AstraZeneca HealthCare Foundation
Connections for Cardiovascular Health℠

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SCALE

SUSTAINABLE CHANGE AND LIFESTYLE ENHANCEMENT

SCALE (Sustainable Change and Lifestyle Enhancement): In 2014, WV Health Right developed **SCALE,** a comprehensive program to promote weight loss and health status improvement for low-income uninsured/ underinsured adults. The goal of the **SCALE** program is to assist obese patients in achieving sustained weight loss through personal coaching, group support, nutritional education, improved diet, and regular exercise. Although weight loss classes had been offered through the clinic's disease prevention and health promotion activities, **SCALE** represents the first ongoing targeted weight loss program that incorporates diabetes self-management, healthy heart, exercise, nutrition, and healthy cooking. The key program strategies are: 1) Encourage healthy behaviors; 2) Access to healthy food; 3) Healthy cooking techniques; 4) Access to individualized exercise program. These strategies are implemented through personal goal setting, personal coaching, peer support, and Motivational Interviewing techniques. These strategies, coupled with incentives, have proven effective in empowering low income, at-risk patients to realize significant, long term health status improvement.

BACKGROUND

WV Health Right, Inc., the state's oldest and largest free and charitable clinic, provides comprehensive medical, dental, pharmaceutical, behavioral health, vision, and health education services to nearly 20,000 impoverished uninsured/underinsured adults. More than 60 percent of the clinic's low-income adult patients are overweight/obese and suffer from multiple chronic illnesses. The clinic's service area includes 34 south central West Virginia counties.

PROBLEM

- Obesity is considered one of the most serious public health challenges facing the United States.
- The increasing prevalence of obesity has been consistently linked to adverse health outcomes and increased health expenditures.
- There are significant correlations between the health and economic consequences that result from obesity-related complications.
- Diabetes, heart disease, stroke, high blood pressure, high cholesterol, and osteoarthritis are among illnesses associated with obesity that impose human suffering, poor quality of life, and significant medical costs.
- Obesity related medical expenses are projected to rise to $344 billion by 2018, underscoring the magnitude of the economic threat, as an estimated 50 million days of employment and $150 billion in productivity are lost annually in the US due to overweight and obesity-related chronic conditions (Robert Wood Johnson *State of Obesity* 2015).
- West Virginia's obesity rate by age is alarming, as the following rates by age group demonstrates.

  [18 - 25: 20.7%]
  [26 - 44: **36.8%**]
  [45 - 64: **43.2%**]
  [65+ : 30.3%]

  (Trust for America's Health & Robert Wood Johnson Foundation, 2015)
- It is well documented that individuals with lower income and/or education levels are disproportionately more likely to be obese.
- According to 'The State of Obesity' report by the Trust for America's Health and the Robert Wood Johnson Foundation (2015), nearly 33 percent of adults who did not graduate from high school are obese compared with 21.5 percent of those who graduated from college or technical college; more than 33 percent of adults who earn less than $15,000 per year are obese compared with 24.6 percent of those who earn at least $50,000 per year.
- WV Health Right's patient population are low wage earners and poorly educated but are motivated by 'incentives to improve their health status; an underlying theory of the clinic's weight loss program is to provide small cash and other motivational incentives for incremental weight loss. This approach has been highly effective and has resulted in statistically significant weight loss as well as improvement in related chronic illnesses.

SCALE IMPLEMENTATION

WV Health Right is a nurse practitioner-led Level 3 Patient Centered Medical Home that utilizes medical teams to provide quality comprehensive care and treatment. More than 400 physicians, dentists, pharmacists, and other medical professionals volunteer their time and expertise which enables the clinic's small paid staff to support the complex healthcare needs of its ever growing patient population. Clinicians are a key element of **SCALE** and utilize Motivational Interviewing to assist patients in resolving ambivalence regarding weight loss. When patients exhibit an interest in **SCALE**, they are administered a brief 'Readiness for Change' assessment (see Appendix I) to determine their self-efficacy to embark on a coordinated weight loss program. 250 patients have participated in **SCALE** during its three years of implementation. The results have been nothing short of astounding (see Health Outcomes section).

Implementation Steps:

1) Obtain an accurate description of the extent of the problem. Through a query/review of patients' electronic medical records, WV Health Right found that 60% of its adult patients are overweight or obese. Selection criteria for the program includes a BMI of 30 or greater with at least one other identified cardiovascular risk factor such as hypertension, elevated lipids, elevated hemoglobin A1C, etc.
2) Flag patients in the EMR who qualify for SCALE to ensure that the program is discussed and explained to patients at each visit.
3) Display posters about the **SCALE** program throughout the clinic and the promote the program in the monthly health education calendar (See Apendix II), including the availability of incentives for attainment of goals.
4) Upon enrollment in **SCALE**, patients, in consultation with the health educator, establish weight loss goals, complete pre-tests on knowledge of nutrition, cardiovascular disease, and effective weight loss (see Appendix III). Patients are also given a food diary and encouraged to document their food and beverage intake on a daily basis. Patients are also encouraged to bring family members to class to strengthen their at-home support system. All tobacco users are counseled and encouraged to enroll in the clinic's tobacco cessation classes. Each patient is required to attend at least two **SCALE** classes per month which are offered on day and evening schedules (Gas cards or bus passes are provided to offset transportation barriers). Weigh-ins are done at each visit and small incentives are given for incremental weight loss. Lab work is performed every three months to determine improvement in other risk factors (e.g., A1C, hypertension, lipids, etc.). Identified 'Not Ready for Change' patients also have lab work done every three months and are weighed at each appointment.
5) Patients who have lost weight are given the option of continuing in **SCALE** for maintenance.
6) In addition to personal coaching by staff and volunteers, patients who have successfully lost weight serve as peer coaches for new enrollees.
7) Family Fun Days: These special days are offered monthly and include activities such as corn hole, line dancing, low calorie holiday meals, walking, etc.
8) To encourage the consumption of fresh vegetables, patients participate in container gardening and can take home a vegetable of their choice.
9) Field trips to grocery stores are offered to assist patients in learning to read and understand nutritional labeling.
10) Coupon classes are offered to improve patients' ability to stretch food budgets.
11) During the growing season, local growers provide 'pop-up markets' at the clinic. Each of these growers accept SNAP to increase accessibility to fresh produce.
12) **Volunteers:** Volunteers are an essential part of the **SCALE** model. Volunteers include cardiologists who lead Healthy Heart classes, nutritionists who provide information on appropriate diets, pharmacists who check medication compliance, and community members who lead chair yoga and other low impact exercise classes, a local gym that offers consultation with a personal trainer and access to the gym at no cost, and governmental and higher education employees who offer specialized classes. All contribute their time and talents to improve and expand **SCALE** offerings to meet individual needs.

Patient Quote

J. B.: J. B. is a 49 year old laid off coal miner who travels an hour each way to attend **SCALE** classes at least twice per week. "When I worked in the mines, I was doing hard physical labor and, even though my eating habits were terrible, I kept my weight at a normal level. When I say my eating habits were horrible, I mean horrible. I drank a 12 pack of Mountain Dew every day and tons of little Debbie sweets every single day plus huge amounts of high carb foods for breakfast, lunch, and dinner, When I got laid off, I continued to eat that way and gained 100 lbs. in no time. I've learned the importance of tailoring my food intake to my physical activity output as well as the importance of eating nutritious food. **SCALE** has been a lifesaver for me."

HEALTH OUTCOMES

Clinical Indicators

Year I-(50 patients enrolled in SCALE)

	Participants-1, Non- Participants-2		
Clinical Indicators	**1**		**2**
Lost weight with an average loss of 18.3 lbs	100%	Gained weight	72%
Had a drop in BMI with average decrease of 3.92	96%	Had increase in BMI	64%
Reduced blood pressure(diastolic and systolic)by 5 or more points)	46%	Reduction in blood pressure	2%
Decreased LDL by 2 or more points	50%	Decreased LDL	5%
Increased HDL by one or more points	49%	Increased HDL	6%
Decreased triglycerides 10 or more points	49%	Decreased Triglycerides	2%
Decreased hemoglobin A1C by 0.2 points or more	58%	Had increase in A1C	91%
Thyroid panel completed with 48 normal and 2 abnormal	100%	Unable to track	x
Decrease in hospital usage	53%	Decrease in hospital usage	26%
Behavioral Indicators			
Increased knowledge of cardiovascular disease risks and nutrition	100%	Unable to track	x
Tobacco users enrolled in tobacco cessation classes and quit tobacco	30%	Unable to track	x
Engaged in physical activity at least once weekly	92%	Unable to track	x
Reported eating healthier	100%	Unable to track	x
Maintained a food diary	90%	Unable to track	x
Had weekly contact with their coach	100%	Unable to track	x

Year II-(100patients enrolled in SCALE)

	Participants-1, Non- Participants-2		
Clinical Indicators	**1**		**2**
Lost weight with an average loss of 17.3 lbs	91%	Gained weight	64%
Had a drop in BMI with average decrease of 2.55	91%	Had increase in BMI	60%
Reduced blood pressure(diastolic and systolic by 3 or more points)	82%	Reduction in blood pressure	21%
Decreased LDL by 2 or more points	84%	Decreased LDL	99%
Increased HDL by 2 or more points	84%	Increased HDL	99%
Decreased triglycerides 2 or more points	84%	Increased Triglycerides	99%
Decreased hemoglobin A1C by 0.2 points or more	83%	Had increase in A1C	91%
Thyroid panel completed with 96 normal and 4 abnormal	100%	Unable to track	x
Decrease in hospital usage	58%	Decrease in hospital usage	26%
Behavioral Indicators			
Increased knowledge of cardiovascular disease risks and nutrition	100%	Unable to track	x
Tobacco users enrolled in tobacco cessation classes and quit tobacco	60%	Unable to track	x
Engaged in physical activity at least once weekly	94%	Unable to track	x
Reported eating healthier	100%	Unable to track	x
Maintained a food diary	96%	Unable to track	x
Had weekly contact with their coach	99%	Unable to track	x

YEAR III: Although Year III has not yet been completed, the SCALE program statistics are on track for similar results from Years I and II.

LESSONS LEARNED

1. Incentives not only encourage patients to strive for improvement but allow them to be financially able to attend classes and purchase healthy food.
2. Many patients are embarrassed to admit that they are food insecure; through clinic partnerships with area food banks, many are now receiving food boxes monthly.
3. A one size fits all approach does not work well with this population. Each participant's program must be tailored to meet the goals and objectives of the individual.
4. Peer support from patients who have achieved weight loss and health status improvement is extremely helpful with this population..
5. Hands-on cooking classes are the most popular disease prevention and health promotion activity in the **SCALE** program.
6. Regular exercise is the most difficult lifestyle change for patients. In order to ensure some level of physical activity, exercises are incorporated into every class.
7. Nutritional education is a necessary component of **SCALE**. Patients have extremely limited knowledge of caloric daily requirements, hidden sugar in processed food, portion control, etc.
8. Patients' commitment to **SCALE** is amazing when their physical, economic, and social barriers are identified. Further, their weight loss is attributable to their efforts to make lifestyle changes without benefit of a medication 'magic fix'.
9. Because 75% of **SCALE** participants have multiple chronic illnesses, individualized counseling regarding medication compliance is essential to ensure that patients understand what each medicine is prescribed for and any possible side effects.
10. Behavioral health issues (e.g., stress management, understanding addictions, etc.) need to be addressed through both group and individual sessions.

SCALE Partners

WV Health Right relies on its partnerships with foundations, companies, individual donors, faith based organizations and its army of volunteers to provide comprehensive care and treatment to its patient population. Following are essential partners who make the **SCALE** program possible:

AstraZeneca HealthCare Foundation (financial support)
Charleston Area Medical Center (lab work)
Charleston Rotary Club (teaching kitchen)
YWCA Nautilus (free gym memberships)
First Presbyterian Church (financial support)
University of Charleston School of Pharmacy (volunteers)
West Virginia University Extension Service (cooking classes)
Local Produce Growers (Pop-Up Markets)
Facing Hunger Food Bank (monthly food boxes for qualifying seniors 65+)
Mountaineer Food Bank (monthly food boxes for qualifying participants 18-64 years of age)

SUMMARY

SCALE is a replicable program in whole or in part. The major requirement is staff dedication to each participant through coaching and encouragement that results in patient understanding that even small lifestyle changes can have a positive impact on health status improvement. Each milestone achieved is celebrated and rewarded to maintain momentum. The program outcomes from the past three years prove that positive change for an at-risk population is both possible and sustainable!

Patient Quote

A.C.: A.C. is a 36 year old single mom who has struggled with her weight her entire adult life. 'I credit WV Health Right with helping me live healthier. It might seem silly but when I used to read labels on food, I only looked at the calorie content. I didn't check sodium, fiber, and sugar because I didn't know what to look for or what it meant. It's all about education here at Health Right. Everyone else just wants to give you medicine. I don't want to be on medicine my whole life and what I've learned in class has actually helped me improve my children's diets as well.

SCALE Health Educator Quote

*The **SCALE** program is a dream come true for me. I love helping my patients achieve their health goals through hands on teaching. It is a pleasure to focus on food as the "first medicine" to promote heart health. Most of our students have chronic illnesses that can be improved through nutrition and exercise and seeing them change before my eyes makes me grateful for West Virginia Health Right and AstraZeneca HealthCare Foundation for the great work we do together. I had always been a little pudgy myself and I have been able to achieve and maintain a 50 lb. weight loss reaching a BMI of 25 , increase my weekly exercise, and stop smoking during my two years at Health Right. I am living Sustainable Change and Lifestyle Enhancement!*

DISCLOSURE STATEMENT

***Connections for Cardiovascular Health*[SM] program data are self-reported to the Foundation and its evaluation partner. The AstraZeneca HealthCare Foundation and its evaluation partner make no claim as to the accuracy of the data nor can they verify the individual outcome data from which aggregate conclusions are drawn. Grammar, style, form, and function are solely the responsibility of the presenting organization.**

Appendix I

S.C.A.L.E

Sustainable Change and Lifestyle Enhancement

Sponsored by:

AstraZeneca HealthCare Foundation
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Program questionnaire and sign up

Name_____ **DOB**_____

Address:_____ **Phone#** _____

City, St, Zip _____

Readiness for change- *please check*

- ☐ On a scale of 1-10,(ten=highest level), I agree that there are things I can change to improve my health_____.
- ☐ On a scale of 1-10, (ten=highest level), my commitment to this program is_____.

Program Participation- *please check*

I understand that I have a key role in my health and maintaining it. To become better at managing my health problem, I agree to the following:

- ☐ I will attend **2 classes** a month, one S.C.A.L.E. class and another of my choosing.
- ☐ I will keep my scheduled appointments.
- ☐ I will work with my provider to draw labs every 3 months.

Disclaimer: *I understand that if I choose not to participate in the S.C.A.L.E. program that my care at the clinic will remain the same. This program is solely to benefit my health. My participation is optional.*

Sign up for program:

Patient signature:_____ Date:_____

Witnessed and enrolled by:_____ Date: _____

Appendix II

Healthy Heart Quiz

Can You Recognize a Heart Attack?

The warning signs may save your life, but only if you know them. Take this quick quiz. If you suspect you're having a heart attack, don't delay. Call 9-1-1 or your emergency response number.

Question 1 of 6

You're just not feeling "yourself" today. Which one of the following "sensations" should send you rushing directly to the emergency room?

- A. A sudden, strange desire to fill out insurance forms
- B. An uncomfortable, squeezing pain in the middle of your chest
- C. A long-tone ringing in either of your ears
- D. A tingling sensation on the bottoms of your feet

Select the best answer

A

B

C

D

The answer is:

B. An uncomfortable squeezing pain in the middle of your chest. Most heart attacks start slowly, usually with a slight discomfort, squeezing pain, or fullness in the center of your chest. The pressure can last for minutes and usually comes and goes. If any of these symptoms comes, call 9-1-1 or your emergency response number. Filling out insurance forms should be the least of your worries!

Question 2 of 6

Just because you feel a heart attack warning sign doesn't mean you are actually having a heart attack. People feel these quirky sensations all the time. Save yourself some trouble. Wait until you have a few of the signs in more rapid succession.

- A.Good advice
- B.Bad advice

Select the best answer

A B

The answer is:

B. Bad advice. People ignore heart attack warning signs at their own risk. There are cemeteries full of people who felt one but did nothing. The moment you feel a heart attack warning sign, call 9-1-1 or your emergency response number. Emergency medical services (EMS) staff can provide initial treatment much faster than if you drive to an emergency room yourself. Every minute counts during a heart attack – time is muscle.

Question 3 of 6

There's a reason it's called a "heart" attack. The warning signs all center on your "heart." The idea that symptoms may occur in other parts of the upper body, such as the arms, back, neck, jaw, or stomach, is pure myth.

- A.True
- B.False

Select the best answer

A B

The answer is:

B. False. It's called a "heart" attack, but the symptoms can affect other parts of the body, namely the arms, back, neck, jaw, and stomach. If you feel an unexplained discomfort in the center of the chest that feels like uncomfortable pressure, squeezing, fullness or pain, or pain or discomfort in any of these areas of your upper body, you may be having a heart attack. Call 9-1-1 or your emergency response number immediately.

Question 4 of 6

Shortness of breath is a warning sign for a heart attack when:

- A. You experience a particularly beautiful wonder of nature, such as the Grand Canyon.
- B. You see the love of your life.
- C. You are also feeling some discomfort or pain in your chest.
- D. You aren't feeling anything strange in your chest, except shortness of breath.
- E. C and D

Select the best answer

A

B

C

D

E

The answer is: E

C and D. Any shortness of breath can signal an oncoming heart attack. No offense to the Grand Canyon or the love of your life, but if you're suddenly struggling to breathe, you're better safe than sorry. Call 9-1-1 or your emergency response number right away.

Question 5 of 6

Which of these is NOT considered a heart attack warning sign?

- A. Cold sweats
- B. Nausea
- C. Food cravings
- D. Lightheadedness

Select the best answer

A B C D

The answer is:

C. Food cravings. Cold sweats, nausea, and lightheadedness are all heart attack warning signs, especially for women, who are also prone to experience shortness of breath, as well as back or jaw pain. However, if you experience any of the others, call 9-1-1 or your emergency response number right away.