CRACKING THE CODE:
Reducing CVD Risk with Therapeutic Lifestyle Changes
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Presenters

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Outline

• Therapeutic lifestyle changes (“TLC”) and ASCVD risk reduction: importance, challenges and opportunities (Dr. Gulati)

• Core components of an evidence-based telehealth TLC program specifically designed to favorably modify multiple ASCVD risk factors (Dr. Gordon)

• Clinical effectiveness of the TLC program (Dr. Gordon)

• “Real world” case study: How to reinvigorate your daily clinical practice with TLC (Dr. Berk)

• Q & A

Most Common Chronic Diseases Are Lifestyle Related and Potentially Avoidable

Percent of Selected Chronic Diseases That are Likely Lifestyle Related and Potentially Avoidable

- Cancers: 71%
- Stroke: 70%
- Heart Disease: 82%
- Diabetes: 91%
"Lifestyle as the Foundation for ASCVD Risk-Reduction Efforts

It must be emphasized that lifestyle modification (i.e., adhering to a heart-healthy diet, regular exercise habits, avoidance of tobacco products, and maintenance of a healthy weight) remains a crucial component of health promotion and ASCVD risk reduction…"

- USPSTF literature review on effectiveness of primary care-relevant trials of physical activity and/or dietary counseling to prevent CVD
- Most important factor for differences in effect sizes among studies was intervention intensity - strongest evidence was for higher-intensity counseling interventions.
- No consistent behavioral benefit was found for low-intensity counseling.
- Low-intensity interventions involved <30 min of contact with providers.
In total, 13,657 (23.4%) of 58,269 AMI patients eligible for cardiac rehabilitation attended 1 or more cardiac rehabilitation sessions; 3,175 (5.4%) completed 36 sessions or more.

Despite the benefits of CR, risk factor profiles are often suboptimal after CR. There remains room for improvement in risk factor management during CR and a need for continued intervention thereafter.
CR/SPPs should be reengineered to include a wide array of service options that meet the needs of individual patients; they should provide more flexible programs within and beyond the traditional clinical center to enhance access, adherence, and effectiveness.

ACC and INTERVENT: The Partnership

- Expertise in CVD education and treatment
- Enable performance measurement
- Support for novel technology solutions
- Scaled delivery of research-driven improvement programs
- Proven results (~100 published manuscripts/abstracts) and >2 million participants
CardioSmart OnCall

An affordable, evidence-based, CV risk-reduction and lifestyle health coaching program. The use of telephone and internet makes the one-on-one coaching accessible and convenient for patients.

**Telephonic/Online Health Coaching Programs**
- Formal, structured approach to behavior change/risk reduction
- Address multiple behaviors and risk factors in an integrated manner

**Online Comprehensive Risk Assessment and Reports**
- Wellness and ASCVD risk scores
- Participant goals and action plan reports
- Physician summary report

**Online Lifestyle Management Programs**
- Exercise/physical activity
- Nutrition
- Weight management
- Stress management
- Tobacco cessation

Accessing CardioSmart OnCall

Clinicians and patients can learn more about the program via the CardioSmart website.

https://www.cardiosmart.org/Healthy-Living/Know-your-Numbers/CardioSmart-On-Call
Accessing CardioSmart OnCall

Patients can take a free Health Risk Assessment via the CardioSmart website.

https://www.cardiosmart.org/Healthy-Living/Know-your-Numbers/Take-a-Comprehensive-Health-Risk-Assessment

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The Evolution of INTERVENT’s TLC/ASCVD Risk Reduction Programs

- Programs originally based on research available in the early 1990s, especially the Stanford Coronary Risk Intervention Project (SCRIP).
- After completion of original research study in Dallas, TX, INTERVENT was founded in July 1997.
- Since 1997, considerable time and effort has been spent developing, testing and successfully implementing INTERVENT’s evidence-based, technology-enabled, outcomes-oriented, comprehensive TLC and chronic disease risk reduction programs.
- Over two million participants and approximately 100 published scientific abstracts/manuscripts.
- Telehealth TLC program used as a component of aggressive medical management in the NIH-funded SAMMPRIS and CREST-2 stroke risk reduction clinical trials.
- CardioSmart partner since 2011.

Program Focus

Provision of evidence-based, technology-enabled, outcomes-oriented, comprehensive TLC/chronic disease risk reduction programs designed to:

- Help adults make/adhere to meaningful lifestyle changes and adopt other healthy behaviors
- Identify and address gaps in preventive care
- Educate about risk factors and chronic conditions
- Help ensure individuals are taking appropriate risk reduction medications and that they comply with prescribed medications and their regular medical care
**ACC and INTERVENT: Partnership**

**Rationale - - Physician Practices**

- Doctors are enthusiastic about prevention. However, they often don't have the time, resources or infrastructure for the provision of certain preventive services (especially TLC).

- CardioSmart OnCall allows doctors to provide their patients with credible, affordable, evidence-based TLC programs without burdening them or their staff with significant additional work or overhead.

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**ACC and INTERVENT: Partnership**

**Rationale - - CR Programs**

- Every recent prevention guideline from the AHA/ACC provides a Class I-level recommendation for CR.

- Use of CR remains dismally low.

- To help rectify barriers to onsite CR the AHA has recommended alternative models, such as telephone/Internet health coaching.

- CardioSmart OnCall allows CR programs to provide patients who are unable or unwilling to participate onsite (and those in need of ongoing intervention post-CR) with credible, affordable, evidence-based, telehealth TLC programs.
CardioSmart OnCall: Service Components

We provide access to a wide variety of TLC-related tools/services/programs. Core services include:

**Online Comprehensive Risk Assessments and Reports**
- Wellness and ASCVD risk scores
- Comprehensive personalized goals and action plan reports for participant
- Physician summary report

**Online TLC/Risk Reduction Programs**
- Exercise/physical activity
- Nutrition
- Weight management
- Stress management
- Tobacco cessation
- CVD management (including prediabetes, diabetes, metabolic syndrome, hypertension, hyperlipidemia, ASCVD, stroke, etc.)

**Telephonic/Videoconferencing TLC Coaching Programs**
- Formal, structured approach to behavior change/risk reduction
- Comprehensive approach
- Address multiple behaviors and risk factors in an integrated manner

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Best Practices TLC/Risk Reduction Coaching Programs

Uses a formal structure, for both coach and participant, to achieve pre-specified goals. Core components of program include:

- **Participant Referral and Enrollment**
- **Intake Assessment and Risk Factor Determination**
- **Goal Setting (guideline-based)**
- **Action Plan Formulation (guideline-based)**
- **Health Coaching/Action Plan Implementation**
- **Follow-up Evaluation and Progress Reports**
- **Integration with Usual Medical Care**
- **Compliance Enhancement/Tracking**
- **Aggregate Outcomes Assessment**
### Coaching Methodology

<table>
<thead>
<tr>
<th>Coaching Philosophy</th>
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<tbody>
<tr>
<td>• Incorporates multiple behavior-change techniques: e.g., stages of change, motivational interviewing, single concept learning theory</td>
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<tr>
<td>• Educational kits, audios, nutrition and exercise diaries and on-line materials support the foundation for behavioral change</td>
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<td>• Comprehensive goals and action plan linked to health risk factors</td>
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<tr>
<th>Emotional Support</th>
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<tr>
<td>• Dedicated health coaches assigned to participants; pull in specialists as needed</td>
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<tr>
<td>• Wellness Vision</td>
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<tr>
<td>• Focus is on the individual</td>
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<th>Interventions</th>
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<tr>
<td>• Evidence-based medicine approach/physician integration</td>
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<tr>
<td>• Formal, structured, systematic approach</td>
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<tr>
<td>• Nature and intensity of intervention individualized based on multiple factors, including risk status and readiness to change</td>
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<th>Progress Tracking</th>
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<td>• System supports tracking of qualitative and quantitative results</td>
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<td>• Follow-up reports utilized during the program allow the participant to track their progress along the way</td>
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<th>Quality</th>
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<td>• Quality audits help ensure delivery of a high-quality program</td>
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<td>• Calls tracked and recorded</td>
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### CardioSmart OnCall Resources: Personalized Risk Reduction Goals

[Image of mobile application interface for CardioSmart OnCall resources]

- **Risk Measurement Icons**
  - 1. Blood Pressure
  - 2. Body Weight

- **Key Action Steps**
  - 1. Improve Blood Pressure
  - 2. Reduce Body Weight

- **Follow-up Report**
  - Monitor progress over time
  - Personalize goals and interventions

[Additional screenshots and details about the application's features and functionalities]
CardioSmart OnCall Resources: Personalized Action Plan Reports

If your doctor or another healthcare professional has provided recommendations different to those outlined here, please discuss this with them before implementing our recommendations.

- Physical Activity
- Nutrition
- Social Support
- Doctor referrals

CardioSmart OnCall Resources: Interactive Educational Modules (>100 Topics)

Boosting Weight Loss
- Introduction
- Section 1: Launch Your Weight Loss Plan
- Section 2: Enjoy a Short-Term Booster Plan
- Section 3: Keep a Weight Loss Journal
- My Action Plan and Notes
- Additional Resources
- Key Concepts
- Meet your Weight Loss Goals: Foods to Choose
- Foods to Avoid Completely

Benefits of Weight Loss
- Total the health benefits of weight loss that are important to you:
  - Reduced risk of heart disease and stroke
  - Reduced risk of heart attack and stroke
  - Reduced risk for certain types of cancer
  - Reduced risk of diabetes and prediabetes
  - Reduced risk of diabetes and prediabetes
  - Reduced risk of diabetes and prediabetes
CardioSmart OnCall Resources: Diaries, Recipes, Challenges, Device Integration, etc.

CardioSmart OnCall Resources: Online Coaching Platform for Coaches
Resources can be Leveraged for Other Important TLC-Related Initiatives

<table>
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<th>Initiative</th>
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<tbody>
<tr>
<td>A. Intensive Behavioral Therapy for Cardiovascular Disease and Obesity</td>
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<tr>
<td>B. Chronic Care Management</td>
</tr>
<tr>
<td>C. Diabetes Self-Management Training</td>
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<tr>
<td>D. Medical Nutrition Therapy</td>
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<tr>
<td>E. Annual Wellness Visits</td>
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<tr>
<td>F. Preventive Medicine - - Individual Counseling</td>
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<tr>
<td>G. Other Services - - e.g., Million Hearts Cardiovascular Risk Reduction Model, Medicare Diabetes Prevention Program and Value-Based Contracting/ACOs</td>
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Interventions Driven by Hard Science (with well documented outcomes)

Approximately 100 published scientific abstracts or manuscripts documenting benefits in terms of multiple risk factors, clinical variables, self-reported health status and ROI (including numerous publications in peer-reviewed medical journals and independent third-party research)

Key scientific manuscripts include:

8. Rationale, design, and implementation of aggressive risk factor management in the SAMMPRIS trial. Circulation: Cardiovascular Quality and Outcomes 2012; 5: e51-e60.

INTERVENT Lifestyle Health Coaching Program Versus Leading Academic Institution’s Lower-Intensity Program

Percent Change in Framingham 10-Year CHD Risk Score in Higher-Risk Employees (1-Yr Follow-Up; p<0.05 for INTERVENT Lifestyle Health Coaching vs. Academic Institution’s Program)
Effect of One Year of Lifestyle Health Coaching in Participants with the Metabolic Syndrome
(n=1,887; Med Sci Sports Exerc 2010; 42: S460.)

Baseline vs Follow-up

CardioSmart OnCall: Sample Long-term Outcomes Data

Figure 5.2 Reduction in Health Risk Factors for Three Cohorts

Cohort A = All Participants (n=19,022); Cohort B = CardioSmart OnCall TLC Coaching Participants (n=2,370); Cohort C = HRA Only Participants (n=12,510).
Average follow-up = ~3 years; p = 0.001 for Cohort B vs Cohort C
As part of a formal, confidential participant satisfaction survey, participants in the CardioSmart OnCall TLC coaching program were asked to rate two questions related to their overall experience with the program on a scale from 1 (lowest or worst score) to 5 (highest or best score)

2014 Program Year

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<th>Overall Evaluation – Statements</th>
<th>Means</th>
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<td>13. Overall, the program is excellent.</td>
<td>4.62</td>
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<td>14. I would recommend the program to others.</td>
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2015 Program Year

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Who to Refer

Consider Referring Patients with The Following Conditions or Needs:

- Atherosclerotic cardiovascular disease
- Prehypertension/hypertension
- Hyperlipidemia
- Prediabetes/diabetes
- Metabolic syndrome
- Overweight/obesity
- Other patients who can benefit from making and adhering to meaningful lifestyle changes

How to Refer

It’s easy! Choose from these options:

- Refer online
- Use smart phone app
- Refer via fax
- Refer via telephone
- Coming soon - EMR
Referral and Enrollment Statistics for a Single Cardiologist During the Past ~30 Months

366 Total Referrals

94 Unable to Reach

272 Potentials

131 (~48%) Completed Comprehensive HRA

148 Declined Program Enrollment

105 Enrolled in Program (~39% of Those Reached)

19 in Progress/Undecided About Program

Cardiologist’s Patients Who Completed the Risk Assessment (n=131)

- 63% were male (age=63 yrs)
- 37% were female (age=61 yrs)
- 35% had a diagnosis of CAD
- 96% were overweight or obese
- 62% reported excessive stress
- 54% did not meet recommended physical activity guidelines
- 1.5% were cigarette smokers
- 90% had history of prehypertension/ hypertension
- 83% had history of hyperlipidemia
- 41% had history of prediabetes/diabetes
- 34% had history of sleep apnea
- 24% met biomarker criteria for metabolic syndrome
Outcomes Data for Cardiologist’s Patients
(Mean Change; follow-up ~1 year; n=73)

All Participants:
- 13 lbs decrease in weight
- 7 mmHg decrease in SBP
- 4 mmHg decrease in DBP
- 5 mg/dl decrease in LDL-C
- 6 mg/dl decrease in glucose

Abnormal Baseline Values:
- 15 lbs decrease in weight
- 22 mmHg decrease in SBP
- 15 mmHg decrease in DBP
- 62 mg/dl decrease in LDL-C
- 17 mg/dl decrease in glucose

- 92% decrease in unhealthy eating habits
- 24% decrease in excessive stress
- 30% decrease in physical inactivity

“... it is very empowering for me as a physician to prescribe something for my patients that is not a pill!”

What Patients Are Saying...

“This program has been a catalyst to a new and improved me. My coach is amazing... The reading material was easy to follow and relevant. It's delivered in PDF so I can reference the material from my IPad anytime. I've lost 46 pounds... and I'm still going strong. It works!”

“I have now lost 21 pounds and gone from a 34 waist to 32. At my last doctor's appointment, he was so pleased with my diet and exercise program that it was not necessary to continue using blood pressure medicine. Thanks again.”

“My journey has been long and hard, but it has had its rewards. My coach has been there with me every step of the way! I was once 306 pounds, thinking that I was always going to be like this. Today, I am 185 pounds, healthier and stronger than ever!”
“Closing the tap of our unhealthy lifestyle habits will allow us to prevent disease rather than wait for it to manifest and treat the symptoms. If we can do this, we will have found, as Hippocrates said, the safest way to health.”

For More Information

Please contact:

cardiosmart@myintervent.com