

# Summer 2018 Boys and Girls Club of Rio Rancho 10 x 10 Data-Based Evaluation

## Sandoval County Health Council

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### Background

The World Health Organization concluded 10 years ago that closing the health equity gap is achievable in a generation, if children are the focus.<sup>1</sup> In an effort to achieve this goal, Federal and State guidelines presented in Healthy People2020, by the New Mexico Department of Health (NMDOH) as well as the Center for Disease Control (CDC) and professional groups including the American Academy of Pediatrics and the American Academy of Pediatric Dentistry, provide specific age appropriate priorities and targets relating to wellness and growth and development. These guidelines are based on an extensive body of research and include a recommendation for implementation of early childhood health literacy education and specifically school- based programs designed to encourage behaviors that decrease subsequent onset of chronic diseases and improve productive life quality<sup>2</sup>. The New Mexico 2013 Risk and Resiliency Survey for Middle School students and the 2017 Risk and Resiliency Survey for high school students in Sandoval county provide additional information important to establishing priorities for a healthy habits elementary school program in Sandoval County specifically in the areas of physical activity, body weight and nutrition, including daily screen time, mental health and marijuana, alcohol and tobacco use.<sup>3</sup> Type II diabetes with an age adjusted rate between 7 and 11% in 2014 to 2016, higher in Black, Native American and Hispanic populations, in Sandoval County presents another population health risk that is impacted, along with other factors, by childhood lifestyle and the development of healthy habits.<sup>4</sup> In 2014 the per capita health care spending in

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<sup>1</sup> World Health Organization. 2008 Closing the gap in a generation. Commission on social determinants of health.

<sup>2</sup> Winkleman T, Caldwell M, Bertram B, Davis M. 2016. Promoting health literacy for children and adults. Pediatrics

<sup>3</sup> New Mexico Dept of Health, Public Education Department, NM Prevention Research Center, 2018. New Mexico Risk and Resiliency Survey, Sandoval County high school results <http://youthrisk.org/pdf/YRRS-2017-HS-countyreport-sandoval.pdf> Sandoval county middle school results <https://nmhealth.org/data/view/behavior/1572/>

<sup>4</sup> New Mexico DOH, IBIS Prevalence of Type II diabetes in Sandoval County, 2014-2016. <https://ibis.health.state.nm.us/indicator/view/DiabPrevl.Cnty.html>

New Mexico was \$7214. Turning expenditures from illness to wellness continues to be a goal of the Sandoval County Health Council.<sup>5</sup>

The 2016 Sandoval County Health Council Community Health Needs Assessment identified six community health priorities that include access to health care, preventive services, health literacy and wellness, nutrition, physical activity, mental and behavioral health and community collaboration that apply to children as well as to adults<sup>6</sup>. Pursuant to addressing these community health priorities within the context of research-based guidance and public policy, the Sandoval County Health Council (SCHC) has supported implementation of the 10 x 10 Student Ambassador booklet and program that provides healthy habits age level information for students and their families in both rural and metropolitan Sandoval County.

## **Introduction**

The 10 x 10 booklet, *10 Things Every Child Should Know by the Age of 10*, developed by the Sandoval Health Collaborative is designed to supplement school curriculum specific to healthy habits and life style. The plan is for the booklets to contain the same 10 messages for all grade levels first through fifth: Eat Well, Keep Moving, Be Aware, Make Wise Choices, Think Safety, Keep it Clean, Stay Balanced, Navigate it, Know your Numbers and Keep Growing, with each grade level expanding on the topics and providing appropriate, hands-on-learning activities. At the end of the program the booklet, which includes a comprehensive guide for parents to local health resources, is sent home to encourage continued exploration by families. The goal is to reinforce learning through age adapted repetition and active learning that encourages students to incorporate knowledge and behavior and become “health ambassadors” at the peer to peer as well as child to family levels.

The 10 x 10 program was piloted for first grades in Spring, 2017 in several Rio Rancho and Bernalillo elementary schools and at Cuba Elementary. In year two, beginning in Fall, 2017, implementation included both a first and second grade booklet made available to elementary

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<sup>5</sup> Kaiser Family Foundation, 2018. Health care expenditures by state, 2014, <https://www.kff.org/other/state-indicator/health-spending-per-capita/?currentTimeframe=0&selectedRows=%7B%22wrapups%22:%7B%22united-states%22:%7B%7D%7D,%22states%22:%7B%22new-mexico%22:%7B%7D%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

<sup>6</sup> Osterfoss M. 2016. Sandoval County Community Health Needs Assessment. Sandoval County Health Commission

schools in Cuba and Rio Rancho. In Summer 2018 first and second grade booklets were used as part of a Boys and Girls Club summer camp program in Rio Rancho. In Spring, 2019 first, second and third grade booklets and programs will be available for Bernalillo and Rio Rancho elementary schools as well as in Cuba Elementary school and Boys and Girls Club of Albuquerque.

Previous reports to the SCHC in March and May 2018 have presented pre and post survey data from samples of students, parents and teachers at participating schools, included discussion and analysis of those findings and have provided recommendations for ongoing data collection and analysis methodology. This report includes data, analysis, discussion and recommendations based on the 2018 Boys and Girls Club summer program as well as comparison among findings to date. The plan for implementation and evaluation of the 2019 10 x 10 program in Bernalillo, Rio Rancho and Cuba elementary schools, grades one, two and three, and in the Boys and Girls Club of Albuquerque after school program is also provided. Short term recommendations that could be implemented in the 2019 cycle and short to mid term recommendations for 2019 and beyond are included.

## **10 x 10 and Boys and Girls Club Rio Rancho NM summer program, 2018**

### **Boys and Girls Club**

Boys and Girls Clubs of Central New Mexico were founded in 1952 to provide at-risk children, ages five through 18 with programming that is educationally based but fun and supports successful peer and adult relationships. Boys and Girls Club contracts with elementary schools to provide after school and summer camp programming that includes five core areas: health and wellness, sports, power hour (one hour of physical fitness), arts and crafts plus cooking at some sites. According to their 2017 Impact Report six sites in central New Mexico serve over 4,000 children and teenagers 87% of whom are from minority races or ethnicities, 89% qualify for free or reduced lunch and 51% live in single parent households.<sup>7</sup> , (Personal communication Christian Naea, Chief Program Officer).

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<sup>7</sup> Boys and Girls Clubs of Central New Mexico. 2018. 2017 Impact Report.

## **10 x 10 program at Boys and Girls Club, Rio Rancho**

In order to expand the scope of children offered 10 x 10 in a venue different than a school, Boys and Girls Club in Rio Rancho was offered the opportunity to incorporate 10 x 10 into their 2018 summer camp program and enthusiastically accepted. Boys and Girls Club participants are divided into two age groups: kindergarten through second and third through fifth. Both groups participated in 10 x 10 instruction and activities.

62 kindergarten, first, second and third grade students completed a preprogram survey and 34 completed a post survey. Results from both are presented in a descriptive statistics format. (See Appendices A and B). Eleven parents of kindergarten, first, second and third grade students completed a preprogram survey and 10 completed a post survey. (See Appendices C and D.)

In addition to general demographic information included above for central New Mexico Boy and Girl Club participants, student profile information was compiled based on information available on corresponding elementary school web sites and obtained from parents, which indicates diversity in racial and ethnic backgrounds and likely eligibility for free or reduced breakfast/lunch. The maximum annual income for a family of four to obtain this benefit is \$44,955 (See Appendix E).

### **10 x 10 Program Themes from Student and Parent Survey Data**

#### **Student pre10 x 10 data themes (n=64)**

##### **Positive behavior trends:**

32% had previously experienced 10 x 10 in school

56% reported eating fruits and vegetables most of the time or all of the time

##### **Behaviors that could be improved to promote healthy outcomes.**

64% reported never or sometimes talking about healthy eating at home

16% reported getting NO daily exercise and a total of 58% reported getting LESS than an hour each day

65% reported they were not able to say or write their address

### **Parent pre10 x 10 data Themes (n=11)**

#### **Positive behavior trends:**

91% reported their children initiate conversations about healthy behavior and eating frequently to very often

91% reported serving fruits and vegetables frequently or at every meal

100% reported that their children played or exercised one hour or more each day

#### **Behaviors that could be improved to promote healthy outcomes**

55% reported that their children could say or write home addresses

### **STUDENT post 10 x 10 data Themes (n=34)**

#### **Positive behavior trends and improvement**

74% reported learning a lot about healthy eating, exercise and healthy habits

88% reported eating fruits and vegetables sometimes or all the time

65% reported “yes” and 25% “maybe” to more 10 x 10 leaning and activities

When ask what they remembered from 10 x 10 responses ranged across many of the topic areas with healthy eating, wash hands, stay balanced and stay healthy as the most frequent responses.

When ask what they would like to do more of as part of 10 x 10 “activities” was the most frequent response.

#### **Gaps and areas for improvement**

35% did NOT like the 10 x 10 program, 16% like it a little bit and 35% a lot

71% reported never or sometimes talking about healthy eating at home

50% reported less than an hour per day of exercise

47% reported not being able to say or write their address

### **PARENT post 10 x 10 data Themes (n=10)**

#### **Positive behavior trends and improvement**

90% reported child brought 10 x 10 booklet home

90% reported child thought 10 x 10 interesting and engaging

90% reported 10 x 10 helped family to talk about healthy behaviors more often

70% reported sharing activities from the book

70% reported using the health resources section

100% indicated 10 x 10 helped them to practice more healthy behaviors

100% indicated they would like their child to continue with the 10 x 10 age appropriate program

#### **Gaps and areas for improvement**

None indicated

## **Discussion of data significance and comparison to aggregate data from 2017/2018 school based 10 x 10 programs**

### **Improvements based on student data responses pre to post Rio Rancho Boys and Girls Club:**

Eating fruits and vegetables sometimes or all the time increased from 56% to 88%

Exercising LESS than an hour or more per day decreased from 58% to 50%, still a significantly small percentage who meet CDC guidelines of an hour each day.

NOT being able to say or write home address showed an 18% improvement and decreased from 65% to 47%

Other positive outcomes included students able to list the headings of 10 x 10 lessons that they remembered and interest in more 10 x 10 learning and activities, with emphasis on activities (65% yes and 25% maybe)

### **Areas for more improvement**

Daily exercise amount

Knowledge of address

Talking with families about healthy eating

### **Improvements based on parent data pre and post responses**

Parent response were notably more positive both pre and post than students: For example, on post surveys 90% of parents reported increased conversations about healthy behavior while 71% of students reported sometimes or NEVER talking about healthy eating at home. In the presurvey 82% of parents reported the family eating fruits and vegetables at every meal compared to 35% of students who indicated all the time and post survey 53% of students indicated eating fruits and vegetables all the time.

Parent interest and enthusiasm in 10 x 10 was significantly greater in this sample than that of students with 90% to 100% in the post survey indicating more conversations and implementation of healthy eating and behavior as a result of 10 x 10 and 100% interest in children continuing

with age appropriate 10 x 10 programs which exceeded the positive student response of 62% and 25% maybe. Although parents indicated a high level of healthy eating and discussion at home PRE program they noted across the board improvement as a result of 10 x 10. Additionally, these parents (70%) incorporated 10 x 10 activities at home. Although social desirability bias may have played a role in parents' responses, the small parent sample, compared to student sample size (11/10 compared to 64/32) may reflect that the surveys were completed by self -selected parents with a high level of interest and involvement.

### **Comparison to 2017/2018 school data**

The Rio Rancho Boys and Girls Club methodology and sample approximates the cohort data obtained from Cuba Elementary in 2018. Consistent results of student pre and post surveys for Rio Rancho student data may be explained due to overlap between participating schools and the Boys and Girls Club student population even though school based pre and post cohorts could not be confirmed. When student Rio Rancho data is compared to Cuba elementary cohort data frequency of conversations about healthy eating and behavior at home is consistent while eating fruits and vegetables is more frequent in the Rio Rancho sample and more time exercising occurs in Cuba. These differences may be attributed to the contrast between the rural setting in Cuba and less access to fresh fruits and vegetables but an environment and life style more conducive to exercise. In both cohorts, achievement of saying or write a home address remained below 50% post 10 x 10. In the case of Cuba this has been attributed to lack of physical addresses. Other possible explanations in both rural Cuba and metropolitan Rio Rancho may be frequent moves and reliance on auto phone dial and social media connections for communication.

Overall, in both Cuba and Rio Rancho Boys and Girls Club cohorts, modest outcome improvement occurred. Since acquiring knowledge precedes behavior change, process improvement as indicated by increase in healthy habits interest, learning new information and moving in the right direction to increased healthy behavior as a result of 10 x 10 was significant in both cohort groups.

On the other hand, there is no comparison in the level of 10 x 10 awareness, involvement and enthusiasm between Cuba and Rio Rancho Boys and Girls Club parents with the Rio Rancho sample being remarkably supportive and engaged. This difference may again be attributed to

physical distance from home to the school or camp program that results in decreased parent contact or self-selection for survey purposes. Another possibility may relate to program coordination that does more to incorporate parents into activities.

### **Significance based on implementation to date**

In addition to previous research and guidelines from national and state entities, direct data obtained from 10 x 10 programs in Sandoval County substantiates value added as a result of the program and provides the basis for program growth and continued improvement.

### **Recommendations for implementation in 2019 program**

- Continue to maximize coordination between participating sites and Sandoval Health Collaborative and SCHC
- Improve data tools to avoid socially determined bias in survey questions with more open-ended questions starting in third grade. One example is inclusion of a tear-out diary page in the third-grade booklet in which students can do a weekly entry regarding previous day foods eaten and exercise. Allow for increased depth of data detail by adding some key informant interviews for parents and teachers to survey efforts
- Improve documentation of 10 x 10 information by including a page with references including NMDOH, Healthy People 2020 and the CDC that include guidelines and recommended activities to support teachers and families in efforts to increase and incorporate healthy behaviors around nutrition and exercise.<sup>8, 9 10</sup>
- Increase peer to peer ambassador emphasis while maintaining goal of ambassador to family
- Increase emphasis on nutrition, exercise and mental health (screen time, including social media, can come under all of these) in booklet and program content.

### **10 x 10 groundwork and plan for 2019 programs**

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<sup>8</sup> CDC, Are my kids getting enough exercise. 2018

file:///C:/Users/Peggy/AppData/Local/Microsoft/Windows/INetCache/IE/0ITXPYU3/PAG\_MYW\_Parents\_FS.pdf

<sup>9</sup> CDC <https://health.gov/moveyourway/#parents>

<sup>10</sup> CDC Nutrition Facts. 2018 <https://www.cdc.gov/healthyschools/nutrition/facts.htm>

10 x 10 2019 will include age appropriate booklets for children in grades 1, 2 and 3. The first and second grade books will undergo some minor changes in response to suggestions by teachers and administrators who have implemented the program as well as volunteer program consultants will expertise in elementary education. The third-grade book working within and building on the same topic areas as first and second grade books, is nearing completion. The plan is to implement the program as broadly as possible but with improved advance and ongoing coordination.

In person on site discussions have taken place with principals who have agreed to lead or delegate responsibility for coordination in Cuba, Bernalillo and Rio Rancho school districts. In addition, the director of Boys and Girls Club of Albuquerque has committed to coordination with five afterschool programs, two of which will participate in the survey sample. Although participation is open to all classrooms the lead principals have identified two schools in each district (Algodones and Santo Domingo in Bernalillo, Martin Luther King and another to be determined in Rio Rancho and Cuba Elementary, plus Boys and Girls Club after school programs for two schools in Albuquerque ) in which sample study groups, one class each from first, second and third, will participate in student and parent pre and post surveys and teacher post program interviews.

Participation in surveys and interviews is voluntary with no individual identification but will include school, grade level and voluntary completion of basic demographic information. Cohort data will be assumed based on school and grade level identification. The result should be a minimum of 100 cohort students from each grade level included in the study data sample with the expectation of program coordination facilitated on the school end to the extent of distribution of books and the timely distribution and collection of pre and post survey instruments, including cooperation in facilitating teacher and some parent input through key informant interviews.

In early December, meetings have been set up with principals and participating teachers in Rio Rancho and Bernalillo and in early January with the principal and teachers at Cuba Elementary to offer orientation, review data-based importance of the program and identify resources that will assist teachers who attend. The presentations will include a short video that can subsequently be shared with other teachers in addition to those participating in the study samples. The goal is to increase buy in and provide additional resources while leaving the decision as to which teachers

will be involved to the specific site. For example, physical education teachers and school nurses can supplement or replace classroom teacher participation.

Program orientation and roll out times have been requested for each participating district and Boys and Girls Club. Orientations are scheduled for Dec and January with Boys and Girls Club in February. Program initiation will follow within the schedule requested at the school level with the goal of completion in March around the time of parent conferences or other school events during which parent data can be obtained and prior to State required academic proficiency testing. District coordinators and school principals at study sample schools will be responsible for coordinating book and pre and post evaluation distribution and collection with a designated 10 x 10 representative.

### **Recommendations for 10 x 10 in 2019 and beyond**

- Seek funding to for a part time 10 x 10 coordinator to be a liaison between the Sandoval Health Collaborative and existing partners in schools and Boys and Girls Club and to identify and coordinate future partnerships. The following are examples of functions to include in the coordinator's scope of work under the direction of the Health Collaborative and with input from the SCHC. The coordinator could facilitate orientations and updates to the program on an annual basis or as needed, schedule and distribute booklets, distribute and collect data instruments, including maximizing cohort data collection, schedule key informant interviews, provide content and associated activity resources for programs, facilitate idea and information sharing among participating entities and pursue partnerships with other organizations with the goal of increasing peer and family involvement.
- Improve data gathering survey and include key informant interviews to decrease social desirability bias on parent and student surveys, to obtain additional depth of information through interviews in order to more completely capture process and outcome changes pre to post program and from grade to grade. One example could be a diary page on which a weekly entry for specifics about "what I ate" and "how I moved" in the last day could be noted in written form for 3<sup>rd</sup> grade and older and captured in circled pictures for first and second graders. Open ended responses to a question like "What do I remember from 10 x 10?" should be maintained for third grade and older. Additional changes for first and

second graders could include simplifying vocabulary, fewer response choices and pictures rather than word choices.

- Include a reference page in the booklet with basic guideline information and links to more detailed information provided by Healthy People2020 and the CDC which has included fact sheets and videos as part of nutrition and exercise information. (One CDC video promotes using TV commercial time for jumping jacks, sit ups and pushups). This would provide more easily accessible supplementary information for teachers, coaches and parents.
- Identify and establish partnership with other health related programming that would promote peer to peer or child to family message sharing for children in 3<sup>rd</sup> grade and older. Examples could be running clubs such as Running Medicine (already in place in the Sandoval County area) or Girls on the Run, Kids Cook or other hands on cooking opportunities, as well as partnership with food bank deliveries to provide recipes and cooking classes regarding simple preparation of less familiar, healthy fruits and vegetables. Gardening and cultivating fresh produce also has potential. For example, Cuba Elementary has started hydroponic lettuce growing in the cafeteria.

## Conclusion

*10 Things Every Child Should Know by the Age of 10*, more than a booklet, initiates a program that has significant potential for impact on individual and community wellness. It is a vehicle for conveying and adapting messages coming from Healthy People 2020, the New Mexico Department of Health and the Center for Disease Control to the community level. Currently the CDC is ramping up the urgency of recommendations and resources for children to improve nutrition, increase exercise, decrease screen time and support mental health, all of which are core messages in 10 x 10. Interest in 10 x 10 continues to increase with support coming from the NM Department of Health as well as from the Presbyterian Foundation through the leadership of the SCHC. Continued program coordination and evaluation are essential to improve program quality, provide accountability and attract funding necessary for program growth. The importance of population health in Sandoval County New Mexico, starting with children, is among the most important initiatives that can result in increasing individual life quality, economic viability of communities and sustainability of a quality health care system.

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