Ballarat Health Services
Diabetic Audit
Some Interesting Findings
Laura Antolini
Brief Introduction

- Retrospective audit
- Ballarat Heath Services
- Type 1 diabetic paediatric patients
Where are we?
A little about Ballarat Health

- Bed Capacity: -16 bed Paediatric ward
  -12 bed special care nursery
- ~200 admissions in 1/12
- Try to manage patients locally
- Diabetic Educator, Paediatricians
- Visiting endocrinologist every 3/12
- No public social work services
Why do it?

- No previous comparative data
  - Geelong, Royal Children’s Hospital, Australia wide
  - Private v Public

- Gives a universal goal to diabetic Mx in addition to individual patient aims

- Diabetic Care was noted as having perceived inadequacies on a hospital risk register
Why Present Today?

- The impact of social and psychological difficulties
- Differences in outcomes based on CSII use
Patient Population

- **Inclusions:**
  - Diagnosis of Type 1 Diabetes
  - Currently Mx in Ballarat
  - 18 years and under

- **Exclusions:**
  - Age over 18
  - Pregnant
  - Most recent results obtained on diagnosis
  - Discharged from BHS
Data Collection

- **Main Outcome Measure:**
  Most recent HbA1c

- **Other information collected:**
  - Patients age
  - Year of diagnosis
  - Weight/Height
  - Insulin regime and device used
  - TDD, Units/kg
  - Complications and Co-morbidities
Sample Size

- **Public Patients:**
  - n = 48
- **Private Patients:**
  - n = 18
- **Total:** 66 patients
Public v Private

Average HbA1c results in Ballarat

- BHS (public) average: 8.86
- Private average: 7.84
- Total average: 8.58

Publicly or Privately Managed Patients
Comparative Data

- Royal Children’s Hospital Data:
  - Rural outreach program

Geography does not limit optimal diabetes care: Use of a tertiary centre model of care in an outreach service for type 1 diabetes mellitus

Peter J Simm,1,2 Nicole Wong,1 Lynne Fraser,3 John Kearney,4 Judy Fenton,5 Kim Jachno6 and Fergus J Cameron1,2

- Geelong Hospital
HbA1c averages by Hospital

Average HbA1c Results comparing patients from BHS, RCH and Geelong

<table>
<thead>
<tr>
<th>Hospitals where patients are managed</th>
<th>Average HbA1c Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>BHS Private</td>
<td>7.84</td>
</tr>
<tr>
<td>RCH</td>
<td>8.3</td>
</tr>
<tr>
<td>Geelong</td>
<td>8.4</td>
</tr>
<tr>
<td>BHS Total</td>
<td>8.58</td>
</tr>
<tr>
<td>BHS Public</td>
<td>8.86</td>
</tr>
</tbody>
</table>
An alternate outcome measure

Short report: Care for children and adolescents with diabetes in Australia and New Zealand: Have we achieved the defined goals?
Fergus Cameron,1 Andrew Cotterill,2 Jennifer Couper,3 Maria Craig,4,5,6 Elizabeth Davis,9,10 Kim Donaghue,4,5 Timothy Jones,9,10 Bruce King7,8 and Barbara Sheil10

Percentage of Patients Reaching Targets
HbA1c <7.5
Reaching targets in BHS

Percentage of patients in each HbA1C range

- **<7.5**
  - BHS Private: 33.33%
  - BHS Public: 18.75%

- **7.5-8.5**
  - BHS Private: 44.44%
  - BHS Public: 35.42%

- **>8.5**
  - BHS Private: 22.22%
  - BHS Public: 45.83%
Reaching Targets against Comparators

Percentage of patients reaching target HbA1c

<table>
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<tr>
<th>Hospital</th>
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<td>BHS Public</td>
<td>18.75%</td>
</tr>
<tr>
<td>Geelong</td>
<td>20%</td>
</tr>
<tr>
<td>Ballarat Total</td>
<td>22.73%</td>
</tr>
<tr>
<td>RCH</td>
<td>23.40%</td>
</tr>
<tr>
<td>Rural Outreach</td>
<td>26.10%</td>
</tr>
<tr>
<td>Aus and NZ (ref. Short Reoprt-Cameron et al)</td>
<td>27%</td>
</tr>
<tr>
<td>Ballarat Private</td>
<td>33.33%</td>
</tr>
</tbody>
</table>
Why the discrepancies?
Influence of CSII

Average HbA1c results of patients on pumps v other regimes

- Pumps
- No Pumps

- BHS Public: 8.37, 8.98
- Ballarat Private: 7.84, 7.84
- All Ballarat Pts: 8.12, 8.75

Publically or Privately Managed Patients
Impact of Mental Illness

The Impact of Mental Illness on HbA1c Averages

- **Diagnosed Mental Illness**: 10.38
- **No Diagnosed Mental Illness**: 8.74

**Average HbA1c**

**Patient Subset**
Impact of Social Dysfunction

**The Impact of Social Circumstances on HbA1c Averages**

- **Documented Psychosocial issues**: Average HbA1c = 9.58
- **No documented Psychosocial issues**: Average HbA1c = 8.7
Post code?

Wendouree

BHS HbA1c Average: 8.86
Sebastopol, Delacombe

BHS HbA1c Average: 8.86
Implications

- Aim to increase Insulin Pump Use

- The role of Psychosocial component:
  - The implementation of social work and psychology services
  - Targeting specific demographics?
Any Questions?