Can the Intermed score identify complex patients in PMR?

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Why complexity matters for PRM?

• Increasing pressure on hospital beds. Patients discharged sooner.

• Health care systems are fragmented: medical specialization, split between general health care and mental health care, rupture between primary and secondary health care settings, acute and post acute care.

• “Quality problems occur …because of fundamental shortcomings in the ways care is organized”. (“Crossing the quality chiasm”).

• The complex medical patients are the most vulnerable to the deficiencies of a fragmented health care system and most in need: frail elderly, chronically ill with multiple morbidities, patients with functional limitations.

• There is international ambiguity around clinical definitions of post-acute care, including PAC rehabilitation, how it differs from acute care, where it is best done and what resources are required.

• This leads to inconsistent and poorly defined patient selection criteria (Eagar, Ines).

Incorrect assessment of case complexity impedes a suitable organization of rehabilitation programs

- Patient needs
- Scarcity of public resources

Fragmentation of responses

Increasing numbers of complex patients admitted to the hospital

Increasing pressure on hospital beds

Patients discharged sooner

Insufficient rehabilitation services

Increasing use of residential nursing homes

Less money for preventive services in the community

Health model

Adapté de: The coming of age: improving care services for older people, a review of the health and social care of older people (Audit Commission, 1997).
Complexity affects patient selection criteria for rehabilitation programs

The concept of complexity refers to care needs of patients who have multimorbid conditions that affect a standard care in the current organizational structure of health care system.

- Multiple needs, less predictable
- Poorly captured by the information system
- Substituability and vertical integration

- Instability
- Low tolerance long duration rehabilitation
- Difficulties for discharge
- Increasing length of stay
- Inappropriateness

- High cost therapeutic process
- Underpayment
- Financial risk
1. Diagnosis alone is a relatively **poor indicator** of costs for inpatient rehabilitation; nursing and therapy staff input are the major cost indicators.

2. Cost-efficiency does not always equate with shorter stay.

3. Some patients need longer to achieve maximal independence.

4. Cost saving for ongoing care can offset the initial investment in rehabilitation.

Cost per day for different types of inpatient episode. (AROC)

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**International casemix and funding models: lessons for rehabilitation**

Assessment for rehabilitation program

What indicators of complexity? (ICF)

- Active medical conditions
- Functional abilities and critical activity limitations
- Family and social supports
- Psychological, cognitive, emotional and behavioral issues
- Home environment, especially regarding access, internal barriers and the toilet and bathroom set-up

The Assessment and Selection of Potential Rehabilitation Patients in Acute Hospitals: A Literature Review and Commentary Peter W. New
The Open Rehabilitation Journal, 2009, 2, 24-34
Intermed assesses the factors that increase the complexity of the case and the need of (early) coordinated care.
Five categories grouped into 3 to promote graded responses of the health system

- **Non complex**
  - Score Intermed (IM)<10
  - IM> 10
  - Patients non complexes (IM =11)
  - Episode court de maladie simple

- **Complex**
  - 15<IM<25
  - 25<IM<30
  - Patients complexes (IM= 20)
  - Maladie chronique de modérée à sérieuse

- **Very complex**
  - IM>30.
  - Patients très complexes (IM=30)
  - Co morbidités multiples, intervenants nombreux, Dysfonctionnements psychologiques, sociaux et financiers

www.INTERMEDIefoundation.org
Analysis of case with LOS > 4 months in a PRM unit

• Of 151 patients admitted over a year in a PRM unit with "nervous system" orientation:
  – we founded 13 brain-damaged patients whose hospitalization was no longer relevant beyond four months,
  – Intermed score was filled in the admission week for all patients on the unit and we looked for a link between the Intermed score and unappropriate hospital stay in PMR after 4 months (FEDMER criteria).

• Results:
  – of the 13 “inappropriate" patients,
  – 11 were under 60 years,
  – for 11 the Glasgow Outcome Scale was 3,
  – for all patients Intermed score was greater than 25 at the entrance,
  – except one patient whose GOS was 2 and Intermed score was 23,
  – for all appropriate stays, patients had a score of less than 20.
Typology of inappropriateness

- Insufficient familial or social support, pending institutional accommodation = 5
- Pending home adaptation = 4
- Delay in the implementation of support systems at home (Maisons Départementales des Personnes Handicapées, General Council) = 3
- Undecision: delay in the development of a consensus = 2 (7 times but found as a secondary cause)

Study of hospital stays > 1 month in acute-care
Hôpital Avicenne # 472 beds, 399 occupied – Juin 2010

23 questionnaires completed; 17 men and 6 women; average age: 58.69 (32 – 87); 13 patients < 60 ans

- 11 appropriate stays
  - 8 M, 7 W
  - Average age: 59.54 ans
  - 5 < 60 ans
- Intermed Score:
  - 3 simple
  - 7 complex
  - 1 very complex

- 12 unappropriate stays
  - 9 M, 3 W
  - Average age: 57.92 ans
  - 8 < 60 ans
- Intermed Score:
  - 0 simple
  - 3 complex
  - 9 very complex

Josse L. Impasses hospitalières et situation de handicap : de la théorie à la pratique. Journal de réadaptation médicale 2012; 32:38-45
Predominance of severe neurological disorders: stroke, SCI, PML, cerebral anoxia, ...

<table>
<thead>
<tr>
<th>Patient</th>
<th>Age</th>
<th>Intermed</th>
<th>Diagnostic principal</th>
<th>Facteurs de retard de sortie</th>
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<tbody>
<tr>
<td>1</td>
<td>35</td>
<td>33</td>
<td>LEMP VIH Monopliègie Anoxie cérébrale</td>
<td>Incertitude lieu de sortie, retard à l'instruction du dossier MDPH, retard à la mise en œuvre des aides à domicile</td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td>38</td>
<td>AVC Troubles cognitifs Quadriplégie</td>
<td>Retard à la formulation du projet de sortie, refus de la famille d'instruire un dossier à la MDPH</td>
</tr>
<tr>
<td>3</td>
<td>41</td>
<td>30</td>
<td>LEMP Anoxie cérébrale</td>
<td>Retard à l'accès aux droits (coupure EDF pour loyers impayés, réouverture de compte bancaire, …)</td>
</tr>
<tr>
<td>4</td>
<td>47</td>
<td>39</td>
<td>AVC Paraparésie Syndrome frontal</td>
<td>Attente de place malgré procédure établie, décision d'orientation en MAS</td>
</tr>
<tr>
<td>5</td>
<td>49</td>
<td>40</td>
<td>Syndrome de Korsakoff</td>
<td>Retard à la formulation du projet de sortie, lenteur d'instruction du dossier MDPH</td>
</tr>
<tr>
<td>6</td>
<td>51</td>
<td>41</td>
<td>AVC Paraparésie Syndrome frontal</td>
<td>Attente de place malgré procédure établie, décision d'orientation en MAS</td>
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<td>7</td>
<td>51</td>
<td>37</td>
<td>Syndrome de Korsakoff</td>
<td>Attente de place malgré procédure établie, lenteur d'instruction du dossier MDPH, décision d'orientation en FAM</td>
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<tr>
<td>8</td>
<td>55</td>
<td>37</td>
<td>Tétraplégie</td>
<td>Attente de place en structure d'accueil, dérogation d'âge, aides sécu, tutelle OK</td>
</tr>
<tr>
<td>9</td>
<td>77</td>
<td>55</td>
<td>Péritionite opérée</td>
<td>Pas de domicile, en situation irrégulière, impossibilité d'accès aux droits pour problèmes judiciaires</td>
</tr>
<tr>
<td>10</td>
<td>79</td>
<td>20</td>
<td>Perte d'autonomie Carcinome pulmonaire</td>
<td>Attente de réponse d'un SSR en province</td>
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<tr>
<td>11</td>
<td>83</td>
<td>29</td>
<td>Plaie infectée</td>
<td>Attente SSR spécialisé cardio respiratoire</td>
</tr>
<tr>
<td>12</td>
<td>87</td>
<td>19</td>
<td>Plaie infectée isolement</td>
<td>Demande de prise en charge trop tardive en SSR auprès du service social</td>
</tr>
</tbody>
</table>
Predominance of cognitive disorders psychosocial factors, prognosis uncertainty
Three conflicting logics to reconcile

• **Deinstitutionalisation process** (déshospitalisation): development of ambulatory care
  – Distinction between accommodation, specific care in integrated structures and basic care,
  – Risks of assessment models and payments systems (« care factory »),
  – Canada: resulted in a dispersion of clients into the community without the necessary services and supports.

• **Rehabilitation**: Patients whose need for health care is predicted by their functional status and potential to functionally improve, rather than their principal medical diagnosis and who still require inpatient or outpatient rehabilitation program
  – Risk = selection, underuse, overuse, risks of fragmented payment systems,
  – Substituability in post-acute care.

• **Complex case management**: « patient centred » approach, outcome oriented or « pull » strategy
  Risks of vertical integration, « managed care », de-differentiation of PAC, bundled payments, decrease of physician autonomy, inequalities in access to healthcare.
Operationalization of case complexity allow to reconcile fluidity of care pathway with suitable differentiation of rehab programs.

Impairments groups most likely to benefit from early involvement of Rehabilitation Physician:

- Multi-trauma
- Severe acute neurological disorders e.g stroke, traumatic brain injury, spinal cord injury or disease, Guillain-Barré syndrome, multiple sclerosis exacerbation
- Limb amputation
- Major burns

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Conclusion

• The Intermed score identifies patients who require early coordination of rehabilitation, orientation and integration of care pathways.

• Complexity assessment helps to define three types of needs
  – Accommodation needs: response of familial and social networks to challenging loss of autonomy,
  – Specific care: integrated structures by core competencies,

• It allows to stratify the needs and intervention levels including mobile teams.

• Integrate into the routine information system a reliable and reproducible tool for identifying needs, throughout the continuum of care.
Thank you for your attention