

Summary of Economic Cost Analysis of HWTF Programs

Background

In late 2010, *Chenoweth & Associates, Inc.* was engaged by the North Carolina Health and Wellness Trust Fund (HWTF) to conduct a review and benefit cost analysis (BCA) of select HWTF programs. The analysis was completed and the report submitted in February 2011. Overall, the results of the analysis clearly show the positive economic value of many HWTF programs on the health and quality of life for many North Carolinians. The report, "***Benefit-Cost Analyses: North Carolina Health and Wellness Trust Fund,***" is summarized below.

While HWTF programs have consistently been evaluated over the years, the evaluations have thus far focused on process and impact evaluations that reveal how well programs are being implemented and whether they have the intended impact. However, they do not address financial value of an intervention. Yet, in today's economic climate, stakeholders and decision-makers alike are increasingly interested in answering the question: "*What financial value are we getting for our investment?*" For the first time, HWTF contracted with an independent evaluator to conduct financial benefit to cost analyses that would address this question.

It should be noted that the benefit-cost analysis did not take into account infrastructure costs such as personnel into the calculation; it only considered the dollars spent directly on a specific program. HWTF programs had to meet certain criteria to be appropriate for inclusion in the analysis. Program data had to be measurable, quantifiable, of high value to stakeholders, and should have been in operation long enough to potentially produce a tangible impact, amenable to an economic analysis. Individual programs were analyzed (summarized below), and a cross-program analysis was conducted indicating that, **for every \$1 that HWTF spent on programs, an estimated \$2.54 was, or will be, generated in financial benefits.**

Summary of Findings

Obesity Programs:

IN4Kids

IN4Kids is a pilot project designed to assess and evaluate the financial efficacy of incorporating a part-time registered dietitian (RD) into primary care pediatric practices to provide nutrition counseling. The IN4Kids pilot was implemented in eight NC primary care practices. While the primary objective of the project was to evaluate the financial efficacy of incorporating a part-time dietitian into primary care pediatric practices, changes in the Body-Mass Index (BMI) of the children who received the RD's services were used as the basis for this analysis and used to estimate costs avoided in per capita annual medical and lost productivity costs.

The total cost of IN4Kids grants provided by HWTF from July 2008 to December 2010 was \$1,772,436. Based on the preceding benefit and cost values, IN4Kids grants have generated the

following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of 20 cents is expected to be generated, which represents a negative return on investment (ROI).

IN4Kids was a two-year pilot effort. The study's evaluation indicates that integrating registered dietitians into the practices was highly feasible and that the RD can have a significant impact on improving health behaviors and reducing weight. The economic analysis looked only at the single variable of weight change in children and could not include other contributions of this project which were not readily quantifiable.

A+ Fit Schools

A+ Fit Schools is a grants and designation program to recognize and reward schools for their dedication to providing healthy environments for all students and staff, with a specific emphasis on environments that promote physical activity, improved nutrition, and the prevention of tobacco use. The analysis considered medical cost avoidance related to the expected increase in physical activity in the A+ Fit Schools, as well as "direct use" values (money saved by residents by not having to pay market rates for the physical and recreational activities they can enjoy in these A+ Fit Schools-supported environments like walking trails).

In the 2009-2010 academic year, the HWTF invested \$67,716 for nine A+ Fit Schools programs and spent an additional \$90,117 for technical assistance. The A+ Fit Schools program generated the following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of \$1.52 is expected to be generated, yielding a positive ROI.

Fit Community NC

Fit Community NC is a grants and designation program that rewards municipal and county efforts to promote physical activity, healthy eating, and tobacco-free programs, policies, environments and lifestyles. This analysis considered "direct use" values for residents in the 18 communities; the community cohesion benefit (value of social or human capital); the value of grants that these communities were able to leverage as a result of their Fit Community engagement; as well as medical cost avoidance related to the beneficial aspects of increased physical activity that could be expected from the changes made in the Fit Communities. While 38 communities have been funded by HWTF, only 18 communities for which impact data were available were included in this analysis.

Since 2005, the HWTF has paid \$942,078 in grants to 18 Fit Communities and an additional \$440,420 over the past four years to provide technical assistance. The Fit Community NC program generated the following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of \$1.67 is expected to be generated, representing a positive ROI.

Breastfeeding Social Marketing Campaign

HWTF provided a grant to the North Carolina Healthy Start Foundation to conduct a breastfeeding promotion campaign in an eastern NC media market where breastfeeding rates are lower than the statewide rate. Two television ads ran in May and September of 2010, and 38% of women of childbearing age in this region reported having seen the ads. This analysis

used medical care cost avoidance that can be expected from breastfeeding as the basis for this analysis.

HWTF has invested \$200,000 in this social marketing endeavor. The breastfeeding campaign generated the following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of \$1.74 is expected to be generated, representing a positive ROI.

Eliminating Health Disparities Initiative:

Oral Health Initiative

In 2009, HWTF launched the Oral Health Initiative (OHI), awarding funding to seven grantees across the state to implement interventions addressing the oral health needs of underserved populations in North Carolina. Grantees began implementing their three-year projects in July 2009 and in the first year provided dental care to over 25,000 clients, representing a 37% (n=6,654) increase over their reported baseline numbers. Grantees were also able to recruit dental providers, doubling the number of full-time equivalents dentists (FTEs) working in the grantee dental clinics (from 13 to 26 FTEs) and 274 dentists to provide dental care for persons with disabilities. This analysis was based on an annual estimated dollar value (“benefit”) in the provision of dental services to many poor, high-need, and underserved North Carolinians.

HWTF has invested \$607,121 in the OHI. The OHI generated the following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of \$0.87 was generated in the first year, representing a negative ROI. However, it should be noted that the substantially larger network of providers built during year 1 of the project is expected to greatly increase the volume of services in the remaining two years of the project, benefits that cannot be quantified at this time.

Tobacco Prevention and Cessation Program:

Teen Tobacco Use Prevention and Cessation Initiative

HWTF has funded a comprehensive statewide program to address youth tobacco prevention and cessation since 2003, combining a grassroots initiative with a mass media campaign known as *Tobacco.Reality.Unfiltered* (TRU). HWTF has provided grant funding to over 60 community and school-based organizations across the state. All grantees use a comprehensive approach to address four key tobacco control goals as recommended by the CDC: preventing youth initiation, eliminating exposure to secondhand smoke, promoting cessation and eliminating disparities. The evaluator estimated the portion of the drop in youth smoking rates in North Carolina that could reasonably be attributed to HWTF efforts, and based the analysis on the medical care cost-avoidance associated with the reduction in youth smoking that was associated with HWTF efforts.

HWTF has invested \$72,740,033 in the TRU initiative. The initiative generated the following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of \$8.35 is expected to be generated, representing a strong, positive ROI. Overall, the teen tobacco

initiative is estimated to generate more than eight times as many financial benefits as its overall cost.

Tobacco Free Colleges

In December 2005, HWTF awarded more than \$1.6 million in Tobacco-Free Colleges (TFC) grant funding for 20 college-based tobacco use prevention and cessation projects. In January 2008, HWTF expanded its college initiative further by awarding \$1.4 million in Phase II grant funding for 48 campuses across the state. Recently, the TFC Initiative has been expanded in a third phase to provide assistance to all NC campuses in adopting and implementing comprehensive, campus-wide tobacco use policies. This analysis was based on the expected reduction in college student smoking rates associated with tobacco-free policies and its resulting medical care cost avoidance.

HWTF has invested more than \$3 million in the TFC initiative. The changes in policy on the campuses impact approximately 175,700 college students each year. The initiative generated the following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of \$4.70 is expected to be generated, representing a strong, positive ROI. The multiyear impact of the project makes this a high return initiative.

Cessation – QuitlineNC

Since February 2005, HWTF has funded telephone-based cessation services (QuitlineNC) to help NC residents quit tobacco use. In September 2007, HWTF launched the first multimedia ad campaign to promote QuitlineNC services to young adults (ages 18 to 24), and QuitlineNC has been promoted in a similar way in each subsequent year. The analyst estimated the number of people who quit smoking due to QuitlineNC, and calculated the medical care cost avoidance associated with that number.

HWTF has contributed \$9.27 million to support QuitlineNC services and \$4.65 million to promote cessation and use of QuitlineNC. This initiative generated the following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of \$1.15 is expected to be generated, representing a positive ROI. This is likely a very conservative estimate of the benefit and the return on investment since it does not capture those who may have been motivated to quit by the media campaigns but who quit on their own (without calling the quitline). During the first year of funding Quitline NC, the resource was effectively available to North Carolina consumers for only seven months. If seven months is used as the time frame in the first year in the benefit-cost analysis (instead of 12 months), the return on investment rises from \$1.15 to \$1.38. Quitline NC serves as a key resource to all citizens of the state who wish to quit smoking.

Prescription Assistance Programs:

CheckMeds NC

In October 2007, HWTF launched *CheckMeds NC*, a face-to-face Medication Therapy Management program (MTM) that places retail and community pharmacists under contract to counsel NC Medicare enrollees on the most appropriate and cost-effective use of their medicines. Services include a comprehensive “brown bag review” session between the senior and the specially trained *CheckMeds NC* pharmacist. This analysis used estimated cost avoidance values to reflect savings in health care services that have been avoided as a result of

providing prescription assistance, considering such variables as drug product savings, reduced emergency room visits, and hospitalizations.

HWTF has invested \$4 million in *Checkmeds NC*. This program generated the following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of \$13.55 is expected to be generated, representing a very strong, positive ROI.

NCRx

In January 2007, HWTF created NCRx, a premium assistance plan to help lower-income seniors participate in the federal Medicare Part D prescription drug program. The program pays up to \$29 toward monthly premiums for Medicare Prescription Drug Plans that work with NCRx. This analysis was based on cost savings derived by comparing the cost of the medicines with and without the NCRx premium assistance.

HWTF invested \$830,598 in NCRx premiums in 2009-2010. This program generated the following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of \$19.36 was generated, representing a very strong, positive ROI.

Medication Assistance Plan (MAP)

Recognizing that access to prescription drugs was a critical need for all low-income North Carolinians, in 2002 HWTF funded community-based organizations to use customized software *Medication Access Review Program (MARP)* to access free drug programs offered by pharmaceutical manufacturing companies. This effort, the Medication Assistance Program (MAP), has reached large numbers of underserved and uninsured North Carolinians and focuses on helping those under the age of 65, as well as those eligible for Medicare Part D who are in the “donut” hole and who cannot afford their medications. This analysis is based on the financial value of the medications received by program participants.

HWTF invested \$22,017,720 in MAP since 2003. This program generated the following benefit-to-cost ratio: For every \$1 that was spent by HWTF, an estimated benefit of \$15.15 was generated, representing a very strong, positive ROI.

Composite Program Profile

The report included a composite program profile, indicating a range of ROI values from a low of returning 20 cents of benefit for every dollar HWTF spent (IN4Kids) to a high of returning \$19.36 of benefit per HWTF dollar spent (NCRx). To arrive at a composite score across all HWTF programs, the individual program ratios were proportionately weighted yielding an aggregate average benefit-to-cost ratio of 2.54 to 1. Thus, for every \$1 that HWTF spent on these programs, approximately \$2.54 was, or will be, generated in financial benefits.