2012 IVIG AUDIT

GHEST
September 28th 2013

Laurie Young MLT
Overview

- Why do an audit?
- Challenges
- The data
- Next steps
In order to address the utilization management of IVIG in Ontario, the Ontario Regional Blood Coordinating Network (ORBCoN) was directed by the Blood Programs Coordinating Office (BPCO) to design and conduct a project to collect baseline data on IVIG use for the top users of the product in Ontario.
Because...

**Ontario’s IVIG use and expenditures have risen from about 1.1M units ($64.0M) in 2005/06 to 1.7M units ($98.4M) in 2011/12**

- An increase of 55.6% in units and 44.2% in costs in six years
Did you know that the word “Audit” appears in the OLA Standards 40 times?

You were volunteered!
Challenges
E-Tool challenges

Knowledge gaps; tech vs healthcare

- Repetitive data entry - solved
- Restrictive choices for physician specialty
Data challenges

- Over 1,000 different indications entered
  - Reduced to 120

- Apples to oranges
  - Licensed indications change over time i.e. CIDP
  - Labeled vs licensed vs approved
The Data
Data Points Collected 2007 & 2012

- Hospital site
- Patient care area
- Date of infusion
- Patient identification by study code number
- Patient height and weight
- Primary Diagnosis
- Patient age (YYMM)
- Gender
- Indication for IVIG infusion
- Dose of IVIG ordered and modified dose where applicable
- Ordering physician specialty
# Audit of IVIG Utilization in Sept/2012

<table>
<thead>
<tr>
<th></th>
<th>2007 Audit</th>
<th>2012 Audit</th>
<th>Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>25</td>
<td>61</td>
<td>144%</td>
</tr>
<tr>
<td>Patient</td>
<td>1,345</td>
<td>2,246</td>
<td>67%</td>
</tr>
<tr>
<td>Infusions</td>
<td>4,234</td>
<td>6,442</td>
<td>52%</td>
</tr>
<tr>
<td>IVIG Grams</td>
<td>199,406</td>
<td>301,398</td>
<td>51%</td>
</tr>
</tbody>
</table>
## Hospitals Type: 2007 Audit vs. 2012 Audit

<table>
<thead>
<tr>
<th>Hospitals Type</th>
<th>2007 Audit</th>
<th>%</th>
<th>2012 Audit</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching</td>
<td>18</td>
<td>72.0</td>
<td>19</td>
<td>32.8</td>
</tr>
<tr>
<td>Community</td>
<td>6</td>
<td>24.0</td>
<td>29</td>
<td>50.0</td>
</tr>
<tr>
<td>Small</td>
<td>1</td>
<td>4.0</td>
<td>10</td>
<td>17.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>25</td>
<td>100%</td>
<td>58</td>
<td>100%</td>
</tr>
</tbody>
</table>
# Patient Demographics

<table>
<thead>
<tr>
<th>Type</th>
<th>2007 Audit</th>
<th>2012 Audit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gender</td>
<td>Gender</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>Adult</td>
<td>632</td>
<td>549</td>
</tr>
<tr>
<td>Pediatric</td>
<td>141</td>
<td>10%</td>
</tr>
<tr>
<td>Neonates</td>
<td>23</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>1,345 patients</td>
<td>2,246 patients</td>
</tr>
<tr>
<td></td>
<td>51%</td>
<td>49%</td>
</tr>
</tbody>
</table>
2012 IVIG Audit Results

Top 5 Specialty users by: # of patients

1. Immunology (41%)
2. Neurology (29%)
3. Hematology (16%)
4. Rheumatology (8%)
5. Solid Organ Transplant (3%)
2012 IVIG Audit Results

Top 5 Specialty users by: # of grams

1. Neurology (42%)
2. Immunology (28%)
3. Hematology (14%)
4. Rheumatology (11%)
5. Solid Organ Transplant (2%)
Top 5 IVIG users by indication (# of grams):

- Chronic Idiopathic Demyelinating Polyneuropathy (18%)
- Primary Immune Deficiency (17%)
- Idiopathic Thrombocytopenia Purpura (11%)
- Secondary Immune Deficiency (9%)
- Myasthenia Gravis (8%)
2012 IVIG Audit Results

Approved/Not Approved as per Ontario Guidelines:

- 86% of requests were for approved conditions
- 2% were for recommended as an option
- 12% were for non-approved conditions

![Pie chart showing the distribution of approved, recommended, and not approved IVIG requests.]

- Approved, 260,505.9 (86.4%)
- Recommended Option, 5,952.0 (2%)
- Not Approved, 34,940.5 (11.6%)
Hospital Reports

<table>
<thead>
<tr>
<th>Department</th>
<th>Not Approved</th>
<th>Option</th>
<th>Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immuno</td>
<td>0</td>
<td>51</td>
<td>20</td>
</tr>
<tr>
<td>Neuro</td>
<td>7</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Hema</td>
<td>2</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Rheum</td>
<td>3</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Derm</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Inf. D.</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SOT</td>
<td>1</td>
<td>0</td>
<td>8</td>
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</tbody>
</table>
Hospital Reports

Approved Indications

<table>
<thead>
<tr>
<th></th>
<th>PID</th>
<th>ITP</th>
<th>SID</th>
<th>CIDP</th>
<th>MG</th>
<th>Derm/JD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>38</td>
<td>19</td>
<td>17</td>
<td>12</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>2012</td>
<td>46</td>
<td>16</td>
<td>7</td>
<td>15</td>
<td>11</td>
<td>8</td>
</tr>
</tbody>
</table>
Recommendations

1. Continue to support adherence to Ontario IVIG Utilization Management Guidelines (version 2 March 31 2012)
2. Implement detailed changes to the MOHLTC IVIG request form over 2013-14 and 2014-15
3. Review or adjudication of requests outside the guidelines need to be further investigated for future phases of the IVIG strategy
4. Continue to support the practice of dose adjustment using the ideal body weight calculation and provide information to hospital transfusion services, through targeted education and site visits.

5. Roll out education based on audit results to identified hospitals over the 2013/14 and 2014/15 fiscal years.
Recommendations

6. Identify best practices for implementation of the evaluation of clinical outcome and need for reassessment strategies

7. Perform an environmental scan regarding use of subcutaneous immune globulin (SCIG) to assess whether to implement a standard for a provincial home infusion programs
Recommendations

8. Develop strategies to triage the use of IVIG during IVIG shortages to be included in the provincial contingency plan

9. Accessibility to alternate therapies should be optimized due to evidence of potential significant improvements to patient care married with more cost effective treatments

10. Investigate a means to avoid losing data that is being recorded daily on IVIG request forms
Intravenous Immunglobulin Annual Expenditure and Use in Ontario
1999/00 to 2012/13

Success?
What are the numbers?

Decrease in utilization 2012/13

- 1.4%
- 23,935 g
- $54 (cost per g 2012-13)
- =$1,292,490

What can we do with this.......?
Forecasting! (a favorite of the MOHLTC!)
Based on an average increase of 7% annually
Potential savings for 2012/13 were:

- 92,927 g plus the 1.4% reduction 23,935 g
- = 95,322 g x $54
- = $5,147,414
Or…

- 35,016,421 minutes of OR time
- 74 nursing or MLT positions
- Treatment for 265 PID patients for 1 year
Acknowledgments

• Ministry of Health and Long Term Care (MOHLTC), Blood Programs Coordinating Office (BPCO)
• The Ontario IVIG Advisory Panel
• Aicha Traore MSc MD, McMaster University
• McMaster Transfusion Research Program, McMaster University
• Data collection and entry staff at participating hospitals
Congratulations

Thank you for persevering, we appreciate you!

This is my thank you dance!
Questions