A Functional Client Groupings Model (CGM) for Children & Youth with Physical & Developmental Disabilities

Heather Marrin

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To develop a systematic method of caseload management using available resources which would:

1. Reduce practice variation
2. Service delivery guided by evidence based practice and clinical expertise
3. Serve as a guideline for clients and families
4. Enable resource allocation (capacity)
5. Serve as a teaching tool for new staff
6. Utilize International Classification of Function (ICF) as a framework
Steps to Achieving the Goals

• Identify ErinoakKids’ clients

• Determine the typical client journey/critical junctures

• Identify & develop clinical practice pathways based on best available evidence & clinical experience

• Project resources required to serve each client group; determine workload
## COGNITIVE FUNCTION

### C1

<table>
<thead>
<tr>
<th>P</th>
<th>L&amp;AK*</th>
<th>Mobility</th>
<th>Self Care</th>
<th>Communication**</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Academic/applied learning</td>
<td>Independent</td>
<td>Emerging/established independence</td>
<td>Language: AA to minimal limitations</td>
</tr>
<tr>
<td>C1P1</td>
<td>• Equipment Needs</td>
<td>Low probability</td>
<td>May require AAC</td>
<td></td>
</tr>
</tbody>
</table>

### C2

<table>
<thead>
<tr>
<th>P</th>
<th>L&amp;AK*</th>
<th>Mobility</th>
<th>Self Care</th>
<th>Communication**</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2</td>
<td>Academic/applied learning</td>
<td>Aided</td>
<td>Modified/assisted</td>
<td>Language: AA to minimal limitations</td>
</tr>
<tr>
<td>C2P1</td>
<td>• Medical Issues</td>
<td>Physical</td>
<td>May require AAC</td>
<td></td>
</tr>
</tbody>
</table>

### C3

<table>
<thead>
<tr>
<th>P</th>
<th>L&amp;AK*</th>
<th>Mobility</th>
<th>Self Care</th>
<th>Communication**</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3</td>
<td>Academic/applied learning</td>
<td>Dependent</td>
<td>Maximum assistance</td>
<td>Language: AA to minimal limitation</td>
</tr>
<tr>
<td>C3P1</td>
<td>• Medical Issues</td>
<td>Physical</td>
<td>May require AAC</td>
<td></td>
</tr>
</tbody>
</table>

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*Includes Fine Motor, AAC = Augmentative & Alternative Communication, AA = Age appropriate/expected, +/- May or may not be present.

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# CGM: Physical and Cognitive Descriptors

## Physical Descriptors

<table>
<thead>
<tr>
<th>P1</th>
<th>Independent mobility &amp; transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2</td>
<td>Assistance with mobility &amp; transfers</td>
</tr>
<tr>
<td>P3</td>
<td>Dependent with mobility &amp; transfers</td>
</tr>
</tbody>
</table>

## Cognitive Descriptors

<table>
<thead>
<tr>
<th>C1</th>
<th>Learning: age appropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td>Basic learning skills</td>
</tr>
<tr>
<td>C3</td>
<td>Global impairments</td>
</tr>
</tbody>
</table>
Case Study - Jessica

- Seven-year-old girl with cerebral palsy, spastic quadriplegia, level IV on the GMFCS
- Uses a powered wheelchair as her primary form of mobility, requires maximum assistance with transfers
- Dependent for all self care
- Speech is slightly dysarthric, but otherwise communicates at an age appropriate level.
- At school she has access to an educational assistant
- Performing at grade level (with modifications)
- Uses various computer programs to access the grade two school curriculum.
- Friendly and happy, and enjoys spending time with peers and her family
Case Study: Laura

- Nine-year-old girl with epilepsy, severe physical & cognitive damage
- Requires 24 hour supervision
- Dependent for mobility, transfers and self care self care
- Non-functional communication
- Does not understand cause & effect relationships, acceptance or rejection or basic choice making
June 2006
Preschool clinicians evaluated caseloads

December 2006
School age team independently evaluated caseloads (66% agreement)

Decision to further define cognitive & physical descriptions

February 2007
School-age evaluated caseloads

June 2007
Preschool clinicians evaluated caseloads

June 2008

June 2009

April 2010
On-going client evaluation
## Total Demand by Distribution of Clients Groupings
### Total for Child and Youth Rehabilitation Program (April, 2010)

<table>
<thead>
<tr>
<th>Physical Function</th>
<th>Cognitive Function</th>
<th>N= 1,859</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C1</td>
<td>C2</td>
</tr>
<tr>
<td>P1</td>
<td>552 (30%)</td>
<td>502 (30%)</td>
</tr>
<tr>
<td>P2</td>
<td>103 (6%)</td>
<td>92 (5%)</td>
</tr>
<tr>
<td>P3</td>
<td>47 (3%)</td>
<td>56 (3%)</td>
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</tbody>
</table>

Note: 60% of clients are C1P1 and C2P1
### Total Hours of Service by Distribution of Clients

#### Pre-School Rehab Program

<table>
<thead>
<tr>
<th>COGNITIVE FUNCTION</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>52</td>
<td>59.6</td>
<td>82.3</td>
</tr>
<tr>
<td>P2</td>
<td>67.3</td>
<td>76.6</td>
<td>69.8</td>
</tr>
<tr>
<td>P3</td>
<td>129.7</td>
<td>88.8</td>
<td>77.0</td>
</tr>
</tbody>
</table>

**Notes:**
Total average hours of service: 78.1 hours; includes OTAs and SLTAs

#### School Age Rehab Program

<table>
<thead>
<tr>
<th>COGNITIVE FUNCTION</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>21.9</td>
<td>21.3</td>
<td>17.5</td>
</tr>
<tr>
<td>P2</td>
<td>35.9</td>
<td>37.2</td>
<td>23.2</td>
</tr>
<tr>
<td>P3</td>
<td>45.2</td>
<td>40.4</td>
<td>29.7</td>
</tr>
</tbody>
</table>

**Note:**
Total average hours of service per client: 30.3 hours; includes assistants

April, 2007
What has been the Impact on Service Delivery

- Designing service models based on severity of need e.g. Brief Intervention Clinic

- Predictability of resources: e.g., mobility aids (seating clinic utilization, ADP funding)

- Standardization of clinical services through clinical pathway development

- Equity of service
<table>
<thead>
<tr>
<th>Age Range</th>
<th>Intervention</th>
<th>Intervals</th>
<th>Assessment Tools</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-18 months</td>
<td>Direct- Remedial Neurodevelopment \n Sensory Motor \n Safety \n Physical \n Equipment \n Feeding</td>
<td>Block (4 max) \n Biweekly \n 24- 36 visits/year max</td>
<td>Bailey 3 \n AIMS \n Infant Sensory Profile \n ROM \n MACS, QUEST \n “IF CP”</td>
<td>Goals set \n 3-6 intervals \n Annual re-assessment report</td>
</tr>
<tr>
<td>18-36months</td>
<td>Direct- Remedial progressing towards Functional Neurodevelopment \n Self care \n Sensory Motor \n Safety \n Physical \n Equipment \n Feeding \n Consultation: to childcare</td>
<td>Block (3-4 max) \n Biweekly \n Groups \n Consultation \n 24 visits max per year</td>
<td>Peabody \n Bailey 3 \n AIMS \n Sensory Profile \n Obs. Sensory Behav \n ROM \n MACS, QUEST</td>
<td>Goals set \n 3-6 intervals \n Annual re-assessment report</td>
</tr>
<tr>
<td>36-school entry</td>
<td>Direct- functional focus \n Physical \n Preschool Readiness \n Self care \n Sensory Motor \n Safety \n Equipment \n Feeding \n Assistive Technology \n Consultation: Consultation to child care \n Transition to school</td>
<td>Block (2-3 max) \n Biweekly-Monthly \n Groups (2/year) \n Consultation \n 12-24 visits max per year</td>
<td>Bailey 3 \n Miller \n VMI, TVPS \n Sensory Profile \n Obs. of Sensory Behav \n ROM \n MACS, QUEST \n Transition to school checklist</td>
<td>Goals set \n 3-6 intervals \n Annual re-assessment report \n Transition to school report</td>
</tr>
</tbody>
</table>
What can the CGM offer to the Broader Health Care System

**Descriptive Tool**
Describe client population based functional skills

**Communication Tool**
Among team members

**Management and Workload Tool**
Provide a framework for resource allocation & consistency of client care through the development of *clinical pathways*

**Educational Tool**
For new clinicians
What can the CGM offer to the Broader Health Care System

Can be used at **three levels**:

- **Individual** (e.g., intervention planning)
- **Organizational** (e.g., resource planning)
- **Societal** (e.g., planning for programs and funding)
The Manual would:

- Supplement the matrix and descriptors of the CGM
- Provide evidence to support the CGM
- Include case scenarios to support the utility & relevance of the model
- Clarify various aspects of the model to promote consistency of use
- Continue to evaluate **inter-rater reliability** and **test-retest reliability**

- Evaluate **clinical utility** of the CGM

- Establish **content validity**
Definition of Clinical Utility

• Usefulness of a tool for clinical practice
  › Time
  › Clear instructions
  › Ease of administration
  › Training required
  › Cost

• This includes the meaning and usefulness of the information obtained

(Barbara & Whiteford, 2005; Law, 1987; Smart, 2006)
CGM Clinical Utility Study: Benefits

- Time
- Descriptors
- Consensus with other therapists
- Clear picture of function
- Interdisciplinary communication
CGM Clinical Utility Study: Challenges

- Age, Condition

- Large Middle Classification (C2P2)

- Uncomfortable using client grouping to communicate with families
Relevance to our Practice

- Goal of rehabilitation is to assist children with participation

- Importance of being **accountable** for service provision to our clients

- CGM provides a framework for consistency of evidence based interventions
References


World Health Organization. (2002). *Towards a common language for functioning, disability and health ICF*. Retrieved online from:

http://www.who.int/classifications/icf/training/icfbeginnersguide.pdf
Questions
Comments
Discussion