Getting Better All the Time: The Status of Employee Wellness Programs in North Carolina's Municipalities

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Executive Summary

Wellness programs are designed to nurture employee health, well-being, and productivity. Although organizations are recognizing the benefits of investing in wellness programs, little is known about what is included under the wide umbrella of "wellness programs." This study explores what wellness program components North Carolina municipalities offer and what information they collect to evaluate these programs. All municipalities offer some wellness program, the most common components being on-site health screenings and seminars. While 86% of municipalities are collecting information on their wellness program, the depth and amount of information varies.

Introduction

Healthy, engaged, and productive employees are a goal of all organizations. The issues of health and engagement have become not just a matter of productivity and morale but one with financial considerations. Wellness programs can promote health and keep down related healthcare costs. Wellness programs can broadly be defined as any action by an organization that "promotes health or seeks to prevent a disease."¹

Wellness Program Components

The term "wellness programs" can refer to many activities, from health screenings to smoking cessation coaching programs to on-site wellness clinics. While wellness programs can vary greatly in what they include, those with the greatest return on investment include assessment activities, communication materials, self-help materials as well as group programs.² Although more advanced wellness programs require higher initial investments of both time and money, they provide the greatest long term cost savings to employers.³

Wellness Program Outcomes

Wellness programs result in a well-documented return on investment in both direct financial savings as well as employee productivity and commitment. However, the amount of savings may vary depending on the type of program offered and what measures are used to evaluate the program.⁴ Wellness programs can lead to decreased employer health care costs, increased employee productivity,⁵ decreased sick time,⁶ reductions in disability costs,⁷ increased work performance, lower turnover, and higher levels of organizational commitment.⁸ For employees, wellness programs can lead to improvements in blood pressure, cholesterol levels, and other health measures.⁹

Evaluating Wellness Program Outcomes

The highest-performing wellness programs have specific outcome targets and the ability to measure progress to such targets.¹⁰ Thus, it is important that wellness programs collect appropriate metrics to demonstrate a program's impact. In evaluating programs, multiple levels of metrics are needed; employee reaction is not the only way to measure program impact. Evaluation should also include measurement of employee learning, behavior changes, and organizational results.¹¹ Most wellness programs will not see significant return on investment for at least two years as they attempt to alter basic employee behaviors,¹² but some simple, low-cost changes to workplace setting or education campaigns can impact employee health in the short term.¹³

Information shows increased use of wellness programs in the public sector, with 54% of public sector employees and 46% of local government employees having access in 2008.¹⁴ However, little is known about the actual components of wellness programs among local governments, despite a rise in employer interest in such programs and their benefits. Due to the advanced age of many municipal employees, public sector employers are at an increased risk for dramatically rising health care costs.¹⁵ This research begins to fill that gap in local government knowledge and provide perspective on what is happening in the area of wellness programming for local governments in North Carolina (NC). With a focus on outcomes and calculating return on investment, this research also provides insight into the extent to which municipalities are collecting information to evaluate their wellness program components.

Research Questions and Methodology

This research answers the following questions:

1. What components of employee wellness programs are offered by NC's municipalities?

2. What type of metrics are these municipalities collecting to evaluate outcomes of these programs? To answer these questions, an electronic survey was administered to Human Resource Directors from municipalities in NC with populations above 20,000 (43 municipalities in total, see Appendix A for a complete list).¹⁶ The survey addressed a range of wellness activities drawn from both academic and best practice research; a copy of the survey is included in Appendix B. One way to categorize wellness programs that was presented in the literature is four distinct categories (described in Appendix C): assessment ("What do our employees know about themselves? What do we know about our employees?"), self-help ("What can we help our employees' accomplish on their own?"), communication and policy ("How does our

organization discuss wellness and wellness policies"?), and group wellness ("What do our employees do as a group?").¹⁷ The survey asked about wellness program components in these four categories and, overall, eleven wellness program components were tested.¹⁸ The survey also evaluated information municipalities collect to evaluate the outcomes of their wellness program.¹⁹ There was a 67% response rate to the survey (n=29).²⁰ Three high-performing survey respondents were then interviewed to provide context to the data collected from the survey.

Findings and Discussion

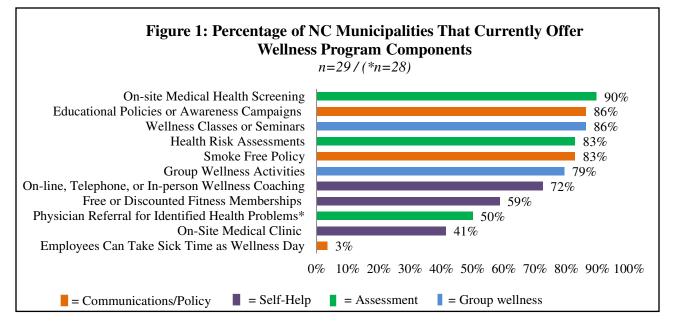
This findings section will first address general findings on wellness program components and then each of the four wellness categories: assessment, self-help, group wellness programs, and communication. The section will conclude with results on the second research question and what information municipalities are collecting about their wellness program.

Research Question One: Wellness Program Components

Survey results reveal that all NC municipalities are actively engaged in wellness programing; all respondents offer at least some wellness activities to their employees.

Overall, 23 of the 29 municipalities offer one component from each of the four wellness categories (79%). The most common wellness program component is on-site medical health screening; the least common component was allowing employees to take a sick day as a wellness day (see Figure 1). Of the eleven identified wellness program components in this survey, municipalities range from offering two to ten components. On average, municipalities offer a little over seven wellness program components.

One area where municipalities varied in the type of program component offered was in employee population. Employers with 401 to 800 employees provide the most assessment, self-help, and group wellness activities, and the least communication and policy activities (see Appendix E for a more detailed discussion of this variation).



Municipalities do not appear to be cutting back on wellness programs in light of economic insecurities and budget cuts. This may be due to employers using wellness programs as a partial solution to increasing healthcare costs.²¹ While 45% of employers (13 municipalities) reported program components that they discontinued within the past three years, these 20 discontinued components pale in comparison to the 211 wellness program components still being offered by municipalities. The survey did not ask municipalities

why they stopped offering program components; it is possible that municipalities found some components not popular or a strong return on investment and chose to discontinue them.

Assessment Wellness Components

Assessments can help employers identify an organization's health profile and areas needing improvement. Employers can then use identified health problem areas, on an aggregate level, to form and guide health areas to focus on as part of the organization's overall wellness program. Three assessment components were tested: health risk assessments, on-site medical health screenings, and physician referral for identified health problems. All 29 municipalities provide at least one assessment activity for their employees, while 11 municipalities provide all three assessment activities (38%) and 13 municipalities provide two assessment activities (45%). The most common assessment activity offered was onsite health assessment, offered by 26 municipalities (90%) (see Figure 1). As wellness programs should be designed around employee needs, it is heartening to see that NC municipalities have begun to evaluate the health of their employees and can then use this information to tailor their wellness programs to the needs of their employees.

Self-Help Wellness Components

Self-help components are opportunities provided by the municipality that the employee must take advantage of on their own. Three self-help components were evaluated: on-site medical health clinic, free or discounted fitness memberships, and on-line, in-person, or telephone wellness coaching. Almost 90% of municipalities (25 municipalities) provide some sort of self-help activity for their employees. The most common component is on-line, telephone, or in-person counseling for health related issues, currently offered by 21 municipalities (72%) (see Figure 1). For the 21 municipalities that provide some sort of health counseling, the most common type of counseling is in-person counseling, offered by 16 municipalities (76%). While some self-help components require an initial higher investment, such as an on-site clinic, others, such as free/reduced fitness memberships, require little investment up front. These low-cost options could be places to start for municipalities looking to implement self-help components before looking to higher cost components.

Group Wellness Components

Group activities can be an opportunity for employees to encourage each other's participation and commitment to health goals.²² Two group wellness program components were evaluated: wellness classes or seminars and group wellness activities. Of the 29 municipalities, 26 offer at least one group wellness component (90%), while 21 municipalities offer both components (72%) (See Figure 1). Wellness classes or seminars are the most common group wellness activity offered. Weight loss competitions (70%, n=23), were slightly more common than group exercise classes (67%). It is possible that employers find economy of scale savings with group activities that they do not see with individual program components.

Communication and Policy Components

Three communication and policy components were tested: having a smoke-free policy of any sort, offering educational policies or awareness campaigns, and allowing employees to take sick time as a wellness day. All 29 municipalities have at least one communication or policy component as part of their wellness program while one municipality offers all three components. As seen in Figure 1, educational policies or awareness campaigns are the most common component, offered by 25 municipalities (86%). Between the 25 organizations that offer some sort of educational policies or awareness campaigns, bulletin boards are the most common method that municipalities use to create awareness, with 22 municipalities having one set up (88%). Only one organization has a policy of not serving junk food at meetings (4%). Municipalities appear to be sticking to low-cost communication activities, without actually implementing policies that may actively change employee behavior. One interpretation is that these policy changes may be outside control of Human Resources and would require involving other stakeholders in organizational decisions.

Research Question Two: Information Collected About Wellness Programs

To determine what type of metrics municipalities use to evaluate their wellness programs, the survey asked municipalities about 11 types of information they were collecting on their wellness program. Types of

information collected were grouped into basic employee reaction data and more complex behavioral data. Overall, 86% of municipalities collect information on their wellness program.²³ Municipalities collect an average of five types of information about their wellness program, with some collecting as many as nine.

Employee Reaction Information

The survey asked about two types of basic employee reaction information: employee feedback and employee participation levels. All employers collecting information are capturing at least one piece of basic employee reactions to their wellness programs; 75% of municipalities are collecting both pieces of information. While the information municipalities are collecting may be useful in ensuring future wellness sessions are relevant to employees, this basic level of analysis does not allow organizations to evaluate either return on investment or health impact of wellness program components.

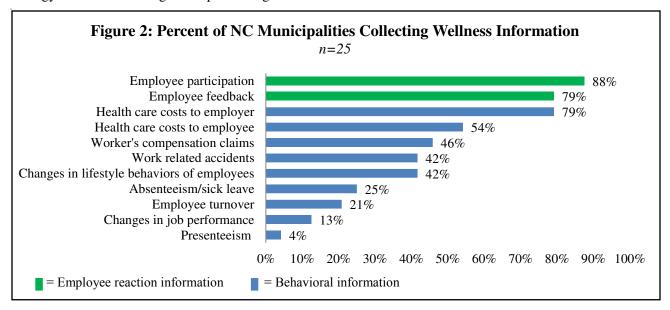
Behavioral Evaluation Information

The survey asked about nine pieces of additional behavioral evaluation information:

- changes in lifestyle behavior of employees
- absenteeism/sick leave
- presenteeism (working while sick)
- worker's compensation claims

- work related accidents
- health care costs to employer
- health care costs to employee
- changes in job performance
- employee turnover

When considering how to evaluate wellness programs, having multiple levels of assessment can provide more information and greater ability to use the data to inform decision making in a meaningful way.²⁴ On average, municipalities collect just over three pieces of behavioral evaluation information and none are collecting more than seven. As seen in Figure 2, the most common type of behavioral being collected is health care costs to employer, collected by 79% of municipalities. The two pieces of information being collected most infrequently were presenteeism, (collected by only one municipality) and changes in job performance (collected by only three municipalities). While employers appear to be collecting hard data directly related to healthcare costs, presenteeism, employee turnover, absenteeism/sick leave, and changes in job performance information can also impact both healthcare and productivity costs. This information can also be used to more fully measure return on investment of wellness program components, a useful strategy when determining the impact of high dollar wellness investments.



In addition to collecting information, it is important to then use the collected information to make strategic human resource decisions. The City of Mooresville launched their wellness program with an

advanced set of performance metrics in October 2011. They are monitoring health care claims on a quarterly basis for services that their nurse offers in their on-site clinic and will benchmark expected changes against their previous year's health claims to evaluate the clinic's impact. The full set of Mooresville's advanced metric definitions is included in Appendix F as an example of strong performance metrics.

Recommendations/Policy Implications

NC's municipalities offer many, diverse wellness components. Although almost 80% of municipalities offer one component from each of the four wellness categories, the few municipalities that do not offer at least one component in each category should first look to the category that they are missing when considering expansion of their wellness program. This will ensure that their wellness program reflects current best practices for wellness programs. These new components should be designed with specific health or employee behavior change outcome targets in mind.²⁵

Municipalities committed to their wellness program looking for a direct return on investment for their wellness program may look to offering an on-site wellness clinic.²⁶ Currently, only 41% of municipalities offer an on-site wellness clinic. This can be a high-cost initial investment that can generate significant cost savings in the long run, as demonstrated in both literature and practice. Asheboro's on-site health clinic is profiled in Appendix G.²⁷

Municipalities indicate that they are collecting multiple types of information on their wellness program, which is promising. However, collecting information on wellness programs does not in and of itself lead to strategic healthcare decisions.²⁸ The next step is to compare the collected information to existing data within or outside the organization to understand the context in which changes are happening. Organizations can then use human capital analytics to analyze and understand the data and ultimately make forward thinking data-driven decisions. These data driven decisions should not be focused solely on the short term, as seeing documented healthcare savings can often take two or more years.²⁹ This survey did not capture how municipalities are using the data collected to evaluate their wellness program (such as dashboards, scorecards or even analytical tools); a follow-up study could measure how municipalities are using the data collect high level performance metrics on a wellness clinic or any other high-cost investment in order to be better positioned to evaluate the program component's effectiveness and determine whether it is generating desired cost-savings and health improvements. In addition to moving towards collecting higher end behavioral change metrics, municipalities that want to expand and improve their wellness program can consider more advanced analysis of their existing data.

This study did not address the length of time different wellness program components have been offered by municipalities. From follow-up interviews, it appears that high-performing programs evolved and grew over time in response to both changing employee needs and municipality's growing healthcare costs. Often this growth was the result of one specific employee serving as a program advocate. A follow-up study could provide lessons on how municipalities successfully anticipated changing needs and health conditions.

Wellness programs, when evaluated comprehensively, have the opportunity to produce cost savings for employers while also increasing the health and productivity of employees. NC municipalities provide many wellness program options for their employees. However, as employers move to strategic human resource decisions based on healthcare analytics, municipalities can expand the information collected to evaluate these programs and how they demonstrate cost savings and productivity improvements. ² This study will explain wellness program programs through the lenses of these four categories. These are the original categories put forth by Powell in 1999; I have adjusted the titles of the categories to be more clear in their description in light of wellness program changes in the last 12 years. Powell, D.R. (1999). Characteristics of Successful Wellness Programs. *Employee Benefits Journal*, 24(3), 15-21. Benavides, A. D., & David, H. (2010). Local government wellness programs: A viable option to decrease healthcare costs and improve productivity. *Public Personnel Management*, 39(4), 291-306.

³ Serxner, S.A., Gold, D.B., Grossmeier, J.J. & Anderson, D.R. (2003). The Relationship Between Health Promotion Program Participantion and Medical Costs: A Dose Response. *Journal of Occupational and Environmental Medicine*, *45*(11), 1196-1200.

⁴ Benavides, A. D., & David, H. (2010). Nyman, J.A., Barleen, N.A. & Dowd, B.E. (2009). A Return-on-Investment Analysis of the Health Promotions Program At the University of Minnesota. *Journal of Occupational and Environmental Medicine*, *51*(1),54-65.

⁵ Benavides, A. D., & David, H. (2010). Kocakulah, M. & Joseforsky, H. (2002). Wellness Programs: A Remedy for Reducing Healthcare Costs. *Hospital Topics: Research and Perspectives on Healthcare*, *80*(2), 26-30. Parker, K., Wilson, M.G., Vandenberg, R.J., DeJoy, D.M. & Orpinas, P. (2009). Association of Comorbid Mental Health Symptoms and Physical Health Conditions With Employee Productivity. Journal of Occupational and Environmental Medicine, *51*(10), *1137-1144*.

⁶ Benavides, A. D., & David, H. (2010). Schultz, A., Lu, C., Barnett, T.E., Yen, L.T., McDonald, T., Hirschland, D. & Edington, D.W. (2002). Influence of Participation in a Worksite Health-Promotion Program on Disability Days. *Journal of Occupational and Environmental Medicine*, 44(8):776-780.
⁷ Schultz, A., Lu, C., Barnett, T.E., Yen, L.T., McDonald, T., Hirschland, D. & Edington, D.W. (2002). Influence of

⁷ Schultz, A., Lu, C., Barnett, T.E., Yen, L.T., McDonald, T., Hirschland, D. & Edington, D.W. (2002). Influence of Participation in a Worksite Health-Promotion Program on Disability Days. *Journal of Occupational and Environmental Medicine*, *44*(8):776-780. Bertera, R.L. (1990). The Effects of Workplace Health Promotions on Absenteeism and Employment Costs in a Large Industrial Population. *American Journal of Public Health*, *80*(9), 1101-1105.

⁸ Roberts, G.E. (2001). Employee Benefits Cost Control Strategies in Municipal Government. *Public Performance & Management Review*, 24(4), 389-402.

⁹ Hochart, C. & Lange, M. (2011).

¹⁰ Shourie, A. (2001). Spotlight on Success: Implementing Effective Health Promotion Programs. *Occupational Health Tracker*, *4*(1), 6-8.

¹¹ The Kirkpatrick Model is a nationally known method of evaluating training program. This model indicates that measuring employee reaction is not the only way to measure training programs and that solid evaluation models should include evaluation of employee's learning, behavior changes, and organizational results as well as their reaction. The same is true of any program evaluation of outcomes. Faerman, S. & Ban, C. (1993). Trainee Satisfaction and Training Impact: Issues in Training Evaluation. Public Productivity & *Management Review*. *16*(*3*), 299-314.

¹² Faerman, S. & Ban, C. (1993). Trainee Satisfaction and Training Impact: Issues in Training Evaluation. Public Productivity & *Management Review*. *16*(*3*), 299-314. Bertera, R.L. (1990). The Effects of Workplace Health Promotions on Absenteeism and Employment Costs in a Large Industrial Population. *American Journal of Public Health*, *80*(9), 1101-1105.

¹³ Powell, D.R. (1999).

¹⁴ Stolzfus, E.R. (2009). Access to Wellness and Employee Assistance Programs in the United States. *Bureau of Labor and Statistics*. Retrieved from <u>http://www.bls.gov/opub/cwc/cm20090416ar01p1.htm</u>

¹⁵ Benavides, A. D., & David, H. (2010).

¹⁶ To better ensure that municipalities would have a designated Human Resource Director, the survey was sent to the 43 municipalities across North Carolina with 2010 populations above 20,000.

¹⁷ Benavides, A. D., & David, H. (2010).

¹⁸ Appendix C includes a detailed description and justification for each wellness components' categorization.

¹⁹ The survey was pre-tested with two representatives from municipalities under 20,000 people and one former municipal Human Resource Director.

²⁰ Based on municipal population and geographic location in North Carolina (Western, Piedmont, and Coastal), there was no statistical difference between organizations that opted to respond and organizations that did not respond. This reduces concern of sample bias in the results and increases confidence that the results are

¹ Chancey, A.K. (2009). Getting Healthy: Issues to Consider Before Implementing a Wellness Program. *Journal of Health & Life Sciences Law*, 2(3), 49.

generalizable to all municipalities in North Carolina with populations above 20,000 people. A table of survey responses is included in Appendix D.²¹ During follow-up interviews, a desire to control rising healthcare costs was given as one reason for expanding

wellness program.

²² Carrell, S. (2011). Is Poor Fitness Contagious? Journal of Public Economics, 95(7-8), 657-663.

 23 A table of survey responses is included in Appendix D.

²⁴ The Kirkpatrick Model indicates that measuring employee reaction is not the only way to measure training programs and that solid evaluation models should include evaluation of employee's learning, behavior changes, and organizational results as well as their reaction. The same is true of any program evaluation of outcomes.

²⁵ Shourie, A. (2001).

²⁶ Miller, S. (2011). Employers Accelerate Efforts to Control Health Plan Costs.

²⁷ Serxner, S.A., Gold, D.B., Grossmeier, J.J. & Anderson, D.R. (2003).

²⁸ Selden, S. (2008). Human Capital: Tools and Strategies for the Public Sector. Washington, DC: CQ Press, 165.

²⁹ Bowden, D., Fry, L, Powell, D.R, Rosene, P.M & Shewanown, M. (2010).

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I am also thankful to the Human Resource Directors from across North Carolina that took the time to patiently take my survey and answer my questions.

Appendix A List of NC Municipalities in Sample Population

Apex Asheboro Asheville Burlington Cary Chapel Hill Charlotte Concord Cornelius Durham Fayetteville Garner Gastonia Goldsboro Greensboro Greenville Havelock Hickory High Point Holly Springs Huntersville Indian Trail

Jacksonville Kannapolis Kernersville Kinston Lexington Lumberton Matthews Mint Hill Monroe Mooresville New Bern Raleigh Rocky Mount Salisbury Sanford Shelby Statesville Thomasville Wake Forest Wilmington Wilson Winston-Salem

Appendix B Qualtrics Survey Distributed to Municipalities

Q1 Does your municipality offer any wellness programs or practices to its employees? A wellness program is defined as "any action by an organization that promotes health or seeks to prevent a disease." For the purpose of this study, wellness programs do not include programs associated with an EAP.

- **O** Yes (1)
- **O** No (3)
- **O** Not currently, but have offered within the last three years (2)

Answer If Does your municipality offer any wellness programs or pra... Yes Is Selected Or Does your municipality offer any wellness programs or pra... Not currently, but have offered within the last three years Is Selected

Q42 Does your municipality offer wellness classes or seminars for your employees (such as "Lunch and Learns")?

- **O** Yes (1)
- **O** Not currently, but have within the last three years (2)
- **O** No (3)

Answer If Does your municipality offer any wellness programs or pra... Yes Is Selected Or Does your municipality offer any wellness programs or pra... Not currently, but have offered within the last three years Is Selected

Q19 Does your municipality's wellness program include educational policies or awareness campaigns? These campaigns may include items or components as varied as a policy of not serving junk food at meetings, a bulletin board campaign encouraging sunscreen use, or an electronic calendar of upcoming health related event in the community.

- **O** Yes (1)
- **O** Not currently, but have offered within the last three years (2)
- **O** No (3)

Answer If Does your municipality's wellness program include educati... Yes Is Selected Or Does your municipality's wellness program include educati... Not currently, but have offered within the last three years Is Selected

Q20 What type of educational policies or awareness campaigns has your municipality put into place?

- U Wellness calendar with upcoming wellness events, either internally or externally (1)
- □ Wellness newsletter with health articles or health column in organization newsletter (2)
- **D** Bulletin boards with health information (3)
- □ Health education awareness campaigns (around what topic(s)?) (4) _____
- □ Stated policy of not serving junk food at meetings (5)
- □ Stated policy to increase healthy food choices in vending machines and/or the cafeteria (6)
- □ Other (please indicate below) (7) _____

Q36 Does your municipality have a smoke-free policy?

- **O** Yes, it covers facilities, vehicles, and public spaces (1)
- **O** Yes, it covers facilities and vehicles (2)
- **O** Not currently, but did within the last three years (4)
- **O** No (5)
- **O** Yes, it covers facilities (3)

Q10 Does your municipality offer free or discounted fitness memberships for your employees?

- \Box Yes, at an on-site gym (1)
- \Box Yes, at an off-site gym (2)
- □ Not currently, but have offered within the last three years (3)
- **D** No (4)

Answer If Does your municipality offer any wellness programs or pra... Yes Is Selected

Q15 Does your municipality organize group wellness activities for your employees? These activities may include components as varied as after work walking groups or weight loss competitions.

- **O** Yes (1)
- **O** Not currently, but have offered within the last three years (2)
- **O** No (3)

Answer If Does your municipality organize group wellness activities... Yes Is Selected Or Does your municipality organize group wellness activities... Not currently, but have offered within the last three years Is Selected

Q17 What types of group activities does your municipality organize for its employees?

- Group exercise classes (such as walking groups, gym classes) (1)
- Dieting or weight loss clubs/competitions (such as a Weight Watchers lunch program or The Biggest Loser competition) (2)
- □ Other (please indicate below) (4) _____

Answer If Does your municipality offer any wellness programs or pra... Yes Is Selected

Q3 Does your municipality offer an on-site medical health screening session to your employees?

- **O** Yes (1)
- **O** Not currently, but have offered within the last three years (2)
- **O** No (3)

Answer If Does your municipality offer an on-site medical heal... Yes Is Selected Or Does your municipality offer an on-site medical heal... Not currently, but have offered within the last three years Is Selected

Q4 What tests are offered during this medical health screening?

- □ Cholesterol levels (1)
- □ Weight and BMI (2)
- □ Body fat percentage (3)
- □ Blood sugar levels (4)
- □ Blood pressure levels (5)
- Hearing tests (6)
- □ Vision exams (7)
- □ Mammograms (8)
- □ Others (please list below) (9) _____

Answer If Does your municipality offer any wellness programs or pra... Yes Is Selected

Q5 Does your municipality offer health risk assessments for your employees? A health risk assessment is a screening questionnaire that employees can take to evaluate their health status and risk level.

- **O** Yes (1)
- **O** Not currently, but have offered within the last three years (2)
- **O** No (3)

Answer If Does your municipality offer any wellness programs or pra... Yes Is Selected

Q6 Does your municipality offer telephone, on-line, or in-person wellness coaching to your employees? This does not include components of your municipality's EAP program.

- **O** Yes (1)
- **O** No (3)
- **O** Not currently, but have offered within the last three years (2)

Answer If Does your municipality offer telephone, on-line, or in-pe... Yes Is Selected Or Does your municipality offer telephone, on-line, or in-pe... Not currently, but have offered within the last three years Is Selected

Q7 What specific health areas are employees able to seek wellness coaching for? Please check all methods of coaching that apply. If your municipality no longer provides wellness coaching, indicate what the municipality used to provide.

	Offered Online (1)	Offered By Telephone (2)	Offered In-person (3)
Blood pressure management (1)			
Smoking cessation (2)			
Cholesterol control (4)			
Diet or nutrition (5)			
Exercise/fitness (including providing personal trainers) (6)			
Others (please list below) (7)			
Disease management (8)			
Stress management (9)			
Pre-natal instruction (10)			

Answer If Does your municipality offer health risk assessments for ... Yes Is Selected Or Does your municipality offer health risk assessments for ... Not currently, but have offered within the last three years Is Selected Or Does your municipality offer telephone, on-line, or in-pe... Yes Is Selected Or Does your municipality offer telephone, on-line, or in-pe... Not currently, but have offered within the last three years Is Selected

Q9 Does your municipality offer physician referral programs for employee health issues identified during health screenings or coaching session? This does not include components of your municipality's EAP program.

- **O** Yes (1)
- **O** Not currently, but have offered within the last three years (2)
- **O** No (3)

Answer If Does your municipality offer any wellness programs or pra... Yes Is Selected Or Does your municipality offer any wellness programs or pra... Not currently, but have offered within the last three years Is Selected

Q11 Does your municipality offer an on-site health clinic for employees?

- **O** Yes (1)
- Not currently, but have offered within the last three years (2)
- **O** No (3)

Q35 Does your municipality allow employees to take any of their sick days as paid "wellness" days?

- **O** Yes (1)
- **O** Not currently, but have offered within the last three years (2)
- **O** No (3)
- **O** We offer personal days that cover both sick and vacation days; this does not apply (4)

Answer If Does your municipality offer any wellness programs or pra... Yes Is Selected Or Does your municipality offer any wellness programs or pra... Not currently, but have offered within the last three years Is Selected

Q21 Please indicate any additional practices or components of your wellness program.

Q29 Does your municipality collect any information related to its wellness program? This information may include efforts to count employee participation, employee feedback, changes in health care costs, and changes in absenteeism, as well as other information.

- **O** Yes (1)
- **O** Not currently, but have offered within the last three years (2)
- **O** No (3)

Answer If Does your municipality collect any information rela... Yes Is Selected Or Does your municipality collect any information rela... Not currently, but have offered within the last three years Is Selected

Q30 What type of information does your municipality collect related to its wellness program?

- **□** Rate of employee participation in programs (1)
- Employee feedback on programs (2)
- □ Changes in lifestyle behaviors of employee (11)
- □ Absenteeism/sick leave (Employee misses work due to personal illness or stress) (3)
- □ Presenteeism (Employee is at work, but due to illness, not fully functioning) (4)
- □ Worker's compensation claims (5)
- □ Work related accidents (6)
- \Box Health care costs to employer (8)
- □ Health care costs to employee (9)
- □ Changes in job performance (10)
- \Box Employee turnover (12)
- □ Other (please indicate below) (13) _____

Answer If Does your municipality offer any wellness programs or pra... Yes Is Selected Or Does your municipality offer any wellness programs or pra... Not currently, but have offered within the last three years Is Selected

Q23 Can employees' dependents participate in your municipality's wellness program?

- **O** Yes, all dependents can participate in all components (1)
- **O** Yes, some dependents can participate in some components (please indicate which ones below) (2)

O No (4)

[•] Not currently, but have offered within the past three years (3)

Q22 Does your municipality offer any incentives to employees for participating in any part of its wellness program? These incentives may also be offered in partnership with your insurance company or another organization.

- **O** Yes (1)
- **O** Not currently, but have offered within the last three years (2)
- **O** No (3)

Answer If Does your municipality offer any incentives to ... Yes Is Selected Or Does your municipality offer any incentives to ... Not currently, but have offered within the last three years Is Selected

Q33 What type of incentives does your municipality provide for its employees for participating in your wellness program? Please describe both free and subsidized incentives offered by your municipality or in partnership with your insurance company or another organization.

Q39 How does your municipality provide insurance to its employees?

- **O** Self-insured (1)
- Private insurance (please indicate from which company) (2)
- **O** We do not offer health insurance to our employees (3)

Q27 Please indicate the name of your municipality. While results will be kept confidential, collecting the names of municipalities will help assess how reflective the final results are of North Carolina's diversity in municipal size and geographical regions.

Q25 How many employees does your municipality have?

```
Permanent full-time (1)
Permanent part-time, eligible for some wellness benefits (2)
```

Answer If Does your municipality offer any wellness programs or pra... No Is Selected

Q45 How many employees does your municipality have?

Permanent full-time (1) Permanent part-time (2)

Q28 Do you have any additional feedback and comments on wellness programs you would like to share?

Q45 Would you like to receive a copy of the final report of this survey?

O Yes (1)**O** No (2)

Q44 May the investigator contact you will follow-up questions?

O Yes (1)**O** No (2)

Answer If Can the investigator contact you will follow-up questions? Yes Is Selected Or Are you interested in receiving a copy of the final repor... Yes Is Selected

Q38 What is the best way to contact you?

Name (3) Email (1) Phone number (2)

Appendix C Wellness Survey Groupings

Wellness Program Component	Explanation of Categorization
Group Programming	What do our employees do as a group?
Wellness Classes or Seminars	Employees attend classes or seminars together and participate in group discussions
Group Wellness Activities	Employees engage in physical fitness activities together
Assessment	What do our employees know about themselves? What do we know about our employees?
On-site Medical Health Screening	Informs employer about aggregated health of employees through biometric screenings; informs employees about individual medical attention
Health Risk Assessments	Completed online or on paper, informs employees about health risks and areas to work on; informs employer about aggregated health concerns of employees
Physician Referral for Identified Health Problems	Employer is recommended for further follow-up of health problems identified during medical screening or health risk assessment (such as high blood pressure, diabetes, depression, etc.)
Self-Help	What can we help our employees accomplish on their own?
Self-Help On-line, Telephone, or In-person Wellness Coaching	
On-line, Telephone, or In-person	own? Employees can choose to take advantage of health coaching to help them start or improve some sort of health
On-line, Telephone, or In-person Wellness Coaching	own?Employees can choose to take advantage of health coaching to help them start or improve some sort of health related habitEmployees can choose to take advantage of fitness
On-line, Telephone, or In-person Wellness Coaching Free or Discounted Fitness Memberships	own?Employees can choose to take advantage of health coaching to help them start or improve some sort of health related habitEmployees can choose to take advantage of fitness membershipsEmployees can choose to seek treatment for covered ailments onsite (employees are still eligible and covered if
On-line, Telephone, or In-person Wellness Coaching Free or Discounted Fitness Memberships On-Site Medical Clinic	own?Employees can choose to take advantage of health coaching to help them start or improve some sort of health related habitEmployees can choose to take advantage of fitness membershipsEmployees can choose to seek treatment for covered ailments onsite (employees are still eligible and covered if they seek treatment at another location)How does our organization discuss wellness and
On-line, Telephone, or In-person Wellness Coaching Free or Discounted Fitness Memberships On-Site Medical Clinic Communication Educational Policies or Awareness	own?Employees can choose to take advantage of health coaching to help them start or improve some sort of health related habitEmployees can choose to take advantage of fitness membershipsEmployees can choose to seek treatment for covered ailments onsite (employees are still eligible and covered if they seek treatment at another location)How does our organization discuss wellness and wellness policies?

Appendix D Survey Responses

Wellness Program Components

	Group Pro	ogramming	Comm	unications and	Policy	Assessment			Self Help			
Municip ality	Wellness classes or seminars for your employees	Group wellness activities for your employees	Education al policies or awareness campaigns	Smoke-free policy	Employees can take any of their sick time as paid ''wellness'' days	On-site medical health screening session?	Health risk assessmen ts	Physician referral programs for identified health issues	On-site health clinic	On-site or off-site fitness membersh ips	Wellness coaching	
1	Yes	Yes	Yes	Facilities and vehicles	No	Yes	Yes	No	No	No	Yes	
2	Yes	Not now but within past three years	Yes	Facilities and vehicles	No	Yes	Not now but within three years	Yes	Yes	On-site	Yes	
3	Yes	No	Yes	No	No	Yes	Yes	No	No	No	Yes	
4	Not now but within 3 years	Yes	Yes	Facilities	No	Yes	Yes	No	No	No	Yes	
5	Yes	Yes	Yes	Facilities and vehicles	No	Yes	Yes	No	No	On-site	No	
6	Not now but within 3 years	No	No	Facilities and vehicles	No	No	Yes	No	No	Not now but within three years	Not now but within three years	
7	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	Off-site	Not now but within three years	
8	Yes	Yes	Yes	Facilities	No	Not now but within three years	Yes	Not now but within three years	No	Off-site	Yes	
9	Yes	Yes	Yes	Facilities and vehicles	No	Yes	No	9999	No	No	No	
10	Yes	Yes	Yes	Facilities	No	Yes	No	No	No	Off-site	Yes	

11	No	Yes	Yes	Facilities	No	Yes	Yes	Yes	No	No	Yes
12	Yes	Yes	Yes	Facilities, vehicles, and public spaces	No	Yes	Yes	No	No	Off-site	Yes
13	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Off-site	No
14	Yes	Yes	Yes	Facilities and vehicles	No	Yes	Yes	Yes	Yes	On-site	Yes
15	Yes	Yes	Yes	Not now but within the past three years	Offer PTO; not applicable	Yes	Yes	Yes	Yes	Off-site	Yes
16	Yes	Yes	Yes	Facilities and vehicles	No	Yes	Yes	Yes	Yes	No	Yes
17	Yes	Yes	Yes	Facilities and vehicles	No	Yes	Yes	Yes	Not now but within three years	No	Not now but within three years
18	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Off-site	No
19	Yes	Yes	Yes	Facilities and vehicles	No	Yes	Yes	Yes	No	Off-site	Yes
20	Yes	Yes	Yes	Facilities	No	Yes	Not now but within three years	Yes	Yes	Off-site	Yes
21	Yes	Yes	Not now but within three years	Facilities and vehicles	No	Yes	Yes	Yes	Yes	On-site	Yes
22	Yes	Not now but within past three years	Yes	Facilities and vehicles	No	Not now but within past three years	Yes	No	Yes	On-site	Yes
23	Not now but within past three years	Not now but within past three years	No	Facilities and vehicles	No	Yes	Yes	Yes	Yes	No	Yes
24	Yes	Yes	Yes	Facilities and vehicles	No	Yes	Yes	No	Yes	Off-site	Yes

25	Yes	Yes	Yes	Facilities, vehicles, and public spaces	No	Yes	Yes	No	No	Not now but within three years	Yes
26	Not now but within past three years	No	No	Facilities and vehicles	No	Yes	Yes	No	No	No	Yes
27	Yes	Yes	Yes	Facilities, vehicles, and public spaces	No	Yes	Yes	No	No	No	No
28	Yes	Yes	Yes	Facilities, vehicles, and public spaces	Yes	Yes	Yes	Yes	No	Off-site	Yes
29	Yes	Yes	Yes	Facilities and vehicles	No	Yes	Yes	No	No	On-site	Yes

Information Collected About Wellness Programs

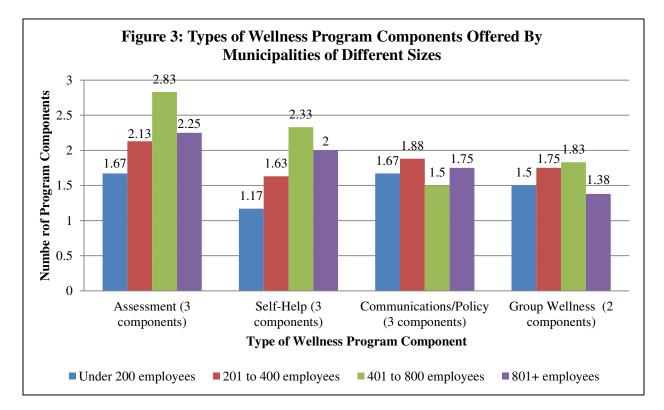
	Employee	Reaction		Employee Behavioral Change								
Municipalit y	Rate of employee participatio n in programs	Employee feedback on programs	Changes in lifestyle behavior s of employee	Absenteeism / sick leave	Presenteeis m	Worker's compensatio n claims	Work related accident s	Health care costs to employe r	Health care costs to employe e	Changes in job performanc e	Employe e turnover	
1	Yes	Yes	No	No	No	No	No	Yes	Yes	Yes	No	
2	Yes	No	No	No	No	No	No	No	No	No	No	
3	Yes	Yes	No	No	No	No	No	No	No	No	No	
4	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No	No	
5	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	
6	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No	Yes	
7	Yes	Yes	Yes	No	No	No	No	Yes	Yes	No	No	
8	Yes	Yes	Yes	No	No	No	No	Yes	Yes	No	No	
9	Yes	Yes	Yes	No	No	No	No	Yes	Yes	No	No	
10	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	

11	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
12	Yes	Yes	No	Yes	No	No	No	Yes	No	No	Yes
13	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	No	No
14	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
15	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	No
16	Yes	No	No	No	No	Yes	Yes	Yes	Yes	No	No
17	Yes	Yes	Yes	No	No	No	No	Yes	No	No	No
18	No	Yes	No	No	No	Yes	No	Yes	Yes	No	No
19	Yes	No	No	No	No	No	No	No	No	No	No
20	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	Yes
21	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	No	No
22	No	Yes	No	No	No	Yes	Yes	Yes	Yes	No	Yes
23	Yes	Yes	Yes	No	No	No	No	No	No	Yes	No
24	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No	No

Appendix E Survey Findings Based on Number of Employees of Municipality

Wellness Program Components

As seen in Figure 3 below, the number of wellness program components offered by different sized municipalities varies by size of the organization. Municipalities with between 401 and 800 full-time employees provide the most number of assessment, self-help, and group wellness activities, but the fewest number of communication/policy activities. The municipalities with the most employees offer the fewest group wellness components, while the smallest municipalities offer the fewest self-help components. The self-help component with the strongest demonstrated return on investment is an on-site medical health clinic. Further research may identify whether it is high initial monetary investment that is preventing smaller sized municipalities from investment for smaller organizations.¹



Information Collected About Wellness Programs

As seen in Table 1 below, municipalities with under 200 employees are the most likely to collect both pieces of employee reaction information; while interesting, these differences are not statistically significant and may just be due to chance. Municipalities with under 200 employees are also the most likely to collect the most pieces of behavioral change information, with an average of 4.33 pieces of information collected. The largest employers, those with over 800 employees, were least likely to collect this type of behavioral information. Differences in these means were also not statistically significant and

¹ Chenoweth, D. (2011). Promoting Employee Well-Being. *SHRM Foundation*. Retrieved from <u>http://www.shrm.org/about/foundation/products/Documents/6-11%20Promoting%20Well%20Being%20EPG-</u> <u>%20FINAL.pdf</u>

may just be due to chance. Further research could investigate why smaller municipalities are more likely to collect behavioral information on their wellness programs.

Larger municipalities should not shy away from collecting more complex, detailed information on their wellness program; based on the size of their organization and the project's associated cost savings, they may be able to document a return on investment faster.

Table 1: Wellness Program Information Collected by Municipalities											
Number of Full- Time Municipal Employees	Employee Reaction Information (2 pieces)	Behavioral Change Information (9 pieces)	Total information (11 pieces)								
Under 200 employees	2	4.33	6.33								
201 to 400 employees	1.57	3	4.57								
401 to 800 employees	1.67	3.67	5.33								
801+ employees	1.71	2.43	4.14								

Appendix F Mooresville, North Carolina

2010 Population: 32,711 **Number of Employees:** 367 permanent full-time employees **Geographic Location:** Piedmont

Mooresville launched a comprehensive wellness program, including a wellness nurse to staff an onsite clinic, in late October 2011. Mooresville shared the performance measures they have put in place to evaluate their wellness program components. As Mooresville is a new program, they had limited results to share. This may be a good organization to contact for follow-up study.

Wellness Program Components

- Group exercise classes
- Wellness calendar
- Offsite fitness membership
- Onsite health screenings
- Health risk assessments
- Onsite clinic with nurse and health management programs since October 2011
- Physician referral for health problem management

Performance Measures

Decrease in worker's comp claims: Compare changes in worker's comp claims to pre-program data on semi-annual and annual basis

Decrease in health insurance claims directly related to wellness activities: Compare health care claims on a quarterly basis for wellness related activities. Claims related to weight management, hypertension, diabetes and other services provided by nurse.

Decrease in absenteeism: Compare sick leave usage and lost work days to pre-program data on quarterly and annual basis

Employee participation rates: Track employee participation on a quarterly basis for problem focus nurse visits, health assessments, health interventions, and physician referrals

Appendix G Asheboro, North Carolina

2010 Population: 25,012 **Number of Employees:** 341 permanent full-time employees **Geographic Location:** Piedmont

Onsite Clinic

The onsite clinic started in 1996 with a full-time nurse; a part-time Nurse Practioner (NP) started in 2005. There is no co-pay to visit the clinic and employee dependents are also eligible to visit clinic. For legal reasons, the clinic does not provide care for worker's compensation cases.

Clinic Services

Nurse Services

- Annual physicals
- Required annual hearing tests
- General first-aid
- Disperses over-the-counter medications
- Annual lab work-ups and when needed
- Responsible for the city's overall health/wellness program

Nurse Practioner Services

- Allergy care
- Asthma treatment
- Sinus infections
- Headaches
- Muscle and joint pain treatment

Goal of wellness clinic: "We're really

working to get employees healthy"

- Pap smears
- Prescription medications
- Shots
- Blood tests

Challenges of wellness program: "[The wellness clinic] was a rough start at first because employees didn't really trust the nurse or understand why we were doing it. Luckily our nurse is a real people person, real down to earth, so gradually she earned their trust."

Costs of Wellness Program

Direct Costs

- Maintaining and stocking clinic (most of original equipment was donated by community)
- Salary of nurse and NP:
 - Full-time nurse: \$66,036 for salary/benefits
 - NP: \$77/hour for 24 hours a week

Indirect Costs

• Staff time to go to clinic

Performance Measures

Asheboro tracks visits to on-site clinic compared to community health care clinic and estimates cost savings from reduced cost of clinic visit and staff time saved. Table 2 includes estimated cost savings from wellness programs that Asheboro saw in 2008. In 2008, the clinic had 9537 visits. Asheboro also tracks employee feedback, absenteeism/sick leave, worker's compensation and work related accidents, and overall health care costs.

Table 2: 2008 Estimated Cost Savingsfrom Wellness in Asheboro							
Estimated time savings \$176,434							
Estimated medical visit savings	\$58,271						
Total estimated cost savings	\$234,705						

Appendix H Incentives and Wellness Programs

Although not discussed in this report, the survey of NC municipalities included several questions on wellness incentives that yielded interesting findings on incentives, in light of recent healthcare developments.

Wellness incentives are important because financial rewards can increase employee participation in health assessments, medical screenings, and overall health improvement programs.² The 2011 National Survey of Employer-Sponsored Health Plans identified the use of incentives as a wellness best practices that see a high dollar return on investment.³

Almost all – twenty seven – of NC municipalities surveyed offer some sort of incentive for participating in their wellness program (93%). The type and magnitude of incentives offered by municipalities or how tied they were to specific employee behavior changes was not investigated in the survey. Research shows national wellness program trends moving from small prize incentives to reductions in employee's health care premiums. Further research in North Carolina could evaluate whether municipalities are following this trend and what impact high-dollar or behavior-change focused incentives have on return on investment.⁴

Based on the Patient Protection and Affordable Care Act of 2010, by 2014, employers can use up to 30% of the total amount of individual employees' health insurance premiums to provide outcome based wellness incentives programs.⁵ Currently, the most popular covered incentives are likely to be premium differences for employees who met certain health standards. However, as employers work to develop more comprehensive wellness programs, covered incentives are shifting. Incentives can now include participation based incentives, where employees earn rewards for participation in wellness programs, outcome based incentives, where employees earn incentives or rewards for reaching agreed upon health targets, and progress-based incentives, where employees earn rewards for moving towards health outcomes. These new incentive programs should be designed with specific health or employee behavior change outcome targets in mind.⁶

² Noyce, J. (2011). Finding Success with Progress-Based Health Incentives. *Society for Human Resource Management*. Retrieved from <u>http://www.shrm.org/hrdisciplines/benefits/Articles/Pages/HealthIncentives.aspx</u>

³ Bowden, D., Fry, L, Powell, D.R, Rosene, P.M & Shewanown, M. (2010).

⁴ Miller, S. (2011). Employers Accelerate Efforts to Control Health Plan Costs. *Society for Human Resource Management*. Retrieved from <u>http://www.shrm.org/hrdisciplines/benefits/Articles/Pages/CostControl.aspx</u>

⁵ Volpp, K.G, Asch, D.A. Galvin, R., & Loewenstein, G. (2011). Redesigning Employee Health Incentives – Lessons from Behavior Economics. *New England Journal of Medicine*, *365*(5), 388-390.

⁶ Shourie, A. (2001). Spotlight on Success: Implementing Effective Health Promotion Programs. *Occupational Health Tracker*, *4*(1), 6-8.

Appendix I References

Aldana, S.G, Merrill, R.M., Price, K., Hardy, A. & Hager, R. (2005). Financial impact of a comprehensive multisite workplace health promotion program. *Preventative Medicine*, 40, 131-137.

Andrus, D.M. & Paul, R. (1995). The Challenge of Marketing Wellness Programs to Small versus Large Firm Employees. *Health Marketing Quarterly*, *13*(1), 87-103.

Baker, K.M, Goetzel, R.Z., Pei, Z., Weiss, A.J., Bowen, J., Tabrizi, M.J., Nelson, C.F., Metz, R.D., Pelletier, K.R. & Thompson, E. (2008). Using a Return-On-Investment Estimation Model to Evaluate Outcomes from an Obesity Management Worksite Health Promotions Program. *Journal of Occupational and Environmental Medicine*, *50*(9), 981-990.

Benavides, A. D., & David, H. (2010). Local government wellness programs: A viable option to decrease healthcare costs and improve productivity. *Public Personnel Management*, *39*(4), 291-306.

Bertera, R.L. (1990). The Effects of Workplace Health Promotions on Absenteeism and Employment Costs in a Large Industrial Population. *American Journal of Public Health*, 80(9), 1101-1105.

Bowden, D., Fry, L, Powell, D.R, Rosene, P.M & Shewanown, M. (2010). Do Wellness Programs Really Work? *Benefits & Compensation Digest*, 47(9), 20-24.

Carrell, S. (2011). Is Poor Fitness Contagious? Journal of Public Economics, 95(7-8), 657-663.

Chancey, A.K. (2009). Getting Healthy: Issues to Consider Before Implementing a Wellness Program. *Journal of Health & Life Sciences Law*, 2(3), 49.

Chenoweth, D. (2011). Promoting Employee Well-Being. *SHRM Foundation*. Retrieved from <u>http://www.shrm.org/about/foundation/products/Documents/6-</u>11%20Promoting%20Well%20Being%20EPG-%20FINAL.pdf

Divine, R.L. (2005). Determinants of Small Business Interest in Offering a Wellness Program to Their Employees. *Health Marketing Quarterly*, 22(3), 43-57.

Finch, R. (2005). Preventative Services: Improving the Bottom Line for Employees and Employees. *Compensation & Benefits Review*, *37*(*3*), 18-22.

Finkelstein, E., Linnan, L., Tate, D.F., & Leese, P.J. (2009). A Longitudinal Study on the Relationship Between Weight Loss, Medical Expenditures, and Absenteeism Among Overweight Employees in the WAY to Health Study. *Journel of Occupational and Environmental Medicine*, *51*(12), 1367-1373.

Goetzel, R.Z. Long, S.R., Ozminkowski, R.J., Hawkins, K., Wang, S., Lynch, W. (2004). Health, Absence, Disability, and Presenteeism Cost Estimates of Certain Physical and Mental Health Conditions Affecting U.S. Employers. *Journal of Occupational and Environmental Medicine*, *26*(4),398-412.

Heinen, L. & Darling, H. (2009). Addressing Obesity in the Workplace. *The Milbank Quarterly*, 87(1), 101-122.

Hochart, C. & Lange, M. (2011). Impact of a Comprehensive Worksite Wellness Program on Health Risk, Utilization, and Health Care Costs. *Population Health Management*, *14*(3), 111-116.

Kocakulah, M. & Joseforsky, H. (2002). Wellness Programs: A Remedy for Reducing Healthcare Costs. *Hospital Topics: Research and Perspectives on Healthcare*, 80(2), 26-30.

League of California Cities. (2007). Healthy Cities Survey Report. Retrieved from http://www.cacities.org/resource_files/26418.Healthy%20Cities%20Survey%20Report%20COMPLETE. 1.10.08.pdf

Merrill, R.M., Aldana, S.G., Garrett, J. & Ross, C. (2011). Effectiveness of a Workplace Wellness Program for Maintaining Health and Promoting Healthy Behaviors. *Journal of Occupational & Environmental Medicine*, *53*(7), 782-787.

Merrill, R.M., Aldana, S.G, Vyhlidal, T.P, Howe, G., Anderson, D.R., & Whitmer, R.W. (2011). The Impact of Worksite Wellness in a Small Business. *Journal of Occupational & Environmental Medicine*, *53*(2), 127-131.

Milani, R.V & Lavie, C.J. (2009). Impact of Worksite Wellness Interventions on Cardiac Risk Factors and One-Year Health Care Costs. *The American Journal of Cardiology*, *104*(10), 1389-1392.

Miller, S. (2011). Employers Accelerate Efforts to Control Health Plan Costs. *Society for Human Resource Management*. Retrieved from http://www.shrm.org/hrdisciplines/benefits/Articles/Pages/CostControl.aspx

Miller, S. (2011). Large U.S. Employers Revamping Health Benefits for 2012. *Society for Human Resource Management*. Retrieved from http://www.shrm.org/hrdisciplines/benefits/articles/pages/revampingplans.aspx

Neville, B.H., Merrill, R.M & Kumpfer, K.L. (2010). Longitudinal Outcomes of a Comprehensive, Incentivized Worksite Wellness Program. *Evaluation & the Health Professions*, *304*(1), 103-122.

Noyce, J. (2011). Finding Success with Progress-Based Health Incentives. *Society for Human Resource Management*. Retrieved from http://www.shrm.org/hrdisciplines/benefits/Articles/Pages/HealthIncentives.aspx

Nyman, J.A., Barleen, N.A. & Dowd, B.E. (2009). A Return-on-Investment Analysis of the Health Promotions Program At the University of Minnesota. *Journal of Occupational and Environmental Medicine*, *51*(1),54-65.

O'Quinn, J.L. (1995). Worksite Wellness Programs and Lifestyle Behaviors. *Journal of Holistic Nursing*, 13(4), 346-360.

Padilla, O. (1994). Empowering Employees Through Health Care Education: Changing Attitudes and Behavior. *Employee Benefits Journal, 19*(2), 13-14, 17. Panepento, P. (2004). Employee-Wellness Programs Pay Off in Productivity and Morale. *Chronicle of Philanthropy, 16*(18), 38-39.

Parker, K., Wilson, M.G., Vandenberg, R.J., DeJoy, D.M. & Orpinas, P. (2009). Association of Comorbid Mental Health Symptoms and Physical Health Conditions With Employee Productivity. *Journal of Occupational and Environmental Medicine*, *51*(10), 1137-1144.

Parks, K.M. & Steelman, L.A. (2008). Organizational Wellness Programs: A Meta-Analysis. *Journal of Occupational Health Psychology*, 13(1), 58-68.

Patterson, C.R., Bennett, J.B. & Wittala, W.L. (2005). Healthy and Unhealthy Stress Unwinding: Promoting Health in Small Businesses. *Journal of Business and Psychology*, 20(2), 221-247.

Person, A.L, Colby, S.E., Bulova, J.A. & Eubanks, J.W. (2010). Barriers to Participation in a Worksite Wellness Program. *Nutrition Research and Practice*, 4(2), 149-154.

Powell, D.R. (1999). Characteristics of Successful Wellness Programs. *Employee Benefits Journal*, 24(3), 15-21.

Roberts, G.E. (2001). Employee Benefits Cost Control Strategies in Municipal Government. *Public Performance & Management Review*, 24(4), 389-402.

Saleh, S.S., Alameddine, M.S., Hill, D. & Darney-Beuhler, J. (2010). The Effectiveness of and Cost-Effectiveness of a Rural Employer-Based Wellness Program. *The Journal of Rural Health*, 26, 259-265.

Schultz, A., Lu, C., Barnett, T.E., Yen, L.T., McDonald, T., Hirschland, D. & Edington, D.W. (2002). Influence of Participation in a Worksite Health-Promotion Program on Disability Days. *Journal of Occupational and Environmental Medicine*, *44*(8):776-780.

Selden, S. (2008). Human Capital: Tools and Strategies for the Public Sector. Washington, DC: CQ Press.

Serxner, S.A., Gold, D.B., Grossmeier, J.J. & Anderson, D.R. (2003). The Relationship Between Health Promotion Program Participation and Medical Costs: A Dose Response. *Journal of Occupational and Environmental Medicine*, 45(11), 1196-1200.

Serxner, S., Gold, D., Meraz, A., Gray, A. (2009). Do Employee Health Management Programs Work? *American Journal of Health Promotion*, 23(4), 1-8.

Shourie, A. (2001). Spotlight on Success: Implementing Effective Health Promotion Programs. *Occupational Health Tracker*, *4*(1), 6-8.

Smedslund, G., Fisher, K.J, Boles, S.M., & Lichtenstein, E. (2004). The Effectiveness of a Workplace Smoking Cessation Programmes: A Meta-Analysis of Recent Studies. *Tobacco Control*, 13(2), 197-204.

Stolzfus, E.R. (2009). Access to Wellness and Employee Assistance Programs in the United States. *Bureau of Labor and Statistics*. Retrieved from <u>http://www.bls.gov/opub/cwc/cm20090416ar01p1.htm</u>

Strazewski, L. (1996). Wellness programs seem to pay off. *Rough Notes*, *149*(3). Retrieved from http://www.roughnotes.com/rnmagazine/2006/march06/03p106.htm

Volpp, K.G, Asch, D.A. Galvin, R., & Loewenstein, G. (2011). Redesigning Employee Health Incentives – Lessons from Behavior Economics. *New England Journal of Medicine*, *365*(5), 388-390.

Young, S., Halladay, J., Plescia, M., Herget, C. & Dunn, C. (2011). Establishing Worksite Wellness Programs for North Carolina Government Employees, 2008. *Preventing Chronic Disease*, 8(2), 1-6.