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Central Columbia School District Health Impact Assessment Report

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Central Columbia School District

Health Impact Assessment Report – Draft 1

Bucknell University Community Research Group, 2013

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Introduction

Central Columbia School District (CCSD) Superintendent Harry Mathias contracted us to undertake a community impact assessment of the Central Columbia District Community Wellness and Athletic Center. We developed a multiple methods research approach that used analysis of the Action Health community health assessment and ethnographic evaluation methods through interviews, mapping of social infrastructure and assets, and an inventory of community health programming. We created a research team consisting of five undergraduate students and they gathered all of the data used in this report. They were advised by Brandn Green and Carl Milofsky of Bucknell University.

The research was based upon first understanding the vision Superintendent Mathias has for the social and community role the school can play in the geographically bounded area of the district. In contemporary studies of rural society in America, schools are recognized as being central institutions in rural communities. The CCCSD is more than simply rural as it does not contain a population center where social services and community life can be centered. This project being undertaken by the district, which contains a broad understanding of community health, is fundamentally an attempt to build community in the district. Our research is oriented around understanding how this process happens, if community members understood the nature of the remodeling and expansion efforts, how and if community attachment corresponds to physical activity, and if this in turn may generate positive physical, emotional, and behavioral health outcomes.

This report overviews research completed from May-August of 2013, provides a monitoring plan for the project over the next three years, and offers a set of conclusions from the past summer and possible outcomes for the Wellness and Athletic Center program. It is organized as follows: research questions, research design, research findings, monitoring plan, study limitations and conclusion. In summary, we found skeptical support of the project, consistently undefined views on health, shared theories of health promotion, and that policies and programs of institutions throughout the district will likely have a larger influence on increased physical activity of residents than will individual motivation to exercise. We expect that the community solidarity generated through the fundraising process and visioning of the project will continue to be a resource for creative collaborations across local social institutions. If this occurs, and if leaders in businesses, medical providers, and non-profits are able to continue to work alongside the school district leadership to address possible social structural complications, we anticipate that the athletic center will meet the stated goals of improving community health.

Research Questions

1. Will the presence of a track and activity center increase sustained, regular, physical activity by members of the community to a degree that physical health – specifically cardiovascular health, fitness, mental health, and a decrease in BMI of the student body – will be observable?
2. What are elements of the social infrastructure of the Central Columbia School District that will hinder, strengthen, and/or influence the possibility of the Wellness Center improving health?
3. How do citizens in the district think about health? Do they see exercise and increased physical fitness as a goal?
4. What opportunities exist in the district for physical activity? Is there a clear need for an increase in spaces available for exercise?

Research Design

Our purpose in this cycle of the research project was to develop a baseline of the current health of the district and to develop an understanding of the nature of health in the district. The first goal, a baseline, was completed through the analysis of health indicators about the district. These are reported in the first section of the research findings. They are descriptive in nature and provide us with a view of relevant health indicators in the district in 2009 as this is the most recent year for which we could access localized data of a sufficient amount. Secondary data sources such as the Community Health Status Program of the Census did not, in our evaluation, provide enough cases within the school district to enable us to analyze these data sets. Therefore, we selected to use the 2009 Action Health Community Health Assessment as it was gathered locally, provided us with sufficient cases (195, 7.34% of district residents), and allows us to compare CCSD to school districts within the same part of Pennsylvania.

Our second goal corresponds to research questions two and three. To evaluate the current social infrastructure of the district and to understand how individuals in the district think about health, we developed an interview guide and an ethnographic assessment strategy. Our research students completed interviews with twenty community leaders, completed field notes about these interviews, provided audio transcripts of the interviews, and this data was analyzed for the identification of key themes. These themes, as they were repeated across individuals of different social positions within the district, give us a clearer understanding of the nature of health in the community than a solely quantitative analysis does. One way to think of the multiple methods approach is that the statistics describe the context while the interviews explain the context.

In addition, we selected to focus on gathering baseline data that will inform subsequent years of data collection and analysis. It is our intention, as outlined in the monitoring plan section of this report, to continue to collaborate with community members whom we met during the interview process. Our expectation is that we will complete interviews during the May-August period for 2014 and 2015. Quantitative indicators, including a strategy for accessing and analyzing de-identified health data about student BMIs and exercise activity levels of residents, will continue to be added to our data set, enabling potential longitudinal analysis of change in the years after the data collection period concludes.

We included two additional categories of data collection as they are measures of community level engagement with the wellness and athletic center. Section one is a physical assets inventory of the district, which provides visual display of the options for exercise available to district residents prior to the completion of the publically accessible track. Section two is an inventory of athletic leagues and sports teams in the district, as well as physical activity encouraging programs being developed by employers.

We anticipate that as wellness programs become more integrated in the provision of health insurance that the track and wellness center will provide a range of opportunities for employers to encourage employees to undertake physical activity toward the end of improving physical fitness and health. In general, it is the intention to improving health that we as social scientists can research and observe. Health records, and the ways in which health measures such as heart disease decreases, provide little information over a three year study period and when analyzed simplistically could provide spurious results. Therefore, we refrain from making causal claims as they relate to individual level health indicators, instead focusing on the social infrastructure that is potentially created to take advantage of the exercise opportunities now available in the CCSD because of the Wellness and Athletic Center.

Research Findings

Statistical Baseline of the District

In 2009, a survey was completed of the ACTON health catchment area; an area inclusive of the CCSD. We have been able to, with the help of two students Matt McAnear and Zach Moon, analyze this data in a descriptive format that enables contrasts across school districts to be seen. It is important to note these comparisons are descriptive in nature and we did not test the different school district populations for statistical differences.

The total sample included 1901 Male respondents and 891 Female Respondents. Of those respondents the school district in which they lived is represented below:

School District:
Central Columbia SD: 195, 7.34%
Berwick Area SD: 202, 7.60%
Bloomsburg Area SD: 208, 7.83%
Danville Area SD: 221, 8.32%
Lewisburg Area SD: 196, 7.38%
Midd West SDL 193, 7.26%
Mifflinburg Area SD: 230, 8.66%
Milton SD: 187, 7.04%
Mt. Carmel SD: 150, 5.65%
Selinsgrove Area SD: 257, 9.67%
Shamokin Area SD: 221, 8.32%
Shikellamy SD: 251, 9.45%
Warrior Run SD: 146, 5.49%

Therefore, for our analysis here, we contrast the 195 respondents in the CCSD with selected other districts in the region. The overall sampling strategy for the survey was stratified toward older age cohorts. For a basic descriptive analysis, this stratification might be a limitation, but for our project one of the key demographic groups being targeted by the school district is the elderly. We find it to be acceptable, if limited, to be using a sample of 195 respondents for this analysis as it provided us with some indicators and the health status of the county in a more robust and diversified manner than if we focused solely on individual health records and indicators.

Health Insurance

	Central Columbia	Berwick	Bloomsburg	Danville	Lewisburg	Mifflinburg
Yes	191, 97.95%	182, 90.10%	198, 95.19%	211, 95.48%	186, 94.90%	173, 89.64%
No	4, 2.05%	19, 9.41%	10, 4.81%	8, 3.62%	10, 5.10%	20, 10.36%

In the ACTION health dataset, health insurance access was not a health issue of any significance in the district, nor was it significant in much of the other districts, in large part because of the oversampling of individuals over the age of 65. Individuals above the age of 65 have health insurance via Medicare. We do know, however, from both interviews and from secondary sources focused on the health insurance access of residents in the county that this information is limited in accuracy. We supplement the ACTION health information in this section with data from the Small Area Health Insurance Estimates by the US Census, who estimated that in 2011 Columbia County has an uninsured rate of citizens below the age of 65 of 11.9% or 6,208 people.

At first blush, insurance may not be directly related to the health impacts of the Wellness center as individuals are certainly able to walk without an insurance plan. However, two themes emerged during the interviews which imply that health insurance will function as a push factor for possible users of the facility and is therefore worth noting. The two ways health insurance plans might impact activity levels in the district are: one, through incentives for wellness activities and two, through increased access to preventative care because of changes from the Affordable Care Act. Multiple companies within the district have begun to offer financial incentives, via lower premium rates, to employees who participate in a specific amount of physical activity. Their belief mirrors the proposal of Superintendent Mathias that increased activity will likely decrease cardiovascular and body weight related illness and adverse health. We also anticipate that as the Affordable Care Act enables citizens of the district to receive health insurance, and access to healthcare they would not have otherwise had, they will in fact begin to be encouraged to exercise more consistently. The track may end up being a location for these activities.

Health Indicators

The perception of many of our interviewees was that obesity, lack of activity, and smoking marked the most significant health challenges facing the community associated with the CCSD. In nearly each of the interviews in which the individual identified health challenges, these three topics were mentioned. We provide statistical portraits of health indicators as self-reported in the survey. It is our expectation that these numbers underrepresent the state of health in the district due to limitations in the self-reporting of health.

In the past year, have you had care for this specific health problem: Percentage of Yes answers.

	Total Sample	Columbia County	CCSD
Heart Disease	11.29%	13.96%	12.31%
High Blood Pressure	33.25%	34.05%	27.18%

In the past year, have you had your (various options) checked in the past year: Percentage of Yes

	Total Sample	Columbia County	CCSD
Cholesterol Screening	63.53%	61.81%	65.64%
Blood Sugar Screened	52.17%	52.76%	54.87%

In the past year, have you (total sample):

	I have never	I have once or twice, ever	I have in the past, but currently don't	I currently use
Tobacco Products	35.94%	8.29%	37.97%	16.43%

According to these statistics, the CCSD is consistent with the region in terms of health problems and health screenings. In terms of tobacco usage, we do not have disaggregated statistics.

Exercise

The main objective of the CCSD wellness center is to increase physical activity and exercise for members of the community. We provide data on exercise amounts and levels from the 2009 survey disaggregated by school district.

Number of days each week a person exercises for 30 minutes vs. school district:

	0	1	2	3	4	5	6	7
Central Columbia	62, 34.83%	18, 10.11%	18, 10.11%	26, 14.61%	12, 6.74%	20, 11.24%	11, 6.18%	11, 6.18%
Berwick Area	70, 38.04%	15, 8.15%	20, 10.87%	23, 12.50%	18, 9.78%	20, 10.87%	8, 4.35%	10, 5.43%
Bloomsburg Area	69, 35.20%	15, 7.65%	26, 13.27%	26, 13.27%	17, 8.67%	20, 10.20%	8, 4.35%	10, 5.43%
Danville Area	76, 38.19%	14, 7.04%	25, 12.56%	23, 11.56%	20, 10.05%	18, 9.05%	10, 5.03%	13, 6.53%
Lewisburg Area	43, 24.02%	10, 5.59%	19, 10.61%	41, 22.91%	19, 10.61%	21, 11.73%	15, 8.38%	11, 6.15%
Midd-West	80, 43.96%	14, 7.89%	19, 10.44%	12, 6.59%	23, 12.64%	16, 8.79%	4, 2.20%	14, 7.69%
Mifflinburg Area	63, 31.03%	14, 6.90%	33, 16.26%	32, 15.76%	15, 7.39%	23, 11.33%	9, 4.43%	14, 6.90%
Milton	65, 38.46%	13, 7.69%	13, 7.69%	25, 14.79%	13, 7.69%	19, 11.24%	8, 4.73%	13, 7.69%
Mt. Carmel	48, 34.78%	9, 6.52%	11, 7.97%	19, 13.77%	15, 10.87%	17, 12.32%	6, 4.35%	13, 9.42%
Selinsgrove Area	79, 34.20%	17, 7.36%	28, 12.12%	39, 16.88%	21, 9.09%	19, 8.23%	16, 6.93%	12, 5.19%

Shamokin Area	76, 38.00%	14, 7.00%	28, 14.00%	28, 14.00%	16, 8.00%	20, 10.00%	7, 3.50%	11, 5.50%
Shikellamy	100, 43.10%	14, 6.03%	18, 7.76%	31, 13.36%	13, 5.60%	32, 13.79%	8, 3.45%	16, 6.90%
Warrior Run	44, 32.13%	9, 6.57%	15, 10.95%	21, 15.33%	10, 7.30%	13, 9.49%	12, 8.76%	13, 9.49%

Easily the most populated group are those who exercise zero days a week. If we add together those who exercise less than twice a week, just in the CCSD, we find that 55.05% of the population in the district does not exercise to a level that is recommended by the American Heart Association for wellbeing. These numbers do not, however, demonstrate that the reason they do not exercise is tied to lack of access to a facility, even though this may be a contributing factor. It is likely, as seen by contrasting CCSD with other districts in the sample, that there are differences across districts that may be related to socio-cultural differences. For example, the Lewisburg Area district exhibits a higher amount of exercise on average than any of the other districts in the region. This district is culturally different from the region, due to the presence of Bucknell University, and therefore is a useful indicator of the ways that location may be related to exercise amounts. If it is the case that the Lewisburg area provides more opportunities for walking, for example the Bucknell Track, then the creation of the walking facility and the community awareness efforts being undertaken by Superintendent Mathais in CCSD might lead to a change in the percentage of exercising individuals.

Key
frequency row percentage

school district	Exercise, walking No	 Yes	Total
Central Columbia SD	89 45.41	107 54.59	196 100.00
Benton Area SD	25 41.67	35 58.33	60 100.00
Berwick Area SD	101 49.51	103 50.49	204 100.00
Bloomsburg Area SD	94 45.19	114 54.81	208 100.00
Danville Area SD	102 46.15	119 53.85	221 100.00
Juniata SD	6 40.00	9 60.00	15 100.00
Lewisburg Area SD	79 40.31	117 59.69	196 100.00
Line Mountain SD	33 47.83	36 52.17	69 100.00
Mid West SD	93 48.44	99 51.56	192 100.00
Mifflinburg Area SD	94 41.05	135 58.95	229 100.00
Millville Area SD	27 45.76	32 54.24	59 100.00
Milton SD	87 46.52	100 53.48	187 100.00
Mt. Carmel SD	54 36.00	96 64.00	150 100.00
Selinsgrove Area SD	88 34.24	169 65.76	257 100.00
Shamokin Area SD	89 40.27	132 59.73	221 100.00
Shikellamy SD	117 46.61	134 53.39	251 100.00
Southern Columbia SD	58 42.03	80 57.97	138 100.00
Warrior Run SD	55 37.93	90 62.07	145 100.00
Total	1,291 43.06	1,707 56.94	2,998 100.00

We find that of those who exercise, for the entire sample, 55.64% of them walk in contrast to 4.93% of individuals who run. In contrasting CCSD with other districts in the region, we find that it is slightly below the overall average and significantly below a few districts. Our theory is that the districts with higher walking reports also contain more walking supporting infrastructure such as a track facility or sidewalks. The importance of walking as a form of exercise is likely overstated in our sample because of the stratified nature of the sampling, which over selected for the elderly. However, as stated earlier in this report, the demographics of the district reflect the presence of a large elderly population. By making the track open at all times of the day to community members, it is reasonable to expect that senior citizens will take advantage of the opportunity to walk in a safe and enclosed, flat space, that the wellness facility provides.

Interview Results

Two student research assistants and the two faculty advisors created a list of possible interviewees. We started with a list of individuals identified by Superintendent Mathias as those who had donated money to support the creation of the facility. To his list we added a selection of health leaders in the region, individuals who direct non-profits in the district, and wellness coordinators of major employers in the district. In total, the students completed twenty interviews. The interviews averaged an hour in length. After each interview, the students would both write up fieldnotes that recounted the interview, identified major themes of the interview, and offered informed analytic reflection upon the interview experience. In this way, the students followed standard interview analysis procedures. All interviews were recorded and shared with the faculty advisors. The sample of interviewees was diverse in terms of gender, as eight interviewees were women and twelve men. We provide an analysis of these interviews by social element – individuals, school district, and the community – being emphasized in the project by Superintendent Mathias. That is, each of these sections contains the views held by members of the district about other individuals, the school district as an actor, and the community associated with the geographic area defined by the school district boundaries. We conclude with a section connecting these individual aspects of the project to the view individuals have of the work being done at the district to promote health.

Individuals

Interviewees lacked a strong understanding of how to speak about health. Specifically, it did not appear to our interviewers that residents of the district had a rich health vocabulary. This finding is pertinent as it provides an additional layer of opportunity for the school district to begin thinking about how to enable and educate the district about health and how physical activity might enhance one's well-being. This is not to say that interviewees had no model of unhealthy behaviors, in fact, there was a repeated conception of a family unity theory of health and social problems throughout many of the interviews. Interviewees believe that healthy eating and activity begins with the modeling provided by parents. If the parents are not eating good food, but are instead visiting a convenience store and fast food restaurant for dinner, then it is likely that their children will also develop these types of habits. The same is true for exercise and activity levels. There was a consistent focus on food as a health issue, as many identified a lack of healthy food options within the district. However, food choices were not the exclusive causal element in food choice, as convenience and difficulty in finding adequate time for meal preparation was also mentioned. This presents an opportunity for the district, as many of the students in the district

eat at school, as do residents at sporting events. In ways that the district wants to improve access to healthy food options, there may be an opportunity to both model and provide different food choices.

There was a consistent focus on obesity as a major health problem in the district. When asked about the causes of the problem, district members identified food and lack of activity as the main causes. Food has already been discussed. The causes of inactivity mirror those of food access as they were listed as being related to a lack of time, lack of easily accessible opportunity, and as a choice that is not prioritized among residents of the district. Exercise, in contrast to athletics or sport, was discussed by residents of the district as an option that is often unable to be selected when trying to balance work schedules, activities of children, distances to drive, and the seasonal changes associated with living in central Pennsylvania. In addition, one interviewee stated that she has friends who do not feel comfortable visiting a gym where they are forced to stand next to skinny girls while using equipment. Her hope was that the track, as a space with different types of bodies, may be a more comfortable and welcoming location for her friends. By extrapolating from the statements given by interviewees, if physical activity is included in one's frame for what health living means it rarely is involved as a component of lifestyles organized around protection of one's own body for continued well-being. Rather, physical activity is seen as one of the simple and direct ways to potentially improve one's health without having to also make dramatic shifts to one's diet, alcohol consumption patterns, and even possibly smoking habits. It will be interesting to see if citizens who visit the track also adjust the ways in which they view healthy eating and lifestyle choices.

Respondents identified the incentives offered by employers and insurance providers as a major possible source for enhancing and shifting exercise and activity frequency. In addition, if the track becomes a socializing space where members of the community are able to come together to both be active and to interact with each other, respondents believed that it would be more often used. The CCSD may want to consider if there are social programs they can create or encourage, for example a walking group that takes place during youth football practice, that would enhance the socializing element of walking at the track. In addition, interviewees wondered if children would be able to ride bikes on the track as a few of them liked to be active as a family. By combining individual activity opportunities with youth events, specifically sports, the district can leverage the strong commitment citizens have to their children with the practical realities individuals face with needing to commute to potentially enhance activity levels. If these programs are combined with employer incentives, the social structural elements of activity may shift the incentive structures for more than a few members of the community.

School District

Interviewees had a unanimously positive view of Superintendent Mathias. Many of them reported that they did not even know that the track was going to be open to the public but that they donated money simply because Harry asked them. This is an indicator of both the status Superintendent Mathias has in the community and the meaning the district carries with alumni. We were struck by the pride that individuals had of the associations they had with the school, as interviewees were quick to identify alumni status, often with stories of high school athletic successes or failures. This is not to be taken as a cliché story of men and women reliving glory days, but instead as an example of the cross-generational reach of the district.

Not all views of the district were without suspicion. Multiple respondents, especially those who had not donated money to support the project, believed that the school was simply interested in getting money to build a new football stadium. Individuals with this view expressed questions about the liability the district faces in the event that someone is injured while walking, skepticism about the district really having the track always being open, fear of vandalism, and a belief that the track would not be open to the community within two years of the opening. Eventually, they believe, something will happen that will cause the district to reevaluate the approach it was taking by having the track be open to the community.

Recognition of the role that sports play in community cohesion in the region was mentioned by multiple respondents. Overall, one belief held by interviewees is that the CCSD, which is currently viewed as being not known for being great at any given sport and is seen as providing a good, solid, education, has an interest in enhancing the status is has within the region as a sports high school. It is expected that an enhanced sports profile may dovetail with the positive image held about the educational opportunities provided in the district to draw new citizens to the district. In the event that new citizens to the region, who move for work and are able to choose the school district of residence because of the commuting patterns of the rural area, select the CCSD there will be opportunities for enhanced community cohesion because integration of new residents is built into the value structure of the district leadership.

Community

The rural and uncentralized nature of the CCSD was mentioned by a range of respondents. They expressed excitement around the role the school has been taking as the social node of the district which lacks a central town. The location of the track, in the center of the geographical space of the district, will likely be a contributing factor to enhanced usage. If the track and wellness facility continues to provide opportunities for socializing, for regional non-profits to host events, for employers to encourage activity through wellness programming and incentives, and for sports, the community cohesion and community identity of the district will likely be enhanced. In the ways that cohesion decreases social isolation, especially among elderly residents of the district, we posit that some basic positive impacts can be expected on mental as well as physical health status.

One significant aspect of health provision and conceptualizing that appeared to be absent in the district was a shared, community-level vision of health that was being enacted by social service providers, medical providers, and health organizations. We found that many of the critical comments made of the project were given by individuals who were leaders of agencies in the region. Our initial assessment of these statements was that they were the result of individual perspectives on the wellness center plan. However, after examining the interview data and observing the repetition in criticism from agency leaders, we have come to a new conclusion. There is not a community-wide commitment to health, instead, local organizations and the leaders of those organizations are oriented more completely around the sub-population they serve and assist. This is not a critique of these organizations, rather, it is a recognition that more engagement with the county level health organizations and coalitions may be useful for the school district, as those coalitions tend to focus health energies around the population centers of the county.

Monitoring Plan

We have articulated a view of evaluation in this report that asserts individual level data related to health changes will prove to be inadequate scientific measures for noting changes at the community level. This is not to say that individual level data about track usage will not be valuable, the procedures for gathering we will outline below, but it is to say that we do not think it possible to legitimately prove cause from the wellness center. We can, however, say with a higher degree of certainty that the presence of the track can have community level effects on cohesion, community identity, non-profit integration and employer wellness programming. The monitoring plan presented here builds upon these theories of community evaluation, is designed to be assessed by Bucknell faculty and students over the three year grant cycle.

A. Individual Track Usage Monitoring:
   - Develop an exercise survey and collaborate with the Susquehanna Valley Medical Specialists for distribution.
   - Use access to the video surveillance camera data for the track to evaluate usage. We expect that we will develop a random sampling frame to assess usage across the year.

B. Community Track Usage
   - Identify the main employers in the district with wellness incentive programs and call the wellness coordinators at 6-month intervals to ask about usage of the facilities and frequency of encouragement to use the facilities.
   - Continue to gather data on youth sports leagues and see if the number of participants increases in a significant manner (to be evaluated statistically) over the three year study period.
   - Complete community interviews during the summers of 2014 and 2015 about the wellness center.
   - We will keep an inventory of newspaper stories featuring the track. Have a student complete a content analysis of the stories to see how the track is being portrayed locally.

C. School Track Usage
   - Complete inventory of school wellness center programming. Continue to update this inventory by year.
   - Observe if there are changes in the status of the sports programs at the school occurring in conjunction with the remodeled playing spaces.

D. Community Health Impacts
   - Sport Ticket Sales, Increasing, Decreasing or Steady as a way to evaluate community cohesion
   - Community Oriented Programs at the track as a measure of cohesion
   - Interview follow-up data
   - Use next waves of community health surveys to be completed by GHS to create statistical understandings of health in the district from the period of 2009-2015.
   - Expected partnerships with Geisinger colleagues on child health activity

Conclusion

The efforts being undertaken by Superintendent Mathias and the leaders of the CCSD are laudable as they are presenting a vision of community-level health awareness that is coupled with providing the physical infrastructure necessary to improve health and well-being through exercise and increased physical activities. We anticipate that over the next three years, our monitoring efforts will aid

the district in understanding how they can adjust programs and the mechanisms of track usage to increase and enhance the ways in which community health can be improved in the district. We envision continuing to utilize a multiple level analysis of health in the geographical area covered by the district and to see that organizational and community level data, rather than simply individual level data, may provide us with the clearest way of understanding how and if changes have been generated in the health and well-being possibilities of the residents in the CCSD.