Vanderbilt University

Corporate Health Achievement Award

American Occupational Health Conference
April 17, 2002

Mary Yarbrough MD MPH, Director
Vanderbilt Health and Wellness
Objectives

• Introduce *Vanderbilt University* and its *Health and Wellness Programs, including Occupational Health*

• Discuss the *Health and Wellness Programs* evaluation process

• Review selected evaluation projects
Mission

- Education
- Research
- Patient Care
Vanderbilt “Demographics”

- People
  - 3,700 faculty
  - 12,600 staff
  - 10,000 students

- Campus
  - 323 acres
  - National Arboretum
  - Peabody National Historic Landmark
Vanderbilt University

- 10 Schools
- Medical Center
- Public Policy Institute
- Freedom Forum First Amendment Center
Vanderbilt University Medical Center

- Hospital
- Children’s Hospital
- The Vanderbilt Clinics
- School of Medicine
- School of Nursing
Mission

To protect and support Vanderbilt’s most valuable asset, its faculty and staff
"Here, Fifi! C’mon! ... Faster, Fifi!"
Organizational Structure*

* Partial VU Org Structure
Evaluation Conflicts

• Administrators expect prompt problem resolution

• Academic leaders expect scientific assessment
  – Not funded for research
  – Operational value of data collection for publication limited

• Employee Confidentiality
Integrate
CQI and Scientific Method

State the Aim
Define Change
Select Intervention
Plan

State the problem
Formulate null hypothesis
Design the study

Do
Study
Act

Collect the data
Interpret the data
Draw conclusions
“Don’t be alarmed, folks. ... He’s completely harmless unless something startles him.”
Evaluation Process

• Identify problem
  – Review and discuss current process

• Propose change
  – Chart revised process

• Select metric to guide
  – State null hypothesis and study design
Evaluation Process

• Implement
  – Educate stakeholders

• Monitor metric continuously
  – i.e., graph-on-the-wall or “watch the dashboard”

• Judge value
  – Interpret results
  – Draw conclusions
Creating “Enthusiasm” for Evaluation

• State it is important

• Include in personal and program goals

• Provide time and resources, incl. technology and statistical support

• Just do it!

• Share the findings along the way
Vanderbilt Occupational Health Information System
Employee Assistance Program Evaluation Projects

• Physician Wellness Program Utilization
• Stress Reduction
• Satisfaction with the Employee Assistance Program
• Internationals Program
• Physician Stress Reduction Program
Occupational Health Evaluation Projects

- TB Skin Test Compliance Rates
- Compliance with OSHA Medical Surveillance
- Blood and Body Fluid Exposure Injury Reduction
- Ergonomic Assessment Satisfaction
- Patient Satisfaction
- Knowledge of Services
- Return to Work Program ROI
- FMLA Utilization
- Influenza Vaccination Rates
- Health Indicator Tracking
- Non-Work Related Employee Mortality Analysis
HEALTH Plus
Evaluation Projects

- Health Risk Assessment (HRA) Participation
- Fitness Facility Utilization
- Fruit and Vegetable Consumption
- Smoking Cessation Program Evaluation
- The 5-Year Health Change Evaluation
- Aerobic Program Satisfaction
- Swim School Program Satisfaction
- Housestaff Health Status at Baseline and During Residency
- Weight Management Program Evaluation
- Longitudinal Analysis of a High Risk Subgroup
- Self-Reported v. Measured Biometric Data on an HRA
- Analysis of Employees Completing an HRA
- Diabetes Prevention Project
Example Evaluation Project #1
Physician Wellness Program Utilization
Physician Wellness Program Utilization

- Problem
  - Limited physician utilization of EAP

- Change
  - Physician Wellness Committee
  - Physician Wellness Program within EAP
Physician Wellness Program
Utilization

• Metric
  – Physician utilization (and physician loss)
  – Null hypothesis: No significant change in physician utilization after 18 months

• Implement
  – Educate physicians and staff

• Monitor
Utilization Before and After
Introduction of
Physician Wellness Program

PWP

MD

92-3 93-4 94-5 95-6 96-7 97-8 98-9 99-00
Physician Wellness Utilization

• Judge value
  – No unexpected physician loss
  – Significant increase in utilization
    • chi-square, $p < 0.05$
  – Program funded
Utilization Before and After Introduction of Physician Wellness Program

Year

Participants (No.)

PWP

92-93 93-94 94-95 95-96 96-97 97-98 98-99 99-00 00-01 01-02

6 7 8 4 5 14 25 47 64
Example Evaluation Project #2

TB Skin Test Compliance
TB Skin Test Compliance

• Problem
  – TB skin test compliance ~70%

• Change
  – RN reminder call at 48-72 hrs

• Metric
  – Compliance rate
  – Null hypothesis: No change in compliance

• Implement

• Monitor
TB Compliance Related to Percent Called

Graph showing the percent called and percent compliant over months 1 to 4.
TB Skin Test Compliance

• Judge value
  – 1 in 4 responded to call
  – Cost intensive with RN
  – Continue calls by clerical staff
Example
Evaluation Project #3
Compliance with Non-Infectious Regulatory Programs
Compliance with Non-Infectious Regulatory Programs

• Problem
  – Non-infectious programs compliance ~80%
• Change
  – Email supervisors
    • medical surveillance information
    • compliance rates for all departments
• Metric
  – Compliance rates
• Implement
• Monitor
Compliance with Regulatory Programs

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Percent Compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>98-99</td>
<td>83.8%</td>
</tr>
<tr>
<td>99-00</td>
<td>94.1% p&lt;0.05</td>
</tr>
<tr>
<td>00-01</td>
<td>96.3%</td>
</tr>
</tbody>
</table>

*emails begin*

*site visits and new administrative controls begin*
Example Evaluation Project #4

Injuries Related to Sharps Disposal
Injuries Related to Sharps Disposal

- **Problem**
  - Sharps disposal significant cause of work-related injury
- **Change**
  - Straight-drop box replaced with letter-drop box
- **Metric**
  - Number of disposal-related sharps injuries
- **Implement**
- **Monitor**
Average Disposal-Related Sharps Injuries per Month

<table>
<thead>
<tr>
<th>Number of Injuries</th>
<th>Straight-Drop Box 1/97 - 1/99</th>
<th>Change</th>
<th>Letter-Drop Box 3/99 - 1/01</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5</td>
<td>2.8</td>
<td></td>
<td>1.6</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Change: 2.8 to 1.6
Injuries Related to Sharps Disposal

• Judge value of change to letter-drop boxes
  – Financial Impact
    • Cost $10,000 greater per year
    • Savings of $8,800 per year, not considering cost of infectious disease conversion
  – Compliance with BBP Standard
  – Decreased stress
Example
Evaluation Project #5
Satisfaction with Ergonomic Workstation Assessments
Satisfaction with Ergonomic Workstation Assessments

• Problem
  – Value of ergonomic assessments unknown
• Change
  – Annual satisfaction survey
• Metric
  – Faculty and staff satisfaction
• Implement
• Monitor
Ergonomic Assessment Satisfaction

Year 1

Year 2

Extremely Useful
Somewhat Useful
Not at All Useful

Percent
Satisfaction with Work Environment After Changes

- Greatly Improved
- Somewhat Improved
- Somewhat Worse
- No Change
- No Changes Made

Year 1
Year 2
Example
Evaluation Project #6
Health Risk Assessments
Completed
Health Risk Assessments (HRAs) Completed

- Problem
  - Incomplete health risk data
- Change
  - Offer HRAs at Medical Center New Staff Orientation
- Metric
  - Number of HRAs completed
- Implement
- Monitor
Completion of HRAs

HRAs first offered

University Orientation

Med Ctr Orientation

Total # Initial HRAs Completed Per Year

Number

Added Value:
Exercise Facility Utilization Increase

<table>
<thead>
<tr>
<th>Year</th>
<th>Facility Attendance</th>
<th>Initial HRAs Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>3000</td>
<td>Med Ctr Orientation</td>
</tr>
<tr>
<td>1992</td>
<td>2750</td>
<td>University Orientation</td>
</tr>
<tr>
<td>1993</td>
<td>2500</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>2250</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>1750</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>1500</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>1250</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>750</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>500</td>
<td></td>
</tr>
</tbody>
</table>

Total Facility Attendance
Total # Initial HRAs Completed
HRAs first offered
Example Evaluation Project #7

Fruit and Vegetable Consumption
Fruit and Vegetable Consumption

• Problem
  – Inadequate consumption of fruits and vegetables
• Change
  – Nutrition education campaign
• Metric
  – Consumption reported on Health Risk Assessments
• Implement
• Monitor
Fruit and Vegetable Consumption

- ≥ 2 fruit servings/day
- ≥ 3 vegetable servings/day
"I lift, you grab. ... Was that concept just a little too complex, Carl?"
Health and Wellness Project Leaders

- Mary Yarbrough
- Paula McGown
- Patricia Kinman
- Alice Warren
- Sharon Sulkin
- Susan Harris
- Helen Scott
- Judy Woods
- Ellen Trice
- James Kendall
- Paul Ragan
- Marilyn Holmes
- Lisa Connor
- Cindy Dorminy
- Susan Walker
- Brad Awalt
- June MacNeil

Center for Health Services Research

- Daniel Byrne
- Robert Dittus
Contributors

- Health and Wellness
  - Chantelle Stoxstill
  - Leah Cannon
- Occupational Health Clinic
  - Melanie Swift
  - Cindy Harrison
  - Willow Price
  - Aimee Paschall
- Child Care Centers
  - Diane Neighbors
- Employee Assistance and Physician Wellness Programs
  - Ellen Clark
  - Susan Lescher
  - Helena Guo
- Center for Occupational and Environmental Medicine
  - Roy DeHart
- HEALTH Plus
  - Lori Cowan
  - Cassandra McClain-Evans
  - Kelly McClain
- Physician Wellness Committee
  - Anderson Spickard, Jr.
- Plant Services
  - Ken Browning
- Environmental Health and Safety
  - Robert Wheaton
  - Susan Johnson
  - Alex LeHockey
  - Andrea George
  - LouAnn Burnette
- Infection Control
  - Vicki Brinsko
Contributors

- Human Resource Services
  - Karen Rolling
  - Lana Clay
  - Lynn Capps
  - Donna Thomas
  - Jane Bruce
  - Lisa Ponton
  - Veronica Burns
- Center for Clinical Improvement
  - Doris Quinn
  - Ted Sperhoff
- InfoWorks
  - Misty Leopper
  - John Mason
  - Rick Pineda
- Risk Management
  - Tracy Hamilton
  - John MacCauley
- General Counsel
  - Sheree Wright
  - Julia Morris
- TN Physician Health Program
  - David Dodd
- Environmental Health and Safety
  - Carl Gerholdt
  - Melanie Byer
  - Tammy Jimison
  - David Kirby
  - Danny Anglin
  - Melissa Kennedy
- Opportunity Development Center
  - Sara Ezell
- Physical Therapy
  - Scott Reynolds
  - Jim Lassiter
  - Cheryl Hughes
- Dayani Health Promotion Center
  - Jay Groves
  - Barbara Forbes
- Graduate Medical Education
  - Fred Kirchner, MD
  - Jane Shoun
Visit us at the Vanderbilt Health and Wellness Website

www.vanderbilt.edu/HRS/wellness/wellness.htm