

*Using Obesity-Related Medical Claims Cost Analysis  
to Influence Obesity Prevention & Intervention  
Approaches in Worksite Environments*



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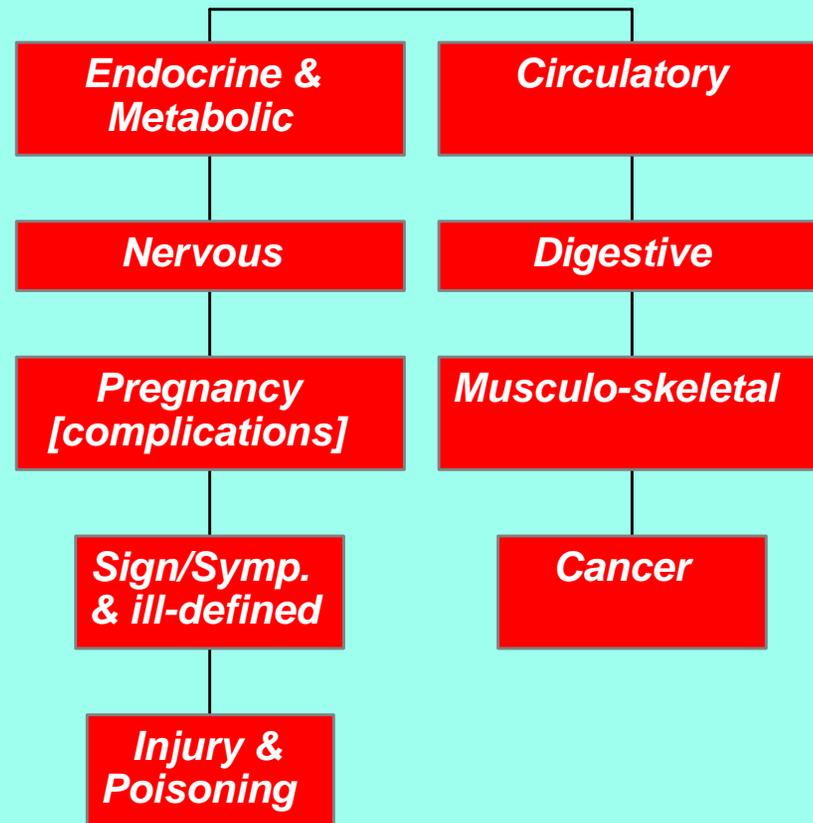
# *Why Use Medical Claims Analysis as a Diagnostic and Planning Strategy?*

- **Claims data records provide data on a lot of people**
- **Selected medical conditions can be easily identified via DRG and ICD**
- **Claims data records reflect the real demand for services**
- **Claims data are quantifiable [# claims & \$ payments]- can be tracked year-to-year for evaluation purposes**

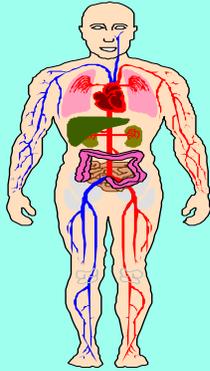


# *What Conditions are Related to Overweight & Obesity?*

<u>Condition</u>	<u>BMI*</u>
Overweight	25-29.9
Obesity	30+



•*Nat'l Heart, Lung, and Blood Institute, Clinical Guidelines. Dept. of HHS, 1998.*



# ***CIRCULATORY***

<b><u>Condition</u></b>	<b><u>DRG</u></b>	<b><u>ICD</u></b>
• <b>Cardiovascular</b>	103-112	402-405
	120-145	412-414.9
• <b>Hypertension</b>	135	401
• <b>Deep vein thrombosis</b>	128	437.6
• <b>Chronic venous insuffic.</b>		459.81

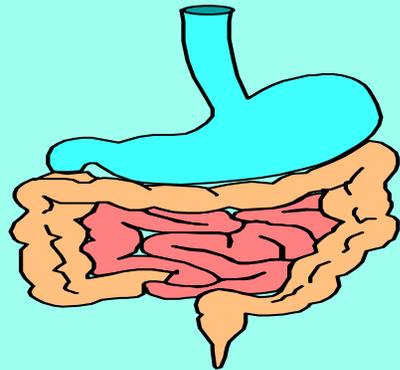
**Source: American Obesity Association. *Comments of the American Obesity Association on Healthy People 2010.***

**[[www.obesity.org/AOA\\_HP2010.htm](http://www.obesity.org/AOA_HP2010.htm)]**



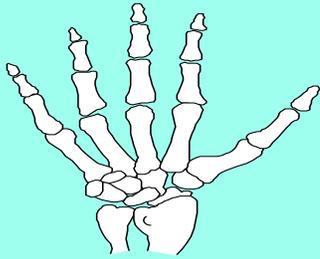
## ***CANCER (Neoplasm)***

<b><u>Condition</u></b>	<b><u>DRG</u></b>	<b><u>ICD</u></b>
• <b>Breast (women)</b>	<b>274-275</b>	<b>174-175</b>
• <b>Breast (men)</b>	<b>274-275</b>	<b>175.9</b>
• <b>Esophageal/gastric</b>	<b>154-156</b>	<b>150.1 - 151.0</b>
• <b>Colo-rectal</b>	<b>148-149</b>	<b>153.0-154.1</b>
	<b>172-173</b>	
	<b>179</b>	
• <b>Endometrial</b>	<b>354-355</b>	<b>182.0-182.8</b>
	<b>357-359</b>	
• <b>Renal cell</b>	<b>318-319</b>	<b>189.0-189.1</b>



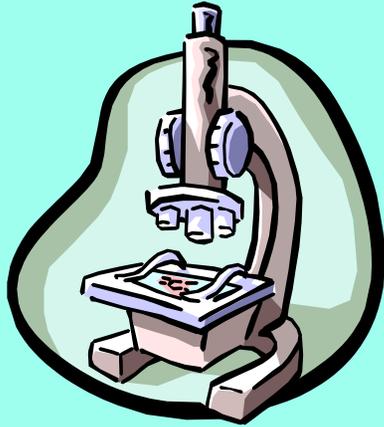
## ***DIGESTIVE***

<u><b>Condition</b></u>	<u><b>DRG</b></u>	<u><b>ICD</b></u>
• <b>Gallbladder</b>	<b>195-198</b>	<b>575.0-575.9</b>
• <b>Liver disease</b>	<b>199-203</b>	<b>570.0-573.9</b>
• <b>End stage renal disease</b>	<b>316-317</b>	<b>585-586</b>
• <b>Biliary and alcoholic pancreatitis</b>	<b>193-194</b> <b>204</b> <b>207-208</b>	<b>577.0-577.1</b>



## ***MUSCULO-SKELETAL***

<b><u>Condition</u></b>	<b><u>DRG</u></b>	<b><u>ICD</u></b>
• <b>Osteo-arthritis</b>	<b>221-222</b> <b>237</b>	<b>715.0-715.9</b>
• <b>Rheum. arthritis</b>	<b>242</b> <b>244</b> <b>245-246</b>	<b>714</b>
• <b>Low back pain</b>	<b>243</b>	<b>724.1-724.5</b>
• <b>Sprain/strain of back</b>		<b>847.9</b>



## ***ENDOCRINE & METABOLIC***

### **Condition**

### **DRG**

### **ICD**

- |                                   |                |                    |
|-----------------------------------|----------------|--------------------|
| • <b>Diabetes</b>                 | <b>294</b>     | <b>250.0-250.9</b> |
| • <b>Gout</b>                     |                | <b>274.0-274.9</b> |
| • <b>Impaired immune response</b> | <b>488-490</b> | <b>279.0-279.9</b> |



## *NERVOUS*

### Condition

- Carpal tunnel syndrome
- Pain

### DRG

6

### ICD

354.0-354.1

307.8-307.80



## ***PREGNANCY [COMPLICATIONS]***

### **Condition**

- **Obstetric and  
gynecologic complications**

### **DRG**

**354**

**358**

**366**

**368**

**370**

**372**

### **ICD**



## ***SIGNS/SYMPTOMS/ILL - DEFINED***

<b><u>Condition</u></b>	<b><u>DRG</u></b>	<b><u>ICD</u></b>
<b>• Impaired respiratory function</b>	<b>87-88</b>	<b>518.5-519</b>
<b>• Sleep apnea</b>		<b>780.5-780.57</b>
<b>• Urinary stress incontinence</b>		<b>788.3-788.39</b>



## ***INJURY & POISONING***

**Condition**

**DRG**

**ICD**

• **Hip Fracture**

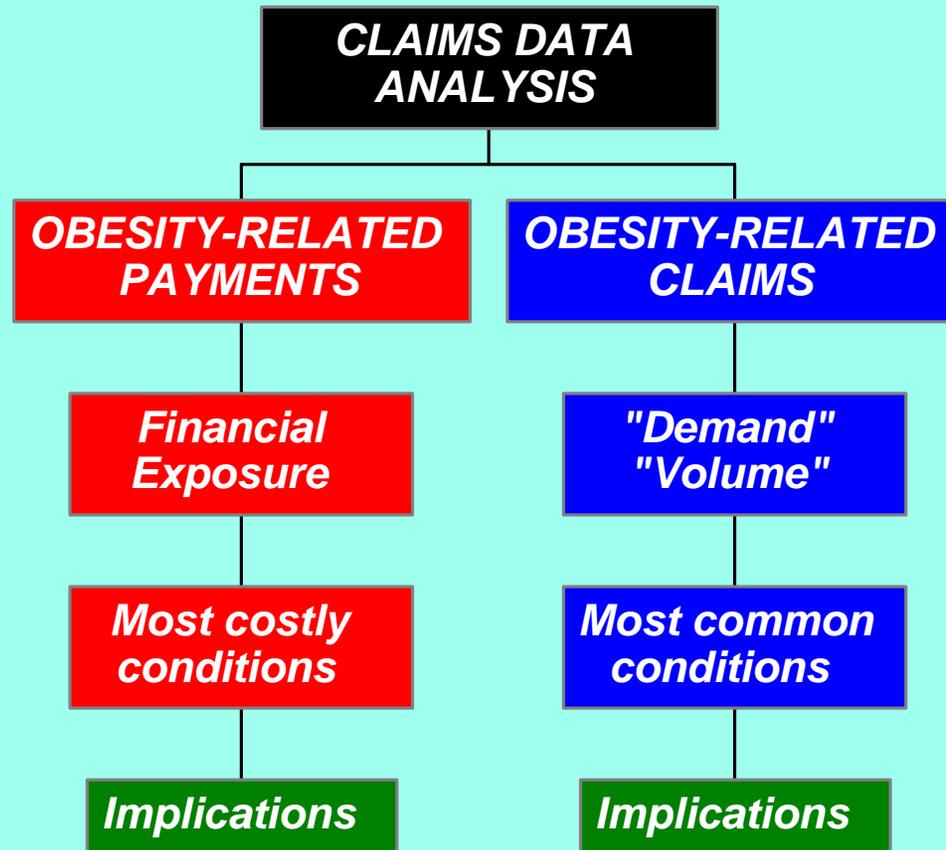
**236**

**808**

**808.1**

**820**

# *Conduct a Worksite Diagnostic Analysis*



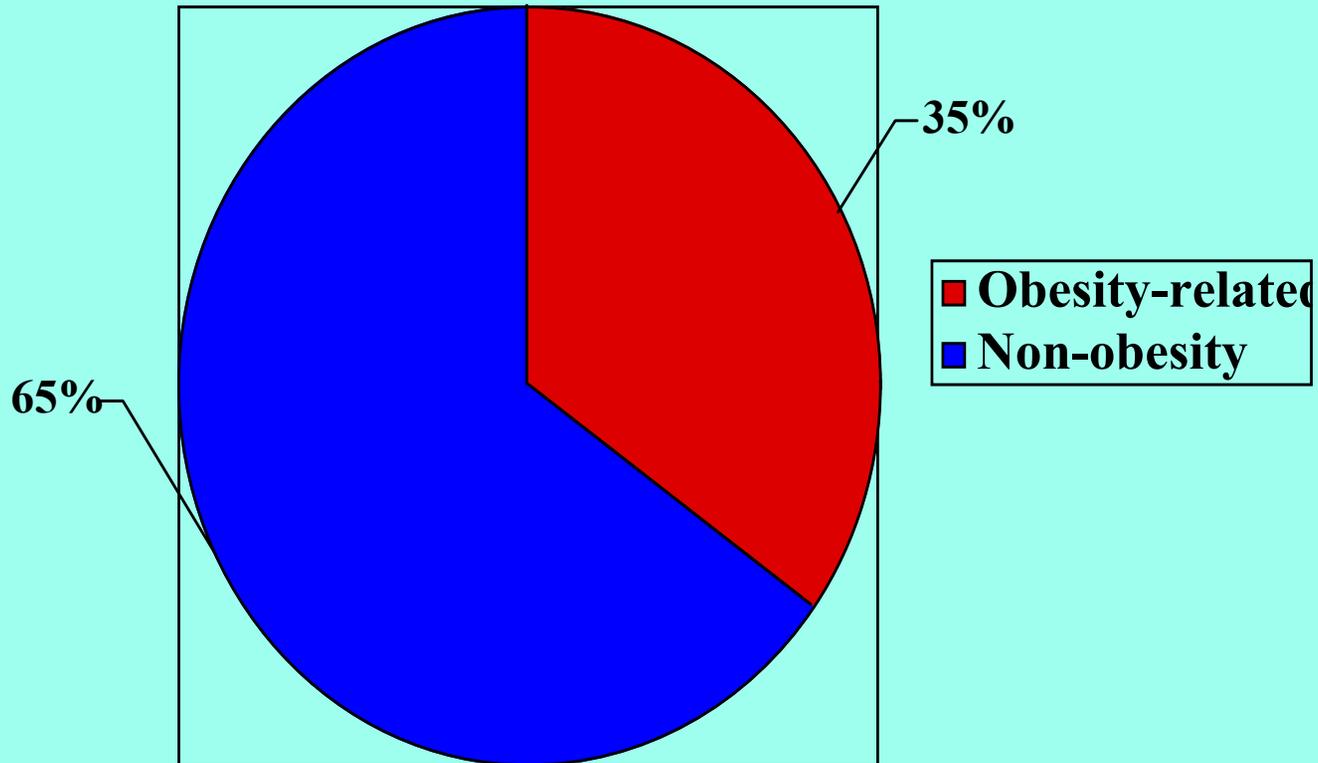
# ASSESS OVERALL RISK TO IDENTIFY MAJOR TARGETS

*Compare Per Capita Claims vs. Payment Tiers*

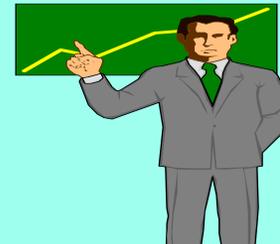
	<u>High (\$1K)</u>	<u>Mid (\$500-1k)</u>	<u>Low (&lt;\$500)</u>
High (>5)		<b>CIRCULATORY</b>	
Moderate (3-5)	<b><i>DIGESTIVE</i></b>	<b><i>MUS-SKELETAL</i></b>	
Low (0-2)	<b>CANCER NERVOUS PREG. COMP INJURY</b>	<b><i>ENDO-METAB</i></b>	<b><i>S/S/ILL</i></b>

**SOURCE: HMA database >20 million adults. 1998-2003.**

*Compare Obesity-Specific Claim Costs vs.  
Other Claim Costs...to Determine Level of Obesity  
Risk in Your Organization*



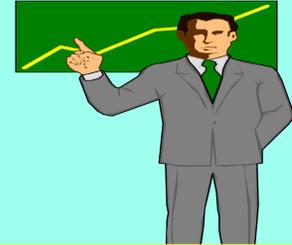
# Calculating Obesity Costs Among Adults in a Target Population



<u>Cost Unit</u>	<u>Cost</u>	<u>Description</u>
A. Medical	<b>\$ 21.87</b>	Ave. annual med. cost per capita due to phys. obesity
	<u>x</u>	<i>Insert # of adults in target population</i>
	\$ ----	Total medical care cost of obesity
B. Workers' Comp	<b>\$ 4.67</b>	Ave. annual workers' comp cost per worker
	<u>x</u>	<i>Insert # of working adults in target population</i>
	\$ -----	Total workers' comp costs tied to obesity
C. Lost Product.	___	<i>List # of working adults in target population</i>
	x ___	<i>Median compensation paid annually per worker</i>
	x ___%	<i>List % of workers who are obese</i>
	<u>x .1262</u>	% of annual workload lost to obesity
	\$ -----	Total lost productivity cost of obesity

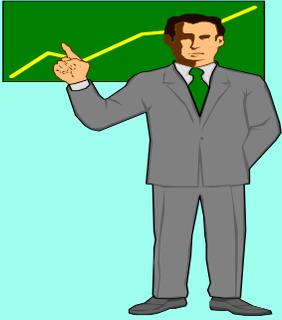
Add totals from "A" + "B" + "C" = Total cost of obesity in target population

# Calculating Physical Inactivity Costs Among Adults in a Target Population



<u>Cost Unit</u>	<u>Cost</u>	<u>Description</u>
A. Medical	<b>\$ 45.32</b>	Ave. annual med. cost per capita due to phys. inactivity
	x _____	<i>Insert # of adults in target population</i>
	\$ ----	Total medical care cost of physical inactivity
 B. Workers' Comp	<b>\$ 8.82</b>	Ave. annual workers' comp cost per worker
	x _____	<i>Insert # of working adults in target population</i>
	\$ -----	Total workers' comp costs tied to physical inactivity
 C. Lost Product.	_____	<i>List # of working adults in target population</i>
	x _____	<i>Median compensation paid annually per worker</i>
	x ____ .%	<i>List % of workers who are physically inactive</i>
	<b><u>x .079</u></b>	<i>% of annual workload lost to physical inactivity</i>
	\$ -----	Total lost productivity cost of physical inactivity

Add totals from "A" + "B" + "C" = Total cost of physical inactivity in target population



## *Calculating the Cost of Physical Inactivity Among Adults in Your Organization*

- **A non-proprietary, non-commercial tool**
- **Scheduled for public use in June 2004**
- **Funding by The Robert Wood Johnson Foundation**
- **Using 7 States' medical care, workers' comp, and lost productivity costs**
- **For more information, contact:**

***Marla Hollander, MPH, CHES***

**Director**

**Leadership for Active Living**

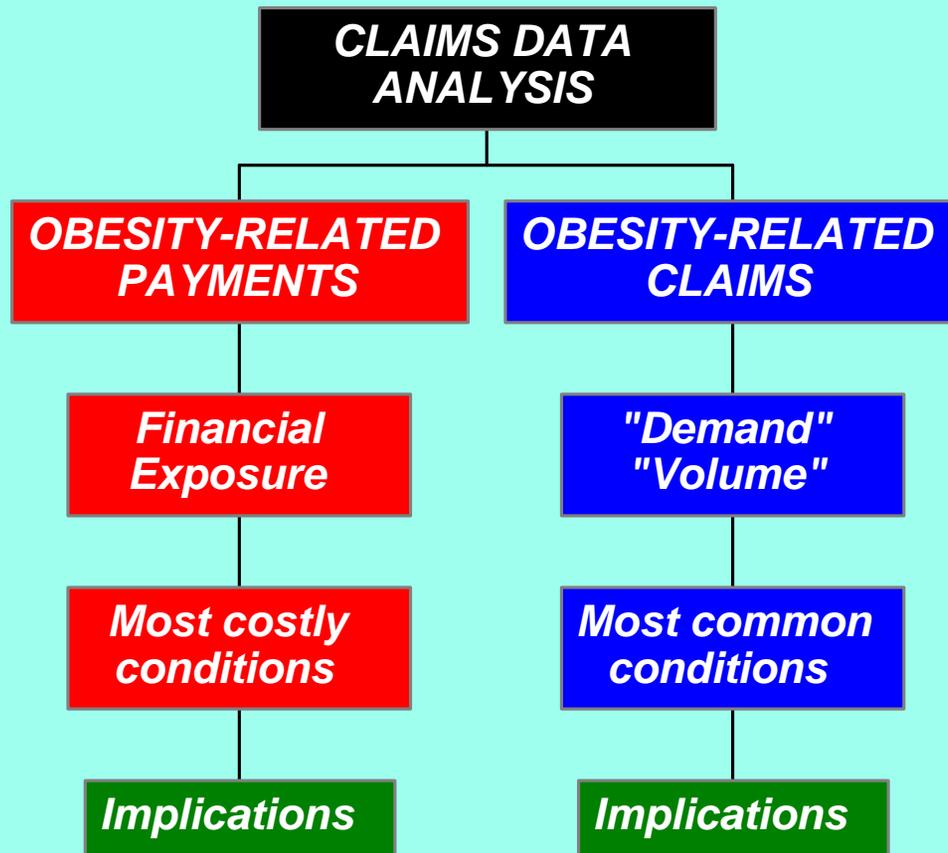
**San Diego State University**

**3900 Fifth Avenue, Suite 310**

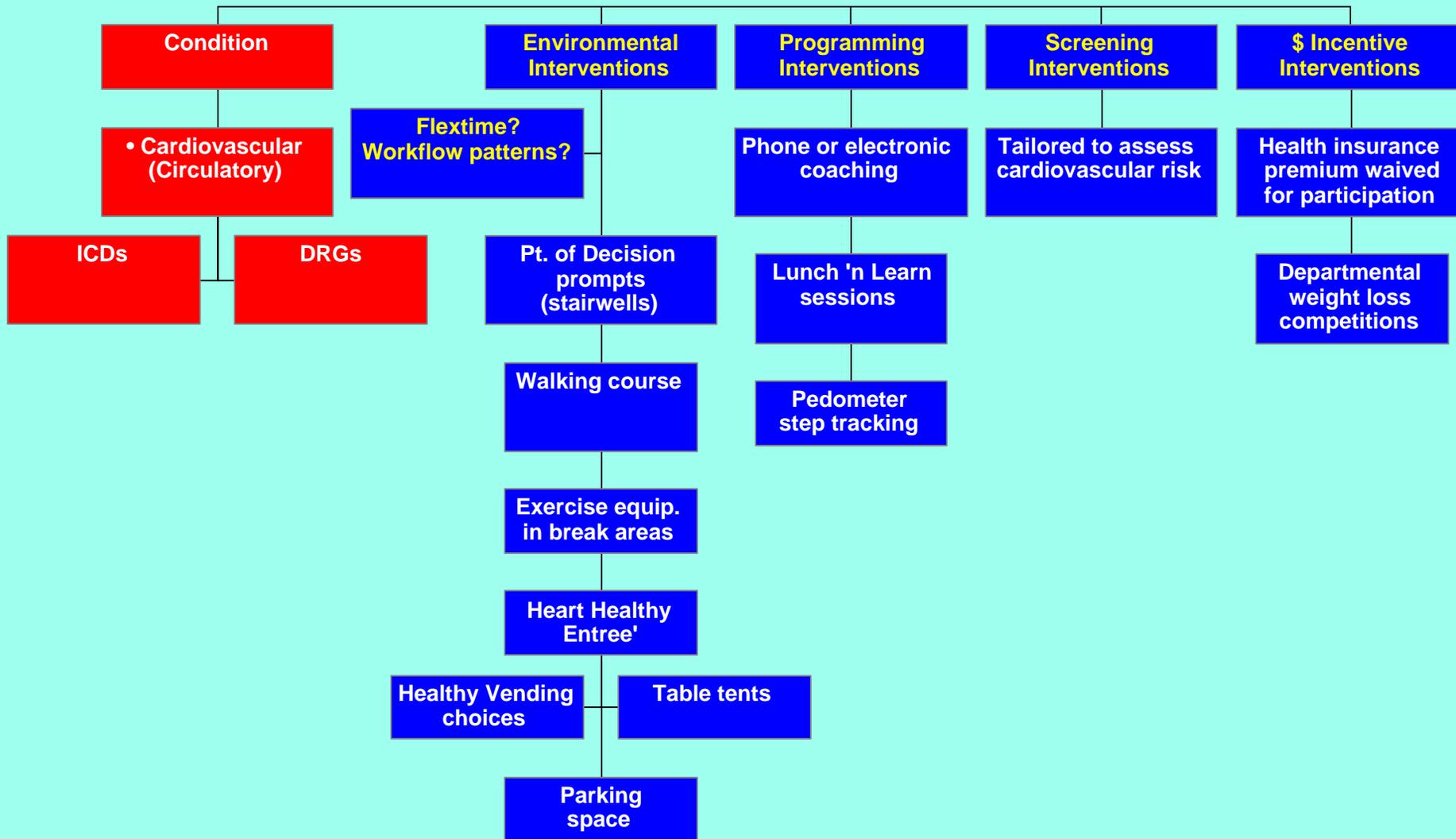
**San Diego, CA 92103**

**619-260-6337**

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# *Use Findings to Create Worksite-Specific Interventions*



# Keys for Success...

- **Gather data on obesity claims & costs**
- **Identify major claim and cost drivers**
- **Assess cultural opportunities and barriers for action**
- **Establish an action plan with measurable/quality assurance indicators**
- **Implement action plan and monitor changes; revise accordingly**

