Advancing Key Actions to Enhance Physical Activity Surveillance in the United States

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Introduction

Expert panels working over the last several years have identified numerous ways in which surveillance of physical activity in the U.S. should be expanded and enhanced. The 2019 National Academies of Sciences, Engineering, and Medicine (NASEM) consensus report, *Implementing Strategies to Enhance Public Health Surveillance of Physical Activity in the United States*,[1] recommended specific actions for enhancing physical activity surveillance in four content areas: children, health care, workplaces, and community supports for physical activity.

The next step in the overall process of improving physical activity surveillance was to take the actions outlined in the 2019 NASEM report. To support this process, the Physical Activity and Health Innovation Collaborative (PA IC) (an ad hoc activity associated with NASEM's Roundtable on Obesity Solutions), the National Physical Activity Plan (NPAP), and the Physical Activity Alliance, with which NPAP is now affiliated, formed a partnership. Representatives from the groups created an oversight committee, and the committee established four working groups, one for each of the content areas. Each of the four working groups included members drawn from the Sector Committees of the National Physical Activity Plan, the PA IC, and others with expertise related to the topics.

The role of the working groups was to review the 2019 NASEM report, identify actions that could be accomplished within one year (by summer 2021), and then develop and execute plans for completing the selected actions.

This paper summarizes each project undertaken by the four working groups (children, health care, workplaces, and community supports for physical activity). The rationale for selecting the projects, the specific outcome(s) of each project, and recommended next steps are presented below.

Children

The Children working group discussed several of the recommendations from the 2019 NASEM report. After sharing various ideas, the group coalesced around four potential topics and split into subgroups in order to more efficiently address the topics. The working group recognized that the subgroups were exploring the viability of these topics, and that some ideas might not come to fruition. Of the four potential topics, three were handled solely by the Children working group. The fourth topic resulted in a collaboration with the Community

Supports for Physical Activity working group, and that group took the lead on addressing the topic. Although a description of that effort is provided in a later section of this paper, this section includes a description of the process undertaken to get to that point, as the group believes that reporting on the process will provide useful information in the future for those interested in advancing that area.

FitnessGram Data for Enhanced Surveillance of Physical Fitness in Schools

Surveys have assessed physical fitness in U.S. youth since the mid-20th century. However, both the intervals between surveys and the study procedures have varied greatly. The President's Council on Physical Fitness and Sports conducted large-scale surveys of physical fitness in youth in 1957 and 1965. Most of the items included in those surveys assessed elements of muscular strength and power. In the mid-1980s, two surveys of health-related physical fitness were conducted by the Office of Disease Prevention and Health Promotion in the U.S. Department of Health and Human Services (HHS). One of those surveys assessed fitness in middle and high school students; the other assessed elementary school students. The most recent national survey of physical fitness in U.S. children and youth was conducted in 2012 as a special, one-time study of the National Health and Nutrition Examination Survey (NHANES). That study included assessments of both physical fitness and physical activity behavior. At present there is no ongoing surveillance system for monitoring physical fitness in U.S. children and youth. However, physical fitness testing is widely conducted in U.S. schools, and the predominant test protocol is FitnessGram. Because FitnessGram data are collected annually in U.S. schools, this working group proposed that procedures be developed for making use of those data as a means of regularly surveying physical fitness in children and youth. A subgroup of the Children working group engaged leaders from the Cooper Institute, creator of FitnessGram, in discussions about potential collaboration with the national FitnessGram program. The Cooper Institute staff expressed interest in the proposed surveillance applications, and they contributed to ongoing discussions about the project. While the Cooper Institute manages an extensive database of existing FitnessGram users, the subgroup decided to focus on establishing a prospective surveillance system in order to ensure that schools actively elect to allow their data to be used for this project (and potentially for ongoing surveillance).

Subgroup members conducted exploratory work to examine the representativeness of the FitnessGram sample and to test possible sampling frames for recruitment. Descriptive analyses of the FitnessGram dataset identified 1,081 districts and 6,833 schools in the system. The dataset includes districts from every state, with large differences in district size. Merging the data with educational records from the National Center for Education Statistics (NCES) enabled the subgroup to stratify schools by several key variables. The majority were elementary schools (61%), with fewer middle schools (17%) and high schools (22%). Stratification by the NCES 'Locale' variable revealed good diversity with respect to Urbanicity (City: 40%; Suburb: 23%; Rural: 37%). Stratification by school-level percentage of Free and Reduced Lunch status (Low: > 70%; Mod: 30 - 70%; and High: < 30%) yielded good diversity by socio-economic status (SES) (Low: 29%; Mod: 41%; High: 30%). While the dataset is not nationally representative, it reflects good diversity with respect to school and community variables. The group considered several sampling strategies, and recommended using school as the primary sampling unit and establishing a stratified simple random sample, with schools stratified into 45 strata defined by urbanicity (3 levels), SES (3 levels), and region (5 levels). The plan to capture balanced samples across regions will make it possible to compare regional differences and their interaction with Urbanicity and SES. The ability to stratify by region will also enhance the reweighting of data and make it more nationally representative.

The concept of a 'participatory research' approach was proposed and endorsed as the most practical and effective way to enroll schools and to ensure the quality of the data collected through the system. Schools/districts would opt into the project as a professional development opportunity to build capacity for effective use of FitnessGram in their physical education programming. Formalized agreements would document the willingness of schools to participate in training sessions and to submit de-identified data on physical activity and physical fitness through the software. The training is a critical component because it will help to ensure the quality of the data being collected and compiled through the system.

The sub-group proposed concepts and timelines to conduct the project, and conceptualized a one-year cycle to enable recruitment, training, and data collection through schools that opt into the project. New schools would be added over time to enable the project to grow and to be sustained. Plans are still evolving concerning the process of recruiting and enrolling schools, but the Cooper Institute has considerable expertise in conducting similar

participatory projects (e.g., NFL PLAY 60 FitnessGram Partnership Project). Thus, there is a system in place to support training and data collection at a national level. Evolving challenges with COVID-19 led to the decision to hold off on planning, but the preliminary work supports the feasibility and practicality of coordinating a national youth fitness surveillance system through the FitnessGram program using participatory research models.

Next steps:

- In the short term, work towards procuring funding to conduct this project.
- In the long term, publicize the effort and incentivize school districts to take part.
- In the long term, work across government sectors (e.g., public health and education) to implement a plan to conduct surveillance regarding fitness.

U.S. Department of Agriculture's Nutrition-focused Surveys and the Opportunity for Physical Activity Surveillance in Schools

Because the U.S. Department of Agriculture (USDA) collects nutrition-related data from schools, another subgroup of the Children working group explored the potential to utilize existing USDA-sponsored surveillance programs to collect physical activity data. The sub-group met with Kelley Scanlon and Constance Newman at USDA to explore existing programs with respect to physical activity surveillance and identified two nationally representative surveys that collect physical activity data: The School Nutrition and Meal Cost Study (SNMCS) and the Study of Nutrition and Activity in Childcare Settings (SNACS). Both surveys collect data on physical activity, in addition to nutritional behavior and policies. The subgroup also followed up with researchers at the National Cancer Institute (NCI) who have an interest in physical activity in schools and connected them with the USDA to access the data from these surveys.

All of the reports related to these surveys can be found on the following website: https://www.fns.usda.gov/research-analysis. The School Nutrition and Meal Cost Study, last released in April 2019, is on this site, along with earlier School Nutrition and Dietary Assessment (SNDA) studies in the series: https://www.fns.usda.gov/school-nutrition-and-meal-cost-study. A special issue of *Nutrients* entitled "The School Nutrition and Meal Cost Study-I: Findings Related to Improving Diet Quality, Weight, and Disparities in U.S. Children" was published in 2021 and includes a collection of papers based on data from the school nutrition and meal cost study – https://www.mdpi.com/journal/nutrients/special_issues/school_nutrition_US.

However, those papers did not present data on the physical activity variables. The current plan is for the NCI researchers to publish a manuscript that will assess one aspect of the SNMCS physical activity data, adherence to recess guidelines in the U.S. (set by the Centers for Disease Control and Prevention [CDC]), with a discussion of implications for future surveillance efforts. Few surveillance efforts currently assess policies related to school recess.

Next steps:

- Publicize the availability of data from SNMCS and SNACS among physical activity researchers and ensure that these studies appear in online catalogs of available physical activity surveillance data.
- Work with physical activity researchers to facilitate access to these publicly available data and scientists at USDA who may be interested in collaborating on this work.

Physical Activity Surveillance in Early Childcare Education Settings

Interest in physical activity in early childcare education settings has increased over the past decade, and the Physical Activity Guidelines for Americans now include guidelines for preschool-age children. Early childcare settings in the U.S. serve large numbers of young children, but surveillance efforts in this population have been minimal to date. A subgroup of the Children working group discussed several potential activities, including selecting an existing survey to which physical activity questions could be added, planning a meeting of experts to discuss surveillance efforts, creating a set of questions to use in surveillance efforts, and creating a plan to undertake policy surveillance. Given the project's time constraints, the subgroup decided that many of these efforts could not be completed in one year. Instead, the subgroup decided to write a commentary highlighting the paucity of surveillance efforts in early childcare settings at both the individual and policy levels. The commentary discusses how little information is being collected regarding physical activity in early childcare education settings, describes known data sources, and emphasizes how little information is available at the individual level (i.e., more information is available at the policy level). Initially, the subgroup considered submitting the manuscript to *Pediatrics*; however, after consulting with pediatrician Julie Lumeng, M.D., group members decided that a public health audience was more appropriate. After consultation with an editorial board member (Jim Sallis, Ph.D.), the group plans to submit the paper as a Current Issue to the *American Journal of Preventive Medicine*.

Next steps:

- In general, undertake efforts to improve individual-level surveillance efforts in early childcare settings.
- In the short-term, the subgroup encourages the CDC to continue to implement and augment the Childcare Survey of Activity and Wellness (C-SAW), which will advance physical activity policy surveillance.
- In the long-term, convene a meeting of experts at which they can discuss unique aspects of physical activity in this age group and begin to create a standard set of physical activity questions that could be administered across several existing surveys.

Assessment of Community Events and Programming for Increasing Physical Activity

Very few surveillance efforts have examined community events (e.g., sports) and programming that promote physical activity in children. A subgroup of the Children working group worked to develop a system for monitoring community-level availability of organized sports and other physical activity programs for children. The subgroup took three different approaches to advance this idea and the associated supporting actions.

For the first approach, the subgroup collaborated with members of the Community Supports for Physical Activity working group to develop a survey designed for program providers to assess the availability of community-based sport and physical activity programs for children and adults. Members of the subgroup reviewed a draft of the survey, and the Community Supports for Physical Activity working group piloted the instrument with the hope that it will eventually be distributed to program providers to better understand the characteristics (content, length, etc.) of available opportunities. Additional information on the survey is available in the Community Supports group section of this document.

For the second approach, the subgroup connected with the Afterschool Alliance to determine: 1) whether items currently included in its national America After 3PM survey address the availability of community-based sport and physical activity programs for children; and/or 2) if the organization is open to including additional survey items in the future to advance this strategy. America After 3PM is designed to capture youth participation in, experiences with, and demand for afterschool programs. It is a nationally representative survey of randomly-selected

adults in the U.S. with a school-age child in the home (parents/guardians from 29,595 households completed the 2020 survey), and it includes several potentially relevant items. In 2014, the survey gathered parent/guardian perceptions of opportunities for physical activity, amount of physical activity, and if physical activity was moderate to vigorous (more details in the Kids on the Move report, published by the Afterschool Alliance, [https://www.afterschoolalliance.org/aa3pm/Kids_on_the_Move.pdf]). In 2020, the survey gathered parent/guardian perceptions of opportunities for physical activity, how important they were to them, and how satisfied they were with the physical activity opportunities (no questions about the type or amount), in addition to whether their child was on an organized sports team. It is important to note that the Afterschool Alliance also conducted smaller scale national parent and provider surveys throughout 2020 and 2021. The parent/guardian surveys largely mirror the America After 3PM survey, while the surveys of program providers have asked about program offerings, including physical activity.

For the third approach, the subgroup met with North Carolina State University researcher Dr. Kyle S. Bunds, who designed a pilot project to create a national mapping application program that can be utilized to track, analyze, and better understand access to sport and recreation opportunities for youth in the U.S. Dr. Bunds shared with the subgroup a pilot of the map created for North Carolina. The subgroup believes that this type of geographic information system (GIS) software, mapping tool, and program "mining" tool could be used to create a central database to monitor and provide information on community-level availability of sports and other physical activity programs. Dr. Bunds applied for funding, but was not funded, to conduct a project to expand this effort to other areas, but the idea still has great potential.

Next steps:

- Pursue opportunities to partner with Afterschool Alliance to gather information from afterschool program providers about physical activity in the afterschool space (including what is being offered and parent/guardian perceptions). Collecting information about aspects of program availability (e.g., family awareness of opportunities) would be an important addition to existing data collection.
- Initiate discussions with the National Institutes of Health or other research institutes to fund additional research in the application of mapping and data

mining technologies to create a system for monitoring community-level availability of sports and other physical activity programs for children.

Health Care

The Health Care working group prioritized three of the 2019 NASEM report recommendations as most important to address. Health care settings provide ideal environments in which to promote physical activity across the lifespan because of their ubiquity and the frequency with which individuals visit them. Moreover, health care providers are increasingly recognizing physical activity, fitness, muscle strength and related health behaviors and activity-related outcomes as essential determinants of health and successful aging.

Physical Activity as a Vital Sign for Adult Patients in the Electronic Medical Record

Public health and physical activity experts have advocated for decades the practice of routinely capturing data on physical activity from patients who visit health care settings. This data can be used to assess and track current physical activity and as a basis for counseling and/or referring patients to physical activity resources in the community. Systemic usage of Adult Physical Activity as a Vital Sign (PAVS) also lends itself to exploring the relationship between physical activity and disease, as exemplified in two recent papers that demonstrated that improved COVID-19 outcomes were associated with higher amounts of self-reported physical activity.[2, 3] Yet efforts to implement PAVS have fallen short, and moreover, knowledge about the extent of its use is lacking.

The recent and increasing automation of medical records via Electronic Medical Record systems (EMRs) presents an opportunity to both increase the use of PAVS and measure the extent of its use. EMRs can facilitate routine collection of physical activity data using validated self-report measures, and in some cases, patients can enter these data via EMR-based patient portals. Finally, EMR systems are now evolving into a handful of predominant EMR vendors who serve the lion's share of the population, in particular EPIC, Cerner, and Allscripts who together serve almost 75% of the EMR users. This consolidation facilitates both the standardization of PAVS and the use of these data for purposes of surveillance of population-wide impact.

Within this context, the Health Care working group created a registry to aggregate data on EMR-based instances of use of PAVS. The purpose of the registry is to identify health care providers who serve large populations across a region (e.g., county, state, multi-state) using the same EMR. While the registry focuses on PAVS for adults, it could also track PAVS use across the lifespan. Elements of interest in the registry include: type of EMR; demographics served by the entire health care system; question(s) used for the PAVS; frequency of PAVS use and population focus (e.g., all, by age, by medical condition); and actions taken based on the PAVS. The working group also developed a telephone survey to be administered to a stakeholder in each health care system who is responsible for capturing physical activity and related data. Because the working group plans to publish findings from the survey, it obtained Institutional Review Board (IRB) approval from the University of Portland (the location of one of the group members). To promote uptake of the survey, the committee secured the assistance of a key medical officer within the EPIC EMR company, who assisted with promoting participation within the company's user community. At the close of this initial year's efforts, the registry had been populated with information obtained from representatives of health care settings in California, Minnesota, Utah, Tennessee, and South Carolina.

The deliverables for this project include: a) the instrument used in the survey; b) IRB approval to administer it; and c) the initial set of findings from use of the survey among the settings that were contacted. The number of responding organizations fell short of what is needed to produce a publishable manuscript; therefore, that aspect of the project is on hold as of the publication of this paper.

Next steps:

- Find a "home" for the registry effort that will facilitate continued efforts to populate it. Discussions are pending with Robyn Stuhr of the American College of Sports Medicine (ACSM)/Exercise Is Medicine (EIM) initiative to that group's interest in assuming this responsibility.
- When the registry includes data from more respondents (ideally 15-20), develop a publishable manuscript that describes the range and extent of the use of PAVS.
- Work with relevant stakeholders to develop a plan for increasing the number of entities represented in the registry, and for successive updating of the data it contains. This will advance efforts related to PAVS surveillance.

Physical Activity as a Vital Sign for Pediatric Patients

The adoption of PAVS in pediatric health care settings lags behind its adoption in adult settings. Health care providers need a tool created especially for children and youth, a Physical Activity as a Vital Sign for Pediatric Patients (PedsPAVS), because physical activity patterns vary across children's developmental stages. The PedsPAVS should capture aerobic physical activity, as well as muscle- and bone-strengthening physical activity, as outlined in current public health guidelines, and may need to be adapted for children with chronic diseases or disabilities. Moreover, healthcare systems and their providers need guidance about how PedsPAVS data are collected and used, including when to use parent or self-report data, who in the care teams reviews the PedsPAVS responses, and what the actionable cutoffs for physical inactivity are.

To address these issues, the Health Care working group convened an expert panel with representation from ACSM, the American Academy of Pediatrics, and the American Heart Association. The working group developed a "charge" document that was used to engage these organizations. The panel met on September 9, 2021 with the goal of generating a report by December 2021. The expert panel will specifically address supporting actions 8.1 and 8.2 of the 2019 NASEM report.

Next step:

- Develop an expert panel report that concludes with specific recommendations about next steps to address the needs of supporting actions 8.1 and 8.2. At present, the group intends for this expert panel to remain active so that it can both further refine the efforts to create and protocolize the PedsPAVS and address supporting actions 8.3 and 8.4.

Surveillance of Fitness-related Services for Older Adults

In addition to the two main areas of effort described above, the Health Care working group considered Strategy 10 from the 2019 NASEM report – Conduct surveillance of cardiorespiratory fitness and muscle strength testing among at-risk populations in health care settings – as the next most important area to address. This decision was based on the increasing evidence of fitness as an indicator of reductions in all-cause morbidity and mortality. It is also

because some payors for health care services now reimburse referral of patients to promote improvements in fitness for those at risk of chronic diseases such as cardiovascular disease and Type 2 diabetes.

Limitations in time and personnel constrained progress on developing specific deliverables. These limitations included difficulty in locating experts in this area who could participate, given their other commitments (e.g., related to COVID-19). Nonetheless, the working group conducted productive discussions with leaders of the American Council on Exercise (ACE) and the Medical Fitness Association (MFA). Both organizations are engaged in efforts related to this strategy and expressed interest in pursuing this in the future, in particular MFA.

Next step:

- Follow-up with the Medical Fitness Association, specifically its new Executive Director, David Flench, and their panel on health outcomes, chaired by Eric Good. The aim of these discussions should be to explore whether data that they routinely capture from their members can be used to support fitness surveillance efforts among older adults and/or for those at risk for chronic diseases. The close of this project's efforts ended in discussions with Mr. Good about interest in collaborating on this work in the future. A recommendation for follow-up is to continue these efforts as MFA's membership represents a large part of the community of settings that are reimbursed for fitness promotion programs, and thus are an ideal setting for the ongoing capture of data on fitness services for at-risk populations.

Workplaces

As the nation emerges from the COVID-19 pandemic and continues to address structural inequities across society, it is more important than ever to understand the impact that worksites have on health. Americans spend an average of 40 hours per week working and additional time commuting. Accordingly, employers can significantly contribute to employees' health and address equity factors within and outside of the workplace to impact the well-being of their workforce and communities. Physical activity and fitness are critically important in providing

physical and mental health benefits, and employers can promote both during the workday and in commuting to and from work.

Physical Activity Surveillance for Work and Commuting

Understanding the contribution of occupational-level physical activity for age-appropriate amounts of physical activity intensities, sedentary behavior, and sleep is important for policy, systems, and environment change supports for population health.[4] There are currently inadequate data for the correlation between occupational physical activity and total health. Some early evidence indicates that high levels of occupational physical activity may be associated with an increased risk for cardiovascular disease, which contradicts recommendations in the Physical Activity Guidelines that encourage more moderate-vigorous physical activity each week.[5] Therefore, surveillance systems that measure physical activity and sedentary behavior at worksites and during commutes could contribute significantly to understanding adult activity levels and impact on total health. Comprehensive national and state level surveillance could capture the amount of time a person engages in physical activity and sedentary behavior at the worksite and during commuting, and measure occupation-specific physical activity or sedentary behavior. Additionally, surveillance systems could capture the availability and use of workplace interventions that support physical activity and reduce sedentary behavior, including the types of policies that encourage healthy levels of physical activity (e.g., healthy meetings policies, incentives for active commuting) and decrease sedentary behavior.

The Workplace working group developed a paper, "Physical Activity Surveillance in the United States for Work and Commuting: Understanding the Impact on Population Health and Well-being," based on its inventory of the principal surveillance and survey data sources in the U.S. related to the work environment and transportation to and from work.[6] If the relevant government agencies were to analyze their longitudinal data, this inventory could be used by employers and policy makers to guide policy and systems changes to improve overall health and well-being. These data can also be used to understand the contribution of work-related physical activity and sedentary behavior to longevity and productivity. This paper outlined policy recommendations, elucidated gaps in the current surveillance systems and surveys, and provided ideas for future research.

Next step:

- Occupational health and physical activity experts coordinate implementation of standardized metrics to measure physical activity, sedentary behavior, and physical fitness at work and during commuting. Measurement must be simple and user-friendly. The Workplace working group sought to develop a resource to facilitate the use of standardized measures around individual level physical activity, fitness and sedentary behavior in worksite health promotion programs and incentive design. The hope is that employers, vendors, and payers will use these standardized measures.

Standardized Physical Activity-related Measures for Assessment in Workplace Health Promotion

The resource developed by the Workplace working group was designed to enable the use of standardized measures for physical activity, sedentary behavior, and physical fitness.[7] Currently, vendors and employers are using a wide variety of assessments and tools. The working group conducted focus group discussions with a variety of stakeholders (e.g., employers, employees, payers, vendors) to inform the development of a consumer-friendly resource that could be adopted broadly. The working group is in the process of refining this resource, integrating the feedback that they received into what will likely be a series of infographics.

Next step:

- Work with the Physical Activity Alliance to place the infographic series on the organization's website, and coordinate with stakeholders and work group members to disseminate widely.

Community Supports for Physical Activity

The Community Supports for Physical Activity working group met to address three recommended actions to improve community supports surveillance, which were outlined in the 2019 NASEM report. Community environments can support or deter residents' physical activity for transportation and recreation. The design of the built environment, policies, programs, and social environments play a role in this behavior. Surveillance of community supports is helpful to identify priorities for intervention and track improvements over time.

Prioritize a Set of Constructs and Corresponding Survey Items to Assess Perception of Community Supports of Active Transportation and Active Recreation, Incorporate the Constructs and Survey Items into National Surveillance Systems and Promote Their Use at the Local Level.

To address this strategy from the 2019 NASEM report, the working group compiled a list of surveillance tools commonly used to assess perceptions of community supports for physical activity (e.g., NEWS, PANES, BRFSS, MAPS). Questions from these surveys were grouped into constructs (e.g., walking infrastructure, destination access). The constructs were then prioritized by importance and application to a variety of levels of surveillance. The working group selected the most relevant questions from each of the priority constructs and divided them into "essential" and "optional" categories.

The result of this process was a list of eight questions for the following constructs: infrastructure for walking, infrastructure for bicycling, public transit accessibility, destination accessibility, places for recreation, and street connectivity, with two additional optional questions to assess further infrastructure for walking. This list will be presented in an information brief that will be shared with state and local physical activity practitioners, epidemiologists, planners, and advocacy groups.

The working group recommends incorporating the essential questions into existing surveys being used by a particular organization or agency. The identified questions will not only target measures of community supports for active transportation and active recreation but will also make data more comparable across the local, state, and federal levels.

Next Step:

- Monitor the dissemination and use of the recommended questions. Dissemination can be partially assessed through website metrics (e.g., downloads). Comprehensive evaluation of use will include short-term assessment of incorporation of recommended questions into existing state and local data collection tools. The presence of comparable data to measure community supports for active transportation and active recreation will be one way to assess long-term impact of this recommendation. Evaluation of the impact will need capacity and funding.

Identify and Compile Spatially Based Data Sources and Methods to Facilitate National Surveillance of Community Supports for Physical Activity

To address this strategy from the 2019 NASEM report, the working group compiled several existing data sources relevant to assessing aspects of the community environment. The group discussed the pros and cons of each and come to a consensus to recommend the United States Environmental Protection Agency's (EPA) Smart Location Database, which can be found on this site: https://www.epa.gov/smartgrowth/smart-location-mapping#SLD.

As noted on the site, the EPA tracks and evaluates "smart growth" to "protect our health and natural environment and make our communities more attractive, economically stronger, and more socially diverse." In response to obstacles associated with research on the built environment and transportation outcomes, the EPA developed the Smart Location Database in 2011 as a tool to measure the smart growth of communities, with Version 2.0 released in 2013 and Version 3.0 in 2021. Variables from the Smart Location Database can be accessed by downloading the data, viewing interactive maps, or accessing the data through web services. Most of the data attributes are available for every census block group in the United States. The Smart Location Database is updated according to the original data source, such as the US Census, the American Community Survey, and InfoUSA.

The working group developed a Research Brief, which recommends using the Smart Location Database for geospatial analysis of several physical activity indicators related to the built environment, including street intersection density, high- speed road density, transit service, and destination accessibility. These data can be used to support physical activity surveillance in a number of ways. For example, data can be used to develop a map, which shows variation in transit access across a region or municipality, and to index neighborhood walkability, with residential, employment, and intersection density. The Research Brief will be distributed widely to state and local physical activity practitioners, epidemiologists, planners, and advocacy groups.

Next Step:

- Assess dissemination and use. In addition to download tracking and looking at data being made available on this topic, qualitative data can enhance evaluation. For example, state epidemiologists or local-level practitioners may be interviewed on the feasibility and impact of use of the Smart Location Database to inform any

iterations needed. Carrying out a comprehensive evaluation would require capacity and funding.

Explore Methods and Best Practices to Assess Physical Activity Events, Programs, Social Environments, and Promotion Resources

To address this strategy from the 2019 NASEM report, working group members compiled a list of entities responsible for physical activity programming (e.g., parks and recreation departments, private clubs, sports groups, advocacy groups). In addition to this list, the group brainstormed constructs to assess what would help inform physical activity program surveillance. The group then created a list of questions to gather input on each of the constructs within the selected programming entities. The final list consisted of 20 questions that targeted demographics, marketing, formality of programming, capacity, programming details, partnerships, and surveillance. The list of questions was pilot tested with three groups and slightly modified. Interviews were conducted over the phone or via Zoom meetings among a convenience sample of 11 representatives of physical activity programming sites. Working group members discussed the findings and summarized them in a Brief Report to be submitted to the *Translational Journal of the American College of Sports Medicine*.

One recommendation resulting from this formative inquiry was to develop a simple common measure of physical activity outcomes from programming within each organization. For example, most organizations interviewed were able to calculate the number of physical activity hours offered (e.g., average time spent times number of participants per week, month, event, etc.). These data would be useful in overall surveillance and tracking physical activity programming opportunities within communities over time. The working group also recommended partnering with organizations to utilize their computer registration and participation data systems for physical activity programming surveillance.

Next Step:

- Conduct a larger pilot study for developing more comprehensive surveillance tools for community physical activity programming.

Summary

The project summarized in this report was distinct from previous efforts to advance public health surveillance of physical activity. Previous projects have focused on highlighting the need for enhanced physical activity surveillance and identifying steps that should be taken to produce a more comprehensive and robust system. The present project was informed by those earlier projects and was intended to take actions that were consistent with the existing recommendations. Hence, this project went beyond planning by taking actions and generating products that will contribute to building the physical activity surveillance system that is needed in U.S.

This project was focused on enhancement of surveillance in the four sectors which had been highlighted in earlier planning processes—Children, Health Care, Workplaces, and Community Supports for Physical Activity. Across those sectors, multiple actions were identified and pursued. The products generated by these projects were highly diverse. Products included:

- New surveillance protocols that are ready for implementation and waiting for funding or adoption by an agency.
- Tools or instruments that are needed to either develop a new surveillance protocol or enhance an existing system.
- Systematic reviews of scientific and/or professional evidence that informs design of surveillance protocols.
- Identification of existing surveillance systems that include previously unrecognized physical activity surveillance resources.
- Survey instruments assessing the prevalence of specific physical activity assessment protocols.
- Commentaries making the case that enhanced physical activity surveillance is needed.

Surveillance is typically the purview of public health agencies, and an underlying goal of this project was to encourage and support expansion of physical activity surveillance in the public sector. The actions undertaken in this project demonstrate that a group of professionals,

working in a coordinated manner under the auspices of private sector organizations, can produce meaningful advances in physical activity surveillance.

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