LEAs (n = 24) were represented in the sample (n = 311), including elementary (66%), elementary/middle (7%), middle (14%), and high (13%) schools. These proportions are very similar to the distribution of school type in Maryland during the 2012–2013 school year (55% elementary, 7% elementary/middle, 18% middle, and 16% high). Respondents were mostly administrators (n = 280, 90%). Other respondents included teachers involved in wellness activities (n = 20, 6.4%), school nurses (n = 5, 1.6%), and other school personnel (n = 6, 1.9%). Approximately one-quarter (26%) had a majority low-income student body, 19.6% did not implement any LWP implementation items (“no implementation”), 36.0% reported “low implementation,” and 44.4% reported “high implementation”.

Most wellness teams (Fig. 1) reported setting goals for healthy eating/physical activity (66.9%) or a mechanism to inform the public (71.4%). Less than half met ≥ 4 times/year (45.8%) or had representation from key staff (46.9%), parents (25.4%), or students (14.8%). The mean active wellness team sum score, based on the best practices above, was 2.73 (SD = 1.53, range 0–6), and differed by LWP implementation category (F = 9.7, p < 0.001); specifically, schools reporting no and low implementation had lower scores than schools reporting high implementation (2.51 and 2.33 versus 3.14, p = 0.007 and p < 0.001, respectively). Adjusted models revealed for every one-unit increase in the active wellness team sum score, schools were 45% more likely to report high compared to no implementation (Table 1).

In unadjusted bivariate models (Fig. 1), each of the six wellness team best practices was independently associated, at least marginally, with LWP implementation. In separate adjusted regression models (Table 1), schools with wellness teams that set goals, met ≥ 4 times/year, or included a student were over twice as likely to be in high versus no implementation. Wellness teams including key school staff had a 98% increased likelihood of reporting the high versus no implementation. Having a mechanism to inform the public and parent representation were not associated with LWP implementation.

4. Discussion

This study describes how often wellness teams are meeting best practices and provides support for wellness team best practices (Alliance for a Healthier Generation, 2013; Action for Healthy Kids, n.d.; Centers for Disease Control and Prevention, 2014), individually and in aggregate.
School wellness team best practices have been developed by school wellness promotion programs, including Action for Healthy Kids (Action for Healthy Kids, n.d.) and Alliance for a Healthier Generation (Alliance for a Healthier Generation, 2013), and the United States government (Centers for Disease Control and Prevention, 2014). The empirical findings from this study provide support for several of these best practices, including setting goals for healthy eating/physical activity, meeting often (≥4 times/year), and representation of key school staff and students, which were each independently associated with LWP implementation. Although guidance stemming from the HHFKA LWP final rule encourages the involvement of parents on wellness teams (United States Department of Agriculture, 2016b), this was not significantly associated with LWP implementation in this analysis. Also, the HHFKA LWP final rule includes mandates on public reporting of the implementation of LWPs and practices (United States Department of Agriculture, 2016a), however public reporting was not associated with school-level LWP implementation in this analysis. It should be noted that this lack of a significant association may be due to limited variability in this sample (most wellness teams, over 70%, had a public reporting mechanism in place). Further exploration of the role of parents and/or public reporting is warranted.

Best practices were also examined in a cumulative manner through generating an active wellness team sum score. For each additional wellness team best practice, schools were 41% more likely to be in the high implementation group (compared to no implementation). This finding suggests that wellness teams meeting a greater number of best practices are more likely to implement LWPs.

Finally, the prevalence of meeting best practices varied. Most wellness teams set healthy eating/physical activity goals and informed the public of activities, yet less than half reported meeting often or involving key school staff. Less than one-third reported parent representation and few schools included students on their wellness teams. This variability provides specific focus areas for future interventions and provision of technical assistance. Among schools with wellness teams, nearly 20% reported that none of the LWP items was fully implemented in their schools. Exploring wellness team actions using a longitudinal design, rather than cross-sectional reporting as was done in this study, would provide additional information on the influence of wellness team formation, composition, and actions on LWP implementation over time.

In addition to the cross-sectional design, the study is limited by the single respondent per school and the reliance on reported implementation (versus a direct measure). Future studies may consider multiple respondents and/or audits. Also, surveys did not include all communication mechanisms (i.e., social media) used by some schools to inform the public. The LWP implementation scale threshold for degree of implementation (no, low, high) are somewhat arbitrary, however this scale was systematically developed and tested for reliability in a prior study (Hager et al., 2016) that used the same thresholds. Future studies should also consider examining the LEA policies regarding wellness team formation and activities, as this may play a role. Strengths of this study include the novel approach to describing wellness team practices beyond only presence of wellness teams. State-wide school representation, including over a quarter with a majority low-income student body, is also a strength; however, generalizability outside of Maryland may be limited.

5. Conclusions

In conclusion, this study identified wellness team best practices associated with LWP implementation, supporting the allocation of resources from LEAs and schools to not only form wellness teams, but sustain wellness teams that work toward meeting best practices. With the final rule passage, future studies are needed to monitor and provide evidence for factors that optimize the contribution of active wellness teams to LWP implementation.

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Confl icts of interest

None.

Transparency document

The Transparency document associated with this article can be found, in online version.

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References


Wellness Committee Status and Local Wellness Policy Implementation Over Time

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Introduction: Local Wellness Policies are school-district documents containing guidelines for schools to promote nutrition/physical activity. In cross-sectional studies, schools with wellness committees are more likely to implement Local Wellness Policies. This prospective cohort study examines associations between wellness committee status over time and change in Local Wellness Policy implementation using a biennial, statewide survey.

Methods: School administrators completed surveys following the 2012–2013 (Wave I) and 2014–2015 (Wave II) school years, including a 17-item Local Wellness Policy implementation scale. Four wellness committee status categories included established (both Waves, 35%); new (Wave II only, 22%); discontinued (Wave I only, 13%); and never (neither Wave, 30%). Linear mixed models conducted in 2017–2018 compared LWP implementation change across status groups, accounting for clustering and school characteristics.

Results: Of 1,333 schools, 701 had Wave I data (53%); 748 Wave II (56%); and 441 both (33%). Schools were 69% elementary, 56% suburban, and 35% and 28% had majority (≥75%) African American/Hispanic or low-income student body, respectively. At Wave I, schools with wellness committees (established/discontinued groups) had higher Local Wellness Policy implementation (mean=32.0, SD=11.5, and mean=28.3, SD=11.4, respectively) compared with schools without committees (never/new: mean=15.4, SD=10.7 and mean=17.6, SD=11.4, respectively, F=64.9, p≤0.001). Over time, never and established groups maintained low and high Local Wellness Policy implementation, respectively. Compared with never, new committees increased implementation by 9.9 points (SE=1.8, p<0.001), and discontinued committees decreased by 11.2 (SE=2.1, p<0.001).

Conclusions: Forming and maintaining wellness committees encourages Local Wellness Policy implementation and should be a recommended strategy for school wellness promotion.

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INTRODUCTION

Childhood obesity is a significant public health concern.1 Approximately one fifth of American children are obese,2 increasing their risk of type 2 diabetes, cardiovascular disease, bone and joint problems, poor self-esteem,3,4 and adult obesity.5 Schools are often targeted for obesity prevention interventions because children spend much of their day in school, and up to 50% of a child’s daily calories are consumed there.6 In order to create environments more conducive to healthy eating and physical activity at school, the federal government enacted legislation in 2004 requiring all school districts (also known as Local Education Agencies) that participate in federal meal programs to create Local Wellness Policies (LWPs), written documents containing guidelines for nutrition education and promotion, physical activity, and wellness activities, with

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the ultimate goal of improving child health outcomes.\textsuperscript{7} Research examining the impact of LWP implementation on student health is limited; however, LWPs were rated as "promising" and "emerging" strategies for childhood obesity prevention by a new policy review system.\textsuperscript{8}

Although nearly all school districts (97\%) have LWPs in place and LWP content has improved over time,\textsuperscript{9,10} recent evidence suggests that insufficient support structures are in place for implementation at the school level.\textsuperscript{10} In 2016, a final rule stemming from the 2010 Healthy, Hunger-Free Kid Act (HHFKKA) attempted to address this implementation gap by enhancing LWP requirements to include increased public involvement in LWP development, stakeholder participation in implementation and periodic review of the LWP, and public notification regarding content, implementation, and compliance in schools.\textsuperscript{11} School districts had to be in compliance by June 30, 2017.

Although there is limited literature on factors associated with school-level LWP implementation, several cross-sectional studies have reported that schools with school-level health councils or wellness committees engage in greater LWP implementation, such as enhanced nutritional quality of vending machines.\textsuperscript{12,13} Longitudinal studies are needed to understand the impact of wellness committee status on LWP implementation over time (status is defined as the extent to which schools form a new wellness committee over time or lose their wellness committee).

Strong measures are needed to reliably capture LWP implementation. Several tools have been developed, including surveys\textsuperscript{12,14,15} and interviews.\textsuperscript{16} In 2012, the authors, in partnership with the Maryland departments of education and health, developed a survey based on the School Nutrition Policies and Practices Survey\textsuperscript{15}; Maryland Wellness Policy Implementation Checklist (developed by the department of education); Alliance for a Healthier Generation healthy schools program framework in place in 2012\textsuperscript{17}; and the HHFKKA.\textsuperscript{18} The tool included 17 items specific to school-level nutrition and physical activity practices typically outlined in a LWP (e.g., monitoring and reporting, staff wellness, family involvement, rewarding with food, and recess). To date, there is no gold standard with which to compare the tool for criterion-related validity, but the scale had acceptable test–retest reliability ($r = 0.70$) and internal consistency (Cronbach’s $\alpha = 0.92$).\textsuperscript{12} This scale has been implemented in research studies to describe factors associated with LWP implementation\textsuperscript{12} and wellness committee best practices\textsuperscript{19} and to examine the impact of school-level approaches to enhancing LWP implementation.\textsuperscript{20}

The Maryland Wellness Policies and Practices Project (MWPPP) supports statewide LWP implementation through continuous quality improvement, including administration of biennial school-level surveys, which include the 17-item scale described above. The MWPPP provides a longitudinal data source to understand the impact of wellness committee status on LWP implementation. This study uses survey data from the 2012–2013 and 2014–2015 school years to examine the relationship between wellness committee status over time and LWP implementation. Schools that never had a wellness committee are hypothesized to maintain a low level of LWP implementation, whereas schools with established committees are hypothesized to maintain a high level of LWP implementation. Compared with schools that never had a wellness committee, schools with new wellness committees are hypothesized to have greater improvement in LWP implementation and schools that discontinue their wellness committees are hypothesized to experience a decline in LWP implementation.

\section*{METHODS}

\subsection*{Study Sample}

This study employed a prospective cohort study design. The MWPPP school survey was developed in partnership with the state departments of education and health to examine actionable school-level LWP implementation constructs. The survey was distributed via e-mail to the individual “responsible for supporting implementation of wellness policies at the school, preferably an administrator.” All procedures were approved by the university and state department of health IRBs. As respondents reported on policies/practices within their school and did not provide personally identifying information, written informed consent was not required.

Maryland public schools in all 24 school districts were included with part-time, alternative, exclusively prekindergarten, or exclusively special education schools excluded. The survey was distributed in the summer 2013 (Wave I) and summer 2015 (Wave II). Respondents were asked to reflect on the previous school year when responding. Only schools with complete survey data at both waves were included in the analysis.

\subsection*{Measures}

School-level LWP implementation was assessed using the previously described 17-item scale.\textsuperscript{12,19,20} Scale items are shown in Table 1, with the full survey available online.\textsuperscript{21} All items were assessed using a 4-item Likert scale, coded as follows: fully in place=3 points; partially in place=2 points; under development=1 point; not in place/don’t know=0 points. A sum score was calculated (maximum possible score=51) for each school at each wave.

The MWPPP school survey measured wellness committee presence at each wave with one item: “My school had a School Health Council or wellness team responsible for implementing LWPs in place during the 20XX–20XX school year,” with response options yes, no, and don’t know. The responses were dichotomized: present=yes versus not present=no/don’t know. Wellness committee status was determined by responses at Waves I and II.
Table 1. Local Wellness Policy (LWP) Implementation Items (Reprinted With Permission[12] and Available Online[21]) Used to Generate a Sum Score, With Wave I Responses

<table>
<thead>
<tr>
<th>My school . . .</th>
<th>Implementation categories[a]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fully in place, %</td>
</tr>
<tr>
<td>1. Monitors implementation of the LWP</td>
<td>28.3</td>
</tr>
<tr>
<td>2. Provides annual progress reports to the school system on school-level implementation of LWPs</td>
<td>20.9</td>
</tr>
<tr>
<td>3. Communicates the status of school-level implementation of LWPs to school staff</td>
<td>27.4</td>
</tr>
<tr>
<td>4. Communicates the status of school-level implementation of LWPs to parents/families</td>
<td>15.9</td>
</tr>
<tr>
<td>5. Provides opportunities for parent input on LWP implementation</td>
<td>11.8</td>
</tr>
<tr>
<td>6. Provides opportunities for student input on LWP implementation</td>
<td>10.4</td>
</tr>
<tr>
<td>7. Has secured funds from the school system to support nutrition and physical activity priorities for students and staff</td>
<td>15.9</td>
</tr>
<tr>
<td>8. Has secured outside/private funds to support nutrition and physical activity priorities for students and staff</td>
<td>15.9</td>
</tr>
<tr>
<td>9. Has integrated nutrition and physical activity goals into the overall school improvement plan</td>
<td>20.4</td>
</tr>
<tr>
<td>10. Exceeds school system requirements regarding nutrition guidelines for foods served outside of the national school breakfast and lunch programs (a la carte, vending, etc.)</td>
<td>19.7</td>
</tr>
<tr>
<td>11. Exceeds school system requirements regarding nutrition/health education</td>
<td>22.0</td>
</tr>
<tr>
<td>12. Exceeds school system requirements regarding physical education</td>
<td>33.6</td>
</tr>
<tr>
<td>13. Exceeds school system requirements regarding physical activity (physical activity breaks during the day, active recess, etc.)</td>
<td>33.3</td>
</tr>
<tr>
<td>14. Partners with community organizations to support and promote healthy eating and physical activity among students</td>
<td>24.9</td>
</tr>
<tr>
<td>15. Has activities involving families to support and promote healthy eating and physical activity among students</td>
<td>21.8</td>
</tr>
<tr>
<td>16. Has activities for staff members that support and promote healthy eating and physical activity</td>
<td>32.7</td>
</tr>
<tr>
<td>17. Has provided training/education to encourage staff to model healthy eating and physical activity behaviors</td>
<td>20.6</td>
</tr>
</tbody>
</table>

*aEach item coded as follows: 3=fully in place; 2=partially in place; 1=under development; 0=not in place/don’t know.*

established = wellness committee present at Waves I and II; discontinued = Wave I only; new = Wave II only; and never = absent at Waves I and II.

School demographics were provided by the state. School size was categorized due to skewness (skewness = 2.1, kurtosis = 6.2) into small (≤400 students); medium (401–800 students); and large (>801 students). School type was examined using three categories: elementary or elementary/middle, middle or middle/high, and high. Racial/ethnic composition of the student body was examined as predominantly African American or Hispanic (≥75%) versus not. Percentage of students eligible for free and reduced-price meals, a proxy for majority low-income student body, was subdivided into three categories <10%, 40%–75%, and ≥75%. Geographic location was assigned based on National Center for Educational Statistics criteria, with five root definitions ranging from large city to rural. For this analysis, the five root definitions were collapsed into three categories: rural/town, suburban, city/urban.

Statistical Analysis

Analyses were performed using SPSS statistical software, version 22, and Stata, version 12, in 2017–2018. School demographic characteristics were examined in the full sample and then compared across wellness committee status categories using chi-square tests. School characteristics were examined in association with LWP implementation score using t-tests or ANOVA with Tukey’s post hoc tests when significant differences were found. LWP implementation mean scores at each timepoint were plotted by wellness committee status to visually portray changes over time.

A linear mixed model with LWP implementation as the dependent variable was performed, adjusting for school characteristics related to LWP implementation at baseline, with random intercepts at the school and district level to account for clustering of repeated measures within schools and clustering of schools within districts. The interaction between time x wellness committee status was included, with "never" as a reference group. The change in LWP implementation over time for each category of committee
status was estimated. The difference in change over time for each committee was compared with never.

RESULTS

Of 1,333 schools that were eligible and present at both Wave I and Wave II, 733 schools completed the survey at Wave I (55.2%) and 799 at Wave II (59.2%), with 441 schools at both Waves I and II (34.2% of the total eligible; Appendix Figure 1). There were no differences in school demographics between those included in the analysis (n=441) compared with those excluded (n=892) with respect to race/ethnicity of student body and geographic location. Included schools were more likely to have a low-income student body (27.7%, with ≥75% free and reduced-price meals vs 20.2% among those excluded, chi-square=11.2, p=0.004). Compared with those that responded to Wave I only (n=260), those that responded at both Waves I and II (n=441) had a higher Wave I LWP implementation score (23.3 vs 21.1, t=2.2, p=0.030) and were more likely to have a wellness committee at Wave I (47.8% vs 37.7%, chi-square=6.8, p=0.009).

School demographics are described in Table 2. Most schools were elementary or elementary/middle (68.5%), and more than half were located in a suburban geographic location (56.2%). About one third of schools (35.4%) had a majority African American or Hispanic student body, and more than a quarter (27.7%) had a majority low-income student body. About a third of schools (35%) belonged to the established wellness committee group, with 22.2% to the new group, 13.2% to the discontinued group, and 29.9% to the never group (Table 2).

A significant relationship was found between wellness committee status and geographic location (p<0.01); race/ethnicity of students (p<0.05); and low-income status of students (p<0.05; Table 2). Schools with established wellness committees were more likely to be in a suburban locale. Schools in the discontinued category were more likely to have both a predominantly African American/Hispanic and low-income student body.

No significant differences in LWP implementation at baseline were found by number of students, student body race/ethnicity, low-income student body, or geographic location (p>0.10). As significant differences were found by school type based on pilot test, with lower scores (mean=18.0, SD=11.7) among high schools compared with elementary/elementary middle (mean=24.4, SD=13.6) and middle/middle high (mean=23.5, SD=13.6) schools, school type was included as the covariate.

Significant differences in LWP implementation at Wave I were identified across wellness committee categories (F[3, 437]=64.9, p<0.001; Table 3). From Tukey’s honestly significant difference post-hoc testing, schools with wellness committees reported greater implementation (established mean=32.0, SD=11.5, and discontinued mean=28.3, SD=11.4) than schools without committees (never mean=15.4, SD=10.7, and new mean=17.6, SD=11.4). No pairwise differences were found between established/discontinued or new/never.

Figure 1 depicts the raw change in LWP implementation by wellness committee status. The linear mixed model (Table 3) determined that, when adjusting for school type, compared with schools that never had a wellness committee, schools with new committees increased LWP implementation by 9.9 points (b=9.9, SE=1.8, p<0.001), whereas schools with discontinued committees decreased LWP implementation by 11.2 points (b=−11.2, SE=2.1, p<0.001). No significant differences were identified in change in LWP implementation score among schools with never and established wellness committees.

DISCUSSION

This longitudinal study of Maryland public schools demonstrates the importance of school-level wellness committees for implementation of federally mandated LWPs. Compared with schools that reported never having a wellness committee, schools that built a new wellness committee demonstrated an improvement in LWP implementation, whereas schools that discontinued their wellness committee showed a decline in LWP implementation. Schools with an established wellness committee maintained a high level of LWP implementation over time, with a stable trajectory.

This study adds to several cross-sectional studies that have shown that schools with wellness committees or wellness coordinators report higher LWP implementation, compared with schools that do not have a wellness committee. In addition, this study supports recommendations by the U.S. Department of Agriculture national school-based health promotion programs, such as Alliance for a Healthier Generation and Action for Healthy Kids, and the HHFKA 2017 final rule that schools and school districts allocate resources and provide sustained support for wellness committees to aid with LWP implementation.

The longitudinal aspect of this study allowed for an examination of the differential impact of building, maintaining, or discontinuing a wellness committee over time. Schools with new wellness committees experienced
Table 2. Maryland School Characteristics at Wave I, 2012–2013 School Year (n=441)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Schools, n (%)</th>
<th>Wellness committee status</th>
<th>LWP implementation score (Wave I)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>New (22.2)</td>
<td>Established (34.7)</td>
</tr>
<tr>
<td>Maryland, 2012–2013 school year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students/school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small (≤400)</td>
<td>102 (23.1)</td>
<td>18 (17.6)</td>
<td>41 (40.2)</td>
</tr>
<tr>
<td>Medium (401–800)</td>
<td>245 (55.6)</td>
<td>55 (22.4)</td>
<td>85 (34.7)</td>
</tr>
<tr>
<td>Large (≥801)</td>
<td>94 (21.3)</td>
<td>25 (26.5)</td>
<td>27 (28.7)</td>
</tr>
<tr>
<td>Type of school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>302 (68.5)</td>
<td>61 (20.2)</td>
<td>116 (38.4)</td>
</tr>
<tr>
<td>Middle</td>
<td>73 (16.6)</td>
<td>18 (24.7)</td>
<td>22 (30.1)</td>
</tr>
<tr>
<td>High</td>
<td>66 (15.0)</td>
<td>19 (28.8)</td>
<td>15 (22.7)</td>
</tr>
<tr>
<td>Race/ethnicity of student body</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥75% African American/Hispanic</td>
<td>156 (35.4)</td>
<td>25 (16.0)</td>
<td>54 (34.6)</td>
</tr>
<tr>
<td>&lt;75%</td>
<td>285 (64.6)</td>
<td>73 (25.6)</td>
<td>99 (34.7)</td>
</tr>
<tr>
<td>Low-income student body(^a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;40%</td>
<td>164 (37.2)</td>
<td>35 (21.3)</td>
<td>64 (39.0)</td>
</tr>
<tr>
<td>40%–74.9%</td>
<td>155 (35.1)</td>
<td>35 (22.6)</td>
<td>55 (35.5)</td>
</tr>
<tr>
<td>≥75%</td>
<td>122 (27.7)</td>
<td>28 (6.3)</td>
<td>34 (27.9)</td>
</tr>
<tr>
<td>Geographic location</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>98 (22.2)</td>
<td>21 (21.4)</td>
<td>22 (22.4)</td>
</tr>
<tr>
<td>Suburban</td>
<td>248 (56.2)</td>
<td>53 (21.4)</td>
<td>92 (37.1)</td>
</tr>
<tr>
<td>Rural or town</td>
<td>95 (21.5)</td>
<td>24 (25.3)</td>
<td>39 (41.1)</td>
</tr>
</tbody>
</table>

\(^a\)Wellness Committee Status over two waves of data collection (Wave I 2012–2013 school year and Wave II 2014–2015 school year): “new” = Wave II only; “established” = wellness committee at Waves I and II; “discontinued” = Wave I only; “never” = absent at Waves I and II.

\(^b\)Local wellness policy (LWP) implementation score was assessed using a 17-item scale. A sum score was calculated (maximum possible score=51) for each school.

\(^c\)% eligible for free/reduced priced meals.
Table 3. Change in Local Wellness Policy (LWP) Implementation Score by Wellness Committee Status and the Difference in the Changes (n=441)

<table>
<thead>
<tr>
<th>Wellness committee status</th>
<th>Wave I (2012–2013), Mean±SD</th>
<th>Wave II (2014–2015), Mean±SD</th>
<th>Estimated change in LWP implementation score over time</th>
<th>Estimated difference in change in LWP implementation score over time (compared to “never”)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SE)</td>
<td>p-value</td>
<td>Mean (SE)</td>
<td>p-value</td>
</tr>
<tr>
<td>Never</td>
<td>15.4 ± 10.7</td>
<td>1.5 (1.2)</td>
<td>0.200</td>
<td>-</td>
</tr>
<tr>
<td>New</td>
<td>17.6 ± 11.4</td>
<td>11.4 (1.4)c,d</td>
<td>&lt;0.001</td>
<td>9.9 (1.8)</td>
</tr>
<tr>
<td>Established</td>
<td>32.0 ± 11.5</td>
<td>1.3 (1.1)d,e</td>
<td>0.248</td>
<td>-0.2 (1.6)</td>
</tr>
<tr>
<td>Discontinued</td>
<td>28.3 ± 11.4</td>
<td>-9.7 (1.8)d,e</td>
<td>&lt;0.001</td>
<td>-11.2 (2.1)</td>
</tr>
</tbody>
</table>

aWellness committee status over two waves of data collection (Wave I 2012–2013 school year and Wave II 2014–2015 school year): “new”=Wave II only; “established”=wellness committee at Waves I and II; “discontinued”=Wave I only; “never”=absent at Waves I and II.
bLocal wellness policy (LWP) implementation score was assessed using a 17-item scale. A sum score was calculated (maximum possible score=51) for each school.

Significant differences were found in the changes over time:
cComparing established to new ($\chi^2=10.2$, SE=1.7, p<0.001).
dComparing discontinued to new ($\chi^2=21.2$, SE=2.2, p<0.001).
eComparing discontinued to established ($\chi^2=11.0$, SE=2.1, p<0.001).

Figure 1. LWP implementation over time by school wellness committee status category.
LWP, local wellness policy.
findings suggest the need for schools and districts to allocate adequate time and resources for committees to continue to set and accomplish LWP-related goals.

Future, mixed methods studies can expand this work by investigating how committees function (e.g., to what extent they meet best practice recommendations regarding composition, meeting frequency, goal setting), as well as to understand more about the barriers that may prevent further improvements in LWP implementation. A recent cross-sectional analysis indicated that committees that meet best practice recommendations are more likely to implement LWPs compared with committees that do not meet these recommendations.\textsuperscript{18} Additionally, a recent randomized intervention study found that training teachers to be wellness champions and lead school-based wellness committees was effective at enhancing LWP implementation via the formation of committees that met best practice recommendations.\textsuperscript{20} Investigation of the status of these best practices over time can provide a more mechanistic understanding of how committees increase LWP implementation and inform allocation of resources for wellness committees to form, remain active, and continue to accomplish goals.

High schools had a lower LWP implementation score at Wave I. Given that the majority of school-based obesity prevention interventions have focused on elementary schools, with fewer targeting high schools, this finding aligns well with the current literature.\textsuperscript{28,29} Because of small cell sizes for wellness committee status, a stratified analysis was not possible to examine if findings differed by school type. Future studies should focus on high schools to further understand barriers to LWP implementation.

Schools that discontinued their wellness committee experienced a decline in LWP implementation over time compared with schools that never had a wellness committee. Although understanding the organizational reasons for the loss of a wellness committee is beyond the scope of this study, this study did find that schools with a majority low-income or racial/ethnic-minority student body were more likely to lose their wellness committees. Prior studies have similarly demonstrated disparities in LWP implementation among schools with a predominantly minority race/ethnicity student body,\textsuperscript{10,20} suggesting a need for further longitudinal exploration of barriers, such as lack of technical support, financial resources, time, resources, staff turnover, or coordination of policy,\textsuperscript{14,30—32} that may specifically affect the formation and maintenance of wellness committees in under-sourced schools. Understanding specific barriers in schools serving at-risk students should be prioritized.

The current study uniquely contributes to the literature on the relationship between wellness committee presence and LWP implementation in schools by providing longitudinal evidence. Additionally, it uses a large, statewide sample and a reliable and comprehensive measurement tool (MWPPP survey).

Limitations
A primary limitation involves the potential for selection bias. The outcome variable required responses at both Wave I and Wave II; thus, listwise deletion was employed and schools that responded to only one survey were excluded. After examining possible biases, using the data available, schools included in the analysis were more likely to have a predominantly low-income student body, on average, compared with those who either responded to the survey only once or not at all. Also, schools that did not respond a second time had a lower average LWP implementation score at Wave I and were less likely to have a wellness committee. Other school demographic differences were not detected based on inclusion or exclusion in the analysis. Taken together, these findings may limit generalizability. Additionally, the excluded schools may experience a pattern of LWP implementation over time that differs from the four groups described in this analysis. Future studies with more than two time points could employ more sophisticated modeling to reduce bias.

Additional limitations include having a single respondent per school. Also, the 17-item scale assessing LWP implementation, although shown to be reliable, has not been validated. To date, there is no gold standard for comparison. Including additional respondents and supplemental measures (e.g., audits/observations) would allow for the measurement of consistency among respondents and may increase validity. Although this scale is also intended to be comprehensive and examine the multiple dimensions of LWP implementation, it does limit the ability to focus on specific LWP areas. Additionally, as the exact time point that wellness committees were formed or discontinued was not identified, it is not possible to fully align these points with the time frame during which LWPs were implemented. Future studies would benefit from more precise timeline measurements. A more detailed exploration of wellness committee characteristics would also provide additional context for understanding the supports schools need to maintain wellness committees over time. In addition, a mixed methods approach could capture contextual factors that may aid in understanding why schools built, maintained, or lost their wellness committees. Finally, this study did not examine student outcomes. It is imperative for future studies to be conducted that can examine the impact of LWP implementation on student health and academic outcomes.
CONCLUSIONS

These findings add a longitudinal dimension to the emerging body of literature exploring the characteristics of wellness committees and their impact on LWP implementation, underscored by the importance of adopting and maintaining a wellness committee over time. Implications include laying the groundwork for ongoing evidence-based guidance to schools in order to achieve full, sustainable LWP implementation. Study findings could be used by school districts and schools to advocate for resources and funding for school-based wellness committees to support LWP implementation. This study is timely in light of the HHFKA final rule, which requires school districts or schools to establish wellness policy leadership to ensure LWP compliance. As the ultimate goal of LWP implementation is to improve student outcomes, future research should examine wellness committee formation and stability as a mechanism for enhancing LWP implementation and the role of these efforts in student outcomes.

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SUPPLEMENTAL MATERIAL

Supplemental materials associated with this article can be found in the online version at https://doi.org/10.1016/j.amepre.2018.10.023.

REFERENCES


