“Reducing the expense and poor outcomes caused by incorrect ordering of genetic tests”
The Problem: Send-outs

- For pediatric hospitals and health systems, the cost of sending out tests is high (often > $1 million per year for genetic testing alone) and increasing at an annual average rate of 22%.

- Patients complain about the high cost of these tests.

- Labs bear the cost for the many patients who can’t pay.

- The tests are sometimes unnecessary. When necessary, providers often order the wrong test or too large of a panel.
The solution: **PLUGS**

<table>
<thead>
<tr>
<th>Mission/Vision</th>
<th>Goal</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Significantly reduce pediatric laboratory testing expenses while increasing the value of testing to patients.</td>
<td>• Help hospitals implement / strengthen their own UM programs</td>
<td>• Decrease ordering errors</td>
</tr>
<tr>
<td>• Be the #1 provider of services that promote pediatric test utilization management (UM) programs in hospitals and health systems.</td>
<td></td>
<td>• Decrease send-out bill for genetic tests by 20-40%</td>
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<tr>
<td></td>
<td></td>
<td>• Decrease send-out bill for non-genetic tests by 10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Decrease patient complaints by reducing out of pocket expenses and unnecessary testing.</td>
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</tbody>
</table>
Return on Investment
(n=1075 genetic cases)

$2,610,833*  
Total genetic requests

30% order modification

$431,900 savings

$2,178,933  
Actual

~$400 saved per request

*Data collected September 2011 – May 2014
Utilization Management (UM) Intervention at SCH

Hypothesis:

By implementing a review process for expensive genetic sendout tests, we will save $ and improve value for patients.

Study Design:

All sendout tests meeting certain criteria require approval. Data from each case is recorded and analyzed.

Test Review Criteria:

- Tests costing the lab > $700
- Multiple genetic tests on same requisition
- Requests to send to non-preferred laboratory
- Requests to send to international laboratories
- Requests to send tests which are performed in-house
- Tests that are defined under management
The PLUGS Team

Faculty (University of Washington)
- Michael Astion, MD, PhD
- Jane Dickerson, PhD
- Bonnie Cole, MD
- Stephanie Wallace, MD
- Rhona Jack, PhD
- Joe Rutledge, MD
- Karen Tsuchiya, MD

Genetic Counselors
- Jessie Conta, MS, LGC
- Darci Sternen, MS, LGC

Business and Operations team
- Nitasha Kumar
- Monica Wellner
- Lisa Wick
- Sarya Sos
- Joanne Simpson
- Jeff Taylor

Outside advisors
- Bartley Bryt, MD
- Melissa Bennett, MS, CGC
- Denise Needham, MS, CGC
- Michael Graf, MS, CGC

Thanks to our members for their many contributions to the content and operations of PLUGS
Some current PLUGS Members

Members:
• Akron Children’s Hospital
• ARUP / University of Utah
• Children’s Healthcare of Atlanta
• Children's Hospital & Clinics of MN
• Children's Hospital Colorado
• Children’s Hospital of Pittsburgh of UPMC
• Children’s Medical Center of Dallas
• Children’s Mercy Hospital & Clinics
• Claritas Genomics
• Lurie Children’s Hospital Chicago
• Mayo Medical Laboratories
• Mercy Children’s Hospital St. Louis
• Nationwide Children's Hospital
• Phoenix Children’s Hospital
• Prevention Genetics
• St. Louis Children’s Hospital
• The Children’s Hospital of Philadelphia
• The Hospital for Sick Children, Toronto
• York Hospital (WellSpan Health System)
PLUGS has an annual fee of $4000, PLUGS members receive…

<table>
<thead>
<tr>
<th>UM Tools</th>
<th>Communication</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Policies, procedures &amp; communication templates that help providers reduce unnecessary testing &amp; correct test orders</td>
<td>• Office Hours/Call Center</td>
<td>• Tips &amp; Tricks from PLUGS experts</td>
</tr>
<tr>
<td>• Database for collecting, tracking, &amp; analyzing UM cases</td>
<td>• Weekly Newsletter</td>
<td>• UM Learning Modules</td>
</tr>
<tr>
<td>• Tool to assess the risk of errors in send-outs area</td>
<td>• Member teleconferences with presentations by SCH team &amp; members</td>
<td>• UM Webinars</td>
</tr>
<tr>
<td>• Provider-satisfaction survey to solicit feedback regarding their UM program</td>
<td>• Website: <a href="http://www.seattlechildrenslab.org">www.seattlechildrenslab.org</a></td>
<td>• Case of the Week</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Extensive materials on how to get a UM program started in a lab or hospital</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Discounts on education provided by PLUGS partners</td>
</tr>
</tbody>
</table>
PLUGS Members Receive...

**Needs Assessment** to assess current state, identify UM strengths & weaknesses

- Customized 1-year Strategic UM Plan
- Discounts on consulting engagements with PLUGS faculty
  - ...includes on site workshops, analysis, and face-to-face meetings with hospital executives
Join PLUGS in 3 Easy Steps...

1. Go to: www.seattlechildrenslab.org/plugs
2. Get a free look at the contents of the website.
3. Sign the PLUGS Participation Agreement.

We will invoice you the $4000 annual fee.

We can’t wait to help you.

Any questions about membership, PLUGS products or collaboration information can be sent to: plugs@seattlechildrens.org, or call: 206-987-3361
The savings from eliminating unnecessary genetic testing will pay for a PLUGS membership in about 5 days. The other 360 days of savings are for your health system and your patients.
Appendix:
Supporting Evidence and Publications

Seattle Children’s®
HOSPITAL • RESEARCH • FOUNDATION
A day in the UM life at SCH…

- Request received by SO team
- E-mail to Lab GC/SO Consultant
- Case review & Adjudication
- Additional information needed

- Approved (70%)
- Modified (15%)
- Cancelled (15%)

Discussion with ordering provider
### Utilization Management Data

<table>
<thead>
<tr>
<th>Order Classification</th>
<th>All Cases (n = 1145)</th>
<th>Genetic Cases (n = 802)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved</td>
<td>70% (806)</td>
<td>70% (561)</td>
</tr>
<tr>
<td>Modified</td>
<td>15% (169)</td>
<td>21% (170)</td>
</tr>
<tr>
<td>Canceled</td>
<td>15% (170)</td>
<td>9% (71)</td>
</tr>
</tbody>
</table>


*Data updated 2/10/2014*
Survey completed by 100 providers

Provider Satisfaction

Neutral, No opinion, N/A
PLUGS Pilot Outcomes- Part 1

• Children’s Hospitals and Clinics of Minnesota
  • One month preliminary data
  • Reviewed 46 requests >$1000
  • **Saved $10,600! ($230/request)**
  "PLUGS has been a great resource for us and has helped supply the tools to get more advanced utilization management strategies, such as a genetic counselor in the lab, underway at our hospital."
  - Deb Garton, Laboratory Director & Cristina Pacheco, MD

• Children’s Hospital Colorado
  • Pilot targeting six genetic tests, started October 7, 2013
  • 66 tests reviewed, 11 modified
  • **Saved $8400!**
  “The PLUGS team provided expert and personalized assessment of our UM strengths and opportunities. With their support, we implemented a successful pilot which helped justify our lab GC position.”
  - Rob Carpenter, Administrative Director, Dept. of Pathology
PLUGS Pilot Outcomes - Part 2

• Nationwide Children’s
  • Three week pilot, reviewed 45 cases >$1000
  • Saved $29,833! (24%)

• St. Louis Children’s Hospital
  • Four week pilot, reviewed 65 cases
  • Saved $20,000! (20%)

“Thanks for the call yesterday! I felt really encouraged after our chat… I had forgotten how much I might be able to use the PLUGS phone line and email. Also, the database is VERY useful; we used it for a 4-week intensive pilot study.”
- Sarah Brown, PhD
As a member you receive:
PLUGS Templates

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>From: Conta, Jessie</td>
<td></td>
</tr>
<tr>
<td>Sent: Thursday, May 16, 2013 14:07</td>
<td></td>
</tr>
<tr>
<td>To: Conta, Jessie</td>
<td></td>
</tr>
<tr>
<td>Subject: Doe XYZ UM</td>
<td></td>
</tr>
<tr>
<td>Patient Name (last name, first name)</td>
<td>Doe, John</td>
</tr>
<tr>
<td>MRN</td>
<td>1234567</td>
</tr>
<tr>
<td>Ordering Provider (last name, first name)</td>
<td>Smith, Rebecca</td>
</tr>
<tr>
<td>Date of collection/order</td>
<td>5/15/2013</td>
</tr>
<tr>
<td>Test name</td>
<td>XYZ gene sequencing</td>
</tr>
<tr>
<td>Reference Lab</td>
<td>Genetic Testing R Us</td>
</tr>
<tr>
<td>Price of test</td>
<td>$2,000</td>
</tr>
<tr>
<td>Type of specimen</td>
<td>Blood</td>
</tr>
<tr>
<td>Forms Required?</td>
<td>Yes, consent form and clinical information sheet</td>
</tr>
</tbody>
</table>

Jessie Conta, MS, LGC
Licensed Genetic Counselor - Laboratory Medicine
Seattle Children's
206-987-3363 OFFICE
206-987-3840 FAX
Jessie.Conta@seattlechildrens.org

OFFICE 4800 Sand Point Way NE, Seattle, WA 98105
MAIL M/S OC.8.720, PO Box 5371, Seattle, WA 98105
WWW seattlechildrens.org
As a member you receive:
Access to a customized UM Database
This data base allows you to create queries to track metrics

- Search outstanding cases, by consultant
- Case query, by date
- Pending results
- Pending DNA bank Specimen Retrieval
- Calculate cost savings
- MGL HOLD query
- Return to main switchboard

Cost Savings
- Total cost savings
- Cost savings by date
- Cost savings by date - genetic tests only
- Return to main switchboard
As a member you receive:
Access to Office Hours

Participants talk to a genetic counselor or doctoral-level provider regarding:

- Specific tests / algorithms
- Tips for communicating with docs
- How to implement UM strategies
- Advice about a group of cases
Examples of topics that are explored through print format, short-video segments, & subsections of the weekly PLUGS newsletter:

- Utilization Management Pitfalls
- How to talk to providers… the “BE” series
- How to start a UM program in three easy steps
- The UM Committee: More than just a fling
Commonly asked questions/concerns:

1. Am I hurting my laboratory business by cancelling or deferring tests using utilization management?
   • In the short run, you may lose some revenue by preventing unnecessary or incorrect test orders from your providers and clients. The PLUGS principals justify this short term loss as it is ultimately the right thing to do for the patient. In the long run, with anticipated reimbursement changes and a shift away from a fee-based model, test utilization will be necessary and will save money.

2. We serve an adult population; can PLUGS still help us?
   • Absolutely! Although PLUGS is being developed in a pediatric setting, the principals of our UM approach are not unique to pediatrics. We work with each institution to develop a customized strategic UM assessment to achieve your specific UM goals, regardless of the patient population you serve.

3. We already have a UM program – do we still need PLUGS?
   • Yes! Even the best UM programs can learn from a collaborative network of other institutions. Being part of a national collaboration is necessary to impact national policies. As PLUGS grows, so will access to the latest UM interventions and data – keep a pulse on UM by joining PLUGS.

4. How do I convince my institution to pay money for PLUGS membership, when the goal is to save money?
   • The cost of a PLUGS membership is quickly recoverable. On average, PLUGS members who have implemented active UM programs recognize a savings of at least 10% on their total send-out bill – this is about $400 per genetic test request that is under management. Cancel or modify an average of ten tests and you’ve paid for your membership!
Abstracts:

Papers

Editorials
- Sternen DL, Conta J. Guiding Providers to Improve Their Test Orders: Laboratory Utilization Management Tips and Tricks. Clinical Laboratory News. 39(10)