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## Lessons Learned: A Strategic Alliance to Improve Elementary Physical Education in an Urban School District

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### Abstract

**Background:** Physical education (PE) can help to achieve important public health goals, but is often under-prioritized and lacking in schools.

**Objectives:** To detail the actions, impact, and successes of a strategic alliance formed by three collaborating organizations to improve PE in a large California school district.

**Methods:** Semistructured interviews with alliance members, principals, and teachers in 20 elementary schools, 3 years after the alliance formation.

**Lessons Learned:** Interviewees reported district-level increases in priority and funding for PE and attributed improvements to the alliance's collection and dissemination

of local data on the status of PE. Common goals, trust, and open communication within the alliance were seen as critical to the alliance's success. However, changes in district- or school-level accountability measures for PE were not reported.

**Conclusions:** This strategic alliance succeeded in promoting district-level priority and funding for PE. Ongoing alliance work will focus on increasing accountability measures for PE, which may take longer to implement.

### Keywords

Physical education, strategic alliance, education policy, physical activity, children, elementary school

Experts recommend that youth participate in at least 60 minutes of daily moderate-to-vigorous physical activity for optimal health.<sup>1</sup> However, children are far from meeting this recommendation, and significant disparities exist by age, race/ethnicity, sex, and income.<sup>2-4</sup> The Institute of Medicine recently identified school PE as a primary focus for increasing physical activity among diverse youth.<sup>5-7</sup>

Unfortunately, PE programs across the country are underfunded and underprioritized.<sup>8,9</sup> Although 44 states (86%) have policies mandating minimum PE levels,<sup>10</sup> compliance with PE policies is suboptimal.<sup>11-13</sup> California, which educates one in eight children in the United States, mandates an average of 200 minutes of PE every 10 days in elementary school.<sup>14</sup> However, California also has low PE policy compliance,<sup>15</sup> likely because schools have competing priorities and policy implementation

is not regularly monitored or enforced.<sup>16,17</sup>

Strategic alliances represent groups of organizations voluntarily collaborating to address problems too large or complex for singular organizations to solve independently.<sup>18</sup> Such alliances are an increasingly popular strategy for community health improvement. Analyzing the process by which strategic alliances foment change, as well as the barriers and facilitators that affect such change, may help improve community health.

Buoyed by the interest of school administrators, parents, researchers, and the local health department in improving PE, a strategic alliance was formed in fall 2010 to assess PE practices in the San Francisco Unified School District (SFUSD), with a primary goal of increasing PE quantity. Alliance members included four SFUSD administrators (who

provided on-the-ground perspectives and school access), two employees from the local department of public health (DPH; which staffs Shape Up San Francisco, a multidisciplinary partnership to address chronic disease prevention), and two university-academic partners (who designed and conducted research with help from SFUSD and DPH). A 2011 observational study by the alliance involving systematic observations of 91 fifth-grade PE classes in 20 randomly selected elementary schools demonstrated that only 20% of study schools were in compliance with California's PE mandate.<sup>19</sup> This article details the alliance's actions to increase PE quantity subsequent to the 2011 study and describes alliance partners' impressions of the process, which could aid others in achieving greater PE policy compliance.

## METHODS

This study employed participatory action research to collaboratively examine and improve PE in SFUSD. Alliance members were actively involved in the study design and execution. The SFUSD Research, Planning, and Accountability

Department and the Institutional Review Boards at the University of California (UC) at San Francisco and UC at Berkeley approved all research.

## Alliance Actions

With the goal of using data from the 2011 study to increase adherence to state PE mandates, the alliance convened to discuss study results and create a dissemination plan, worked collaboratively to share study results throughout the district, shared the results publicly through reports and a press release, interviewed key stakeholders (described herein), and repeated the 2011 study in 2013 to assess changes in PE quantity (ongoing; Table 1).

## Interviews

In spring 2013, five UC Berkeley researchers trained for 2 hours on leading semistructured interviews, conducted face-to-face, individual interviews (lasting 20 minutes) with elementary principals/teachers from the 20 schools in the 2011 study. Questions were adapted from the Physical Education module of the School Physical Activity Policy Assessment<sup>20</sup>

**Table 1. Summary of Key Alliance Events**

Key Events	Dates	Details
Alliance forms and conducts 2011 study	May 2010–May 2011	Alliance between Research University, DPH, and school district is formed. Alliance decides to focus efforts on research study (and DPH applies for research funding). Initial observational research study takes place in the district in spring 2011.
Alliance disseminates results from 2011 study	June 2011–Feb 2012	Alliance convenes to discuss study results and collectively determine next steps. Next steps include dissemination of research findings within the school district and to the broader public, including: Researchers send reports on study results to all participating study schools; Researchers present results to the PE Department; DPH holds public forum where researchers present results of study to district teachers and principals; Alliance presents study results to district administrators, including Assistant Superintendents and district Research Department; Alliance presents study results to the Board of Education; Alliance holds a press conference at a school site to publically share results of the study; DPH/PE Advocates release report on study results and increasing access to physical activity in school; Alliance presents study results at meetings with all district elementary school principals; and PE department meets with associate superintendents about PE.
Alliance decides to conduct additional research and PE department continues work with district	Aug 2012–March 2013	DPH and PE Department secure funding for follow-up study to assess changes in PE over 2-year period in the elementary schools ( $n = 20$ ) that participated in the 2011 study. Measures include included follow-up interviews with key alliance members, principals, and teachers. PE department continues to hold professional development meetings on PE with elementary school principals and meet with associate superintendents about PE Follow-up study takes place in elementary schools in the school district
Alliance determines future actions	Aug 2013—Present	Alliance convenes to discuss follow-up study results and determine next steps.

Abbreviations: DPH, department of public health; PE, physical education.

and assessed changes (and facilitators/barriers to change) in PE over the 2 years since the 2011 study. Alliance member interviews were conducted by one researcher (H.T.), lasted approximately 1 hour, and included questions adapted from an interview guide developed for school-based strategic alliances.<sup>18</sup> Questions focused on facilitators and barriers to the alliance's operation, progress, and success, and PE changes within SFUSD since the 2011 study. Seven of the eight alliance members were interviewed (excluding one alliance member [H.T.] who conducted the interviews). District partners included an assistant superintendent, the director of the PE department, and two elementary school PE implementation specialists who brought expertise in PE content and delivery. DPH partners included the director and a staff member of Shape Up San Francisco, who had knowledge in community work aimed at improving the city's physical activity environments. A pediatrician-researcher from the university's School of Public Health (K.M.) with more than 10 years of experience studying youth physical activity was the final alliance member interviewed.

All interviews were audio recorded, transcribed, and coded by three researchers (R.H., N.T., H.T.) using a combination of the constant comparative method (to generate new grounded theories from the data) and a thematic analysis approach to segment, categorize, and link the data based on predetermined theories established using interview data from the 2011 study.<sup>21</sup> During phase one, using predefined themes defined by the interview questions, we coded all transcripts, allowing room for additional themes to emerge. During phase two, through group discussions, we refined and synthesized the themes to produce a final codebook, which we used to double-code all interviews, extracting salient quotations to illustrate key findings.

## RESULTS

Alliance members ( $n = 7$ ) averaged 6 years of experience (range, 3–9) in their positions, principals ( $n = 20$ ) averaged 6 (range, 1–18) and teachers ( $n = 50$ ) averaged 7 (range, 0.5–27; Table 2). Seventy-one percent of principals and teachers were still at the school they worked in during the 2011 study.

### Facilitators to Positive Changes to PE

All district partners, the majority of principals, and half of teachers reported positive shifts in priority for PE at the

district level since the alliance began its work. Interviewees cited increases in both conversations between district administrators and principals about PE and the number of professional development trainings dedicated to PE. For the first time, SFUSD held multiple hour-long PE professional development sessions for elementary principals, which included sharing of 2011 study results and brainstorming sessions on improving PE. Interviewees also noted that PE was increasingly seen as having an important place in the curriculum alongside traditional academic subjects. As one district partner put it, “PE’s now got a place at the table, so to speak, in terms of what’s valued in use of time.” As another said, “without the [partnership], I don’t think our district would have been as responsive as they are now to PE” (see Table 3 for additional interview quotations).

**Table 2. Description of Alliance Members, Principals, and Teachers Interviewed**

Description	N	Female, n (%)	Years of Exp, <sup>a</sup> Mean (Range)
<b>Alliance members</b>			
Total	7	6 (86)	6 (3–9)
PE Department	3	3 (100)	6 (3–9)
Assistant Superintendent	1	0 (0)	3
Department of Public Health	2	2 (100)	7 (5–9)
University researcher	1	1 (100)	7
<b>Principals</b>			
Total	20	12 (60)	6 (1–18)
Principal	19	11 (60)	6 (1–18)
Assistant Principal	1	1 (100)	7
<b>Teachers</b>			
Total	50	30 (60)	7 (0.5–27)
PE teacher <sup>b</sup>	6	2 (33)	4 (1–6)
PE consultant <sup>c</sup>	10	2 (20)	5 (0.5–10)
Classroom teacher (5th <sup>d</sup> grade)	18	11 (60)	8 (1–22)
Classroom teacher (2nd <sup>d</sup> grade)	16	14 (88)	9 (0.5–27)

<sup>a</sup> Number of years experience working in same or similar capacity as teacher, principal, school administrator, district administrator, Department of Public Health, or university researcher.

<sup>b</sup> A credentialed PE teacher hired by the school district.

<sup>c</sup> A noncredentialed PE teacher hired by the school.

<sup>d</sup> At the request of the San Francisco Unified School District PE Department, 2nd- and 5th-grade teachers were observed teaching PE; thus, they comprised the interview sample.

**Table 3. Salient Quotations from Alliance Member, Principal, and Teacher Interviews**

Interviewee Type	Theme	Quote
<i>Facilitators to changes in PE</i>		
District partner	Priority for PE	There's definitely been more support from the associate superintendent and the superintendent, because as you know in the past, PE was never mentioned by either two. And it's definitely been mentioned more by either two in the last 2 or 3 years.
District partner	Priority for PE	So [the study and partnership] then led to a series of principal meetings and thinking about how to get the PE department time with principals, and then what I thought was probably most important was to articulate the set of goals related to PE that coming year and we drew out of the study to do that. Not sure that prior to that, principals had a clear sense of any fixed set of expectations for improving PE practice before.
Principal	Funding	For us, just sharing the information that the district is going to be providing this funding and support, not just saying "do it" without a model, has really helped our teachers to buy in.
<i>Barriers to changes in PE</i>		
District partner	Funding	More money would really help, because right now we're just giving crumbs to some of the school sites. I mean some of them have a staff of 25 teachers and we're giving them [a PE teacher] once a week. A classroom is only going to see a PE specialist once a month . . . If our goal is to really have more PE from a credentialed PE specialist, we need more crumbs.
PE teacher	Funding	If they want to really have quality PE and have the kids get all the minutes, it's very difficult to do that when you're only at a school 1 day a week or even 3 days a week like I am here.
District partner	Accountability	We haven't sort of bothered to collect master schedules from principals and we're not out there doing walk-throughs. So I guess I can describe the set of actions we took to elevate PE to principals, but if they had an impact, we'll find out.
<i>Facilitators to alliance's success</i>		
District partner	Using and sharing local data	Our plan to disseminate the results of the study, I think, is what was sort of a big catalyst for the school district to pay attention and to say let's work with them to figure out how we can best figure out, see how this data is going to ultimately improve PE for our students.
DPH partner	Using and sharing local data	I would say the dissemination is far more important than the actual doing at some levels. Because you do it and if no one sees it, then it makes no difference. So I think communicating the results, and then communicating how the district is positively acting on them was really important in keeping them as an ally and as willing partners.
District partner	Trust	We aren't formally held accountable for our performance in the partnership. It's based on trust.
District partner	Common goals and collaboration	With the initiation and the partnership it was a catalyst of bringing awareness about what PE should look like and there were more voices from different stakeholders, health advocates, PA advocates, and as a result the district was like, 'we need to hear you out now.'
DPH partner	Common goals and collaboration	I really do feel like everyone comes to the table with different kinds of power. And we did a good job of putting those different elements together, so we can really make change
District partner	Personal reward	I've been able to take the information, take the data, and move forward. I wouldn't be doing this work if I wasn't able to move forward. I'd be long done, gone. I do enjoy working with this group.
DPH partner	Personal reward	I mean, the personal satisfaction and rewards that I get from this is to feel like we really engaged the school district. I feel like there have been seismic shifts. Seismic shifts. And we had a role in that. It's kind of incredible. I think we've done a lot in a very short period of time.
<i>Barriers to alliance's success</i>		
University partner	Communication	So, I am someone who is fairly quick about responding to emails and communicating quickly and in the moment because that's when I tend to think about things. But that's not always the case for other partners who are very busy and have other things going on.

Abbreviations: DPH, department of public health; PE, physical education.

Interviewees discussed positive district-level changes to PE funding. SFUSD has a unique elementary PE implementation model that takes advantage of limited funding for full-time PE teachers. In this model, credentialed PE teachers (called PE specialists) work full time for the district and rotate among one to three elementary schools, teaching at different schools 1 to 5 days per week (reaching each classroom of students an average of once per week). Interviewees reported that disseminating results from the 2011 study, which highlighted PE minute deficiencies, encouraged SFUSD to increase the number of elementary PE specialists from 15 during the 2010–2011 school year, to 19 during the 2011–2012 school year, and to 26 during the 2012–2013 school year. Alliance members felt the partnership’s work directly influenced the district’s decision: “the partnership was a catalyst for bringing awareness and action steps to address the lack of PE and seeing what financial or human resources [the district] was going to provide in elementary schools.” SFUSD announced the first increase in PE specialists during the press conference held to publicly share the results of the 2011 study.

All district partners highlighted the specific role that dissemination of the 2011 study results played in changing priority and funding for PE. One partner shared, “having hard numbers [and] shining a really public light on it was critical to the district paying more attention to [PE].” District partners also discussed that the data were used to initiate a positive conversation: “Anybody could’ve taken the view that the data could’ve been used just to embarrass the district or shame it into action, and that was never anyone’s intention . . . in fact it became a productive spark in the conversation because it helped to see the problem identified clearly.”

All alliance members felt that without the alliance’s actions, priority and funding for PE in SFUSD would not have changed. As two district partners put it, “PE just never would’ve been a part of the conversation with principals,” and “PE would never have been mentioned by the associate superintendent—we’d be cut during this budget crisis, and we wouldn’t be a priority.”

### Barriers to Positive Changes to PE

Alliance partners, principals, and teachers described a lack of meaningful changes in accountability for PE (such as systems for monitoring the quantity of PE or consequences and

rewards for noncompliance and compliance) at the district level. According to one principal, “We have benchmark assessments for other content areas and we don’t have that around PE.” Although there was talk of increasing accountability for the state-mandated PE minutes, no specific systems were created during the study period. As one district partner said, “Has the district planted seeds toward changing implementation and the accountability part? Yes, and I think [the alliance] helped that. It just hasn’t been set in place yet.” SFUSD has since implemented a system for collecting master PE schedules for all elementary schools, which went into effect during the 2013–2014 school year.

Positive changes at the school level were also noted, with approximately one half of principals and teachers citing encouraging priority shifts in schools. Highlighting the myriad pressures schools face, one district partner commented on why PE still faces school-level challenges: “Schools have so many priorities. They know they’re supposed to do [PE], but it’s not their main priority.”

Interviewees discussed the critical role funding played in PE implementation. Despite increases in funding, as of 2013 only 10% of study schools had a full-time PE specialist and 25% had a part-time specialist who shared time between schools. Reallocations to provide different schools with access to specialists (in the interest of equity) left several study schools without a specialist at all. According to one principal, “I think having a full-time and a highly qualified PE specialist for the amount of time that we had him really changed the mindset and culture of people and myself of . . . how we view PE in the general school day, but now he’s gone.” When asked, “What’s the number one thing that could be done to improve PE at your school?”, the most commonly expressed desire by principals and teachers was to have a full-time PE specialist.

### Facilitators to Alliance’s Success

Owing to the known difficulty of generating significant change within a large school district, success was loosely defined as positive improvements in PE in SFUSD. All alliance members cited the clear identification of common goals, trust between the alliance partners, and the collection and dissemination of local data as keys to the alliance’s achievements. One DPH partner said, “I think the process of building trust, the attempts to be ego-less, and again having a shared mission,

have helped contribute to the alliance's success." Trust was described as having faith that partners were working with the same goals and intentions. Another DPH partner described improvements in working with SFUSD around PE: "You know before PE wasn't on [the district's] radar. . . . And when we first started this work and doing all that stuff with [PE], it was painful. . . . Now there's so much more cooperation and interest in partnering and there are common goals."

Collaboration and open communication were also cited as critical. As one district partner said, "I feel like everybody has an equal say. I really do." According to another district partner, "Decisions are made collaboratively—it's been beneficial to hear from the different stakeholders and then hopefully have a consensus as a group to determine effective action steps [to meet goals] . . . There has to be a shared and common understanding of decisions." Major decisions were made (either in meetings or over email) with all key partners providing feedback and, ultimately, agreeing. For example, a decision to hold off on publicly sharing study results until they were presented to the Board of Education was suggested by the PE department and agreed upon in a face-to-face meeting. Additionally, the decision to continue conducting research was mutual: "The follow up study was a consensus between the three stakeholders [SFUSD, DPH, and University] and it's beneficial because we're going back to the original school sites and really trying to capture what's been happening since the [2011] study." The ability to openly and honestly communicate about and troubleshoot issues that arose was also identified as important, as was feeling personally rewarded (Table 3).

### Barriers to Alliance's Success

Barriers to success included difficulties with communication and differences in data dissemination priorities. Five alliance members noted struggles around speed of communications, and four described difficulty in balancing the desire to publicly share data from the observational study as quickly as possible (via a press release with media present) to ignite a response from the general public and SFUSD, against the district's desire to first share data internally. Additionally, internal district politics related to bureaucracy, difficulties setting up meetings with high-level district personnel, and getting time on the board of education's agenda also slowed success.

## DISCUSSION

The formation of a strategic alliance between the school district, DPH, and a research university seems to have elevated the priority and funding for PE in a large urban school district. Alliances to improve PE have not been previously studied; lessons learned provide critical insight for others hoping to ignite change in this challenging area. There are several key factors that contributed to the alliance's success, the most important being the collaborative collection and dissemination of local data to foment change.

Many factors critical to the alliance's function were similar to those described as important in other health partnerships, including 1) forming the partnership around common goals (everyone was invested in improving PE in San Francisco), 2) the significance of trust in the formation and maintenance of the partnership (e.g., study results were shared within the alliance before sharing externally), and 3) the importance of open communication (e.g., being willing to talk about uncomfortable issues such as data that did not demonstrate what partners had hoped to see).<sup>22–24</sup>

Research on school-based health alliances is not yet well-established. Wohlstetter et al.<sup>18</sup> developed a model for strategic alliance evolution within the unique context of charter schools that also included common goals, trust, and open communication as key components. Wohlstetter's model suggested the importance of a single leader during partnership initiation, establishing internal governance, and the establishment of an accountability plan to monitor progress; however, these factors may not be critical in all settings. For example, our alliance was relatively small; therefore, a formal governance structure was unnecessary, although it might be important in larger groups. Similarly, establishing an accountability plan—a framework that delineates group goals, responsibilities, and consequences for failure to meet established goals—could be more helpful when working with a larger group that could be harder to manage informally.

Despite reported encouraging changes, only one half of principals and teachers noted positive shifts in priority for PE at their schools. Principals and teachers have myriad responsibilities and PE is not yet always prioritized. Additionally, resources may still be insufficient; even though funding for PE specialists increased by nearly 75% over the study period, 26 PE specialists for 72 schools is still far from optimal.

It may be too soon to assess change. This research on the alliance's impact took place less than 2 years after the majority of the alliance's work took place. A study assessing the impact of a district-level PE policy change in Los Angeles similarly found limited impact of the policy 2 years after its passage, although longer term data are not available.<sup>11</sup> In these large districts with complex hierarchies, change may come slowly. Additionally, it seemed that new district-level PE accountability mechanisms had not been established by the time these interview data were collected.

Although well-intended, state-level accountability measures exist, they do not sufficiently and accurately assess compliance. Despite the fact that our 2011 study showed only 20% of elementary schools in the study were in compliance with existing PE policy,<sup>19</sup> SFUSD passed the California Department of Education's PE audit 2 years later. The disconnect between the reality of PE in schools and current accountability measures warrants further action. In addition to improving the state audit system, next steps for increasing PE minutes could include improving classroom teachers' PE training through train-the-trainer models, team teaching, or professional development; increasing district-level and principal support for PE through regular meetings and by involving the local board of education; increasing academic priority for PE by making it a core competency with common assessments; or including PE as part of statewide school success measures (like California's Academic Performance Index score,<sup>25</sup> which measures schools' scholastic performance and growth), which would necessitate first developing realistic and accurate measures of PE quantity and quality.

There are several limitations to this research. First, we cannot be sure if reported changes resulted from the alliance's actions or from other unidentified factors. Despite this uncertainty, the alliance members strongly attribute the positive changes in PE to the partnership's work and we are unaware

of any parallel community efforts to improve PE. Although this work represents participatory action research, alliances are composed of unique individuals and their impact may not be replicable across districts. SFUSD is a single district, which may limit the generalizability of these findings. Finally, although this research includes the opinions of multiple key stakeholders, it does not include student voices, which may differ from those of adults. The next step for this research is to analyze data collected in 2013 to examine quantitative changes in PE minutes subsequent to the alliance's actions.

Increasing PE will benefit children's health, but creating change within school districts is complicated. Alliances may promote positive change because members are able to act at multiple levels to encourage shifts in priorities and actions. Alliance partners represent differing perspectives and expertise, but share common goals. Establishing trust, collecting and using local data, and communicating clearly and openly were key to this alliance's success. Local data can be useful in clarifying and promoting discussions at a district level, yet school-level change may take longer to occur and may require improved accountability measures. Future research should focus on methods to realistically and cost-effectively increase PE quantity, thereby increasing access to regular physical activity for youth.

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