The Portland Diabetic Project: Cost Efficacy

The **Portland Protocol** is a cost-effective solution for the treatment of diabetic hyperglycemia in Cardiac surgery patients.
PDX Protocol: Cost Analysis

♥ Direct + Indirect costs of 3 days of q 4 hour SQ therapy = $32 / patient.

♥ Direct + Indirect costs of 3 days of q 1-2 hour CII therapy = $170 / patient.

♥ Differential cost of CII is $138 / patient.
Conservative Economic analysis of DSWI Costs:

- 1 DSWI in DM patient “costs” $26,400
- If CII reduced DSWI by just 1.2% = 1DSWI / 83 pts.
- CII-induced DSWI savings: $318 / patient
Conservative Clinical Cost Efficiency: Conservative #'s + Hospital Costs

- Differential cost of CII is $138 / patient.
- Clinical Savings: 1 DSWI / 83 patients = $318 /pt
  1 non-OR LOS day cost = $500
- Total Hospital Savings: $818 - $138 = $680 / patient
- Hospital saves $680,000 / 1000 CABG with the PDX Protocol
- USA Hospital Savings = $70M -- Conservative
CII Cost Savings DSWI:
Health care system charges

Economic analysis of DSWI:

- 1 DSWI in DM patient charges $81,000 (Cimohowski)
- CII reduces DSWI from 3.5% to 0.3% (current)
- A 3.2% reduction saves 1DSWI / 31 patients
- DSWI cost savings per patient = $81,000 / 31
- CII-induced DSWI $ savings: $2613 / patient
Economic analysis of LOS:

- 3-BG of SQ therapy CTS Patients = 267 (Lazar 2004)
- Current 3-BG with PDX Protocol = 128 mg/dl
- Represents a 139 mg/dl reduction
- Save 1 LOS day per 77 mg/dl decrease
- CII-induced LOS savings: 1.8 days / patient
- Actual non-OR charge for 1 CABG LOS day = $1150
- LOS $avings from PDX Protocol: 1.8 x 1150 = $2081
Cost Efficiency Analysis

- **Differential cost of CII** is $138 / patient.
- **Clinical Savings:**
  - 1 DSWI / 31 patients = $2613 / pt
  - 1.8 LOS day = $2081 / pt
  - Clinical Savings = $4694 / pt

- **Net Savings using PDX Protocol:**
  - $4694 - $138 = $4,556 / patient

- **Health care system saves** $4,556,000 / 1000 CABG

- **In 103K CABG Patients ALONE** Health care system would save $469M / YEAR with the PDX Protocol
The Portland Diabetic Project

**CII-USA: Potential Annual Lives Saved**

AHA: 690,000 CTS cases; 355,000 CABG cases

STS: 24% prevalence of DM; 4.5% DM-CABG Mortality; 3.5% DSWI rate w 20% DSWI-associated Mortality

<table>
<thead>
<tr>
<th>Variable</th>
<th>SQI</th>
<th>CII</th>
<th>Lives Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td># DM CABG Pts.</td>
<td>102,950</td>
<td>102,950</td>
<td></td>
</tr>
<tr>
<td># CABG Deaths</td>
<td>4,633</td>
<td>1,853</td>
<td>2,780</td>
</tr>
<tr>
<td># DSWI in CTS Pts.</td>
<td>5,796</td>
<td>1,971</td>
<td></td>
</tr>
<tr>
<td>Readmit DSWI deaths</td>
<td>1,159</td>
<td>394</td>
<td>765</td>
</tr>
<tr>
<td>Total Mortality Impact</td>
<td>5,792</td>
<td>2,247</td>
<td>3,545</td>
</tr>
</tbody>
</table>
The Portland Diabetic Project

Portland Protocol: USA Socioeconomic IMPACT

National Annual Savings:
165,600 DM Cardiac surgery patients / year

♥ Clinical Savings:
3,825 Sternal Infections
3,545 Lives
278,000 Hospital Stay days

♥ Health Care System saves $469 Million / year