Clinical pathway concept - a key to seamless care

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Conflict of interest

M-C Chaumais

- Bayer
- Daichi Sankyo
- Gilead

A. Janoly-Dumenil

- No conflict of interest
Quiz

1. The clinical pathway was developed to improve the outcome of patients

2. Clinical pathway is disease specific

3. The clinical pathway is a simple concept known to all healthcare professionals and widely implemented

4. Clinical pathway is simple to apply

5. Clinical pathway implementation is an opportunity for clinical pharmacists

What is a clinical pathway?

First used in 1985 by Zander et al. at the New England Medical Center

Generic term widely used and accepted in all healthcare management settings

However, not so simple to define …

⇒ Many definitions
⇒ Regroups different notions
⇒ Uses different methodologies
⇒ Targets different goals

Also many alternative names:

- Care pathway
- Critical pathway
- Integrated pathway
- Care map
- …
What is a clinical pathway?

A 3-year literature review (2000-2003):
=> 84 different definitions found in 82 articles
What is a clinical pathway?

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Bleser at al., Journal of nursing Management, 2006
What is a clinical pathway?

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European Pathway Association

Association to support organisations and individuals who want to support
- The development
- The implementation
- The evaluation

Consensual definition

Complex intervention for the mutual decision making and organisation of care processes for a well-defined group of patients during a well-defined period.
What is a clinical pathway?

Consensual definition

Care pathway characteristics includes:
- clear **goals/key elements statement**: evidence-based care, best practice, patient’s characteristics/expectations;
- **facilitation of communication** amongst team members and with patients and families;
- **coordination of care process**: role coordinating/activity sequencing of the multidisciplinary care team, patients and their relatives;
- documentation, monitoring, and evaluation of **variances and outcomes**;
- **identification of appropriate resources**.

The aim is:
- to enhance the **quality of care** across the continuum by improving risk-adjusted patient outcomes, promoting patient safety, increasing patient satisfaction, and optimising the use of resources.

What is a clinical pathway?

**Clinical pathway?**

<table>
<thead>
<tr>
<th>Management Method</th>
<th>Evidence-based practice</th>
<th>Specific group of patients (same disease)</th>
<th>Multidisciplinary</th>
<th>Tasks are defined, optimized and sequenced</th>
</tr>
</thead>
</table>

standardization of care processes

Communication

High quality of care

Patient’s outcome
Why are clinical pathways needed?

Centered on the healthcare professional activities and not on the patient

- Increased complexity
- Lack of standardization
- Lack of communication
- Orientation issues
- Different training levels

Clinical pathway representations

The perfect clinical pathway

Clinical Pathway in real life
Clinical Pathway and health authorities

In France

Provide the reimbursement
CP = need to see your general practitioner first

Develop the clinical pathway with healthcare professionals involved in the disease

A lot of progress have been made from the National Health Authorities

In 2007: CP for PAH Patients
- None-validated process
- Just a list of healthcare professionals
- Systematic absence of the pharmacist and other healthcare professionals

Clinical pathway for Parkinson’s disease

Communication between hospital and community

Pharmacists: ever-increasing CP involvement
Clinical Pathway and health authorities

What about in your countries?

- What is the position of your healthcare authorities?
- Has the CP been widely implemented?

Impact of CP for pharmacists

- Opportunity for the pharmacist to set up or formalize clinical activities
- Highlight the Pharmacists’ clinical responsibilities
- Leads to the interprofessional communication
- Improves the community-hospital links
How to make CP come true?

CP is complex, requiring a lot of experience and is difficult to measure

=> Possibility to focusing on specific stages of a CP or patients with specific drugs

What is the CP in my unit?

CP: Example 1

Pharmaceutical counselling for patient with oral anticoagulant

- Since 2009
- Structured methodology to train pharmacists

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of counsellings</td>
<td>43</td>
<td>52</td>
<td>80</td>
<td>82</td>
<td>48</td>
</tr>
</tbody>
</table>

What is the real process?
Pharmaceutical counselling for patient with oral anticoagulant

CP: Example 1

Pharmaceutical counselling for patient with oral anticoagulant

CP: Example 1

Multiple ways of inclusion

Lack of continuity of care

Waste of time
CP: Example 1

Pharmaceutical counselling for patient with oral anticoagulant

**Improvement propositions**

- **Multiple ways of inclusion**
  - Implementation of a unique inclusion pathway: screening of OAC prescriptions by pharmacists

- **Waste of time**
  - Medical approval not needed
  - Definition of inclusion and exclusion criteria
  - Written consent
  - History of OAC treatment: Pre-evaluation of patient’s knowledge

- **Lack of continuity of care**
  - Transmission of the overview of the counselling to the patient’s community pharmacist and general practitioner
  - Evaluation of the relevance of transmitted overview

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CP: Example 1

Pharmaceutical counselling for patient with oral anticoagulant

<table>
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<th>Year</th>
<th>Number of counsellings</th>
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<td>2013</td>
<td>82</td>
</tr>
<tr>
<td>2014</td>
<td>48</td>
</tr>
<tr>
<td>2015</td>
<td>120</td>
</tr>
</tbody>
</table>

86% of eligible patients
CP: Example 1

Pharmaceutical counselling for patient with oral anticoagulant

Since implementation of the new process...

- **Quantity**
  - Optimal efficiency:
    - Number of counsellings
    - Avoid predictable waste of time (continuity of treatment, refusal...)

- **Quality**
  - Continuity of care
  - Patient's knowledge and satisfaction assessment

Standardization of the process
Long-term process
Communication with healthcare professionals
Patient's outcome?

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CP: Exemple 2

Stroke Clinical Pathway

**Is it a stroke? Check these signs FAST!**

- **Face**
  - Does the face look uneven?
  - Ask them to smile.

- **Arm**
  - Does one arm drift down?
  - Ask them to raise both arms.

- **Speech**
  - Does their speech sound strange?
  - Ask them to repeat a phrase.

- **Time**
  - Every second, brain cells die.
  - Call 9-1-1 at any sign of stroke!

Act FAST. Call 9-1-1 at any sign of stroke!

Massachusetts Department of Public Health
CP: Exemple 2

Stroke Clinical Pathway

First contact
Transportation
Hospital admission (stroke unit)
Hospital discharge (stroke unit)
Hospital admission (neurological rehabilitation unit) 30%
Hospital discharge (neurological rehabilitation unit)

Institution 10-30 %
Home return 70-90 %

Acute stroke care
Home return 70%

Home care for dependent patients

CP: STROKE

Stroke Clinical Pathway: Is a clinical pharmacist useful?

Before..... To prevent stroke and other cardiovascular diseases

« PHARMACIST INTERVENTION HYPERTENSION »

200 publications From 1983 to 2015
### CP: STROKE

#### Stroke Clinical Pathway: Is a clinical pharmacist useful?

**Before....**

**To prevent stroke and other cardiovascular diseases**

<table>
<thead>
<tr>
<th>Effect of pharmacist intervention on control of resistant hypertension (HT)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>20 patients</strong></td>
</tr>
<tr>
<td>- 8 had a severe HT</td>
</tr>
<tr>
<td>- 5 had a moderate HT</td>
</tr>
<tr>
<td>- 7 had a mild HT</td>
</tr>
</tbody>
</table>

- Decrease of mean blood pressures for patients with severe, moderate, and mild HT
- Positive impact of pharmacist intervention

**30 years ago:**

- Not a controlled randomized trial
- Few patients
- But...it works!
- **Clinical pharmacist is useful**

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#### Impact of physician-pharmacist collaboration on uncontrolled hypertension

- Randomized control trial
- During 12 months

- Prescriptions analysis
- Exploration of life habits
- Exploration of barriers of medication adherence
- Adverse effects
- Dosage Schedule optimisation
- Administration modalities optimization
- Physician-pharmacist contact and collaboration

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**Morse et al - J HOSP PHARM 1986; 43:905-9.**

Subjects receiving the intervention achieved significantly lower systolic (p=0.007) and diastolic (p=0.002) blood pressures compared to control (137/75 mmHg vs. 143/78 mmHg).

The intervention group received more total office visits (7.2 vs. 4.9, p<0.0001), however had fewer physician visits (3.2 vs. 4.7, p<0.0001) compared to control. Intervention subjects were prescribed more antihypertensive medications (2.7 vs. 2.4, p=0.02)

Improve of blood pressure control
Clinical pharmacist is useful


CP: STROKE

Stroke Clinical Pathway: Is a clinical pharmacist useful?

First contact
Transportation
Hospital admission (stroke unit)
CP: STROKE

Stroke Clinical Pathway: Is a clinical pharmacist useful?

Pharmacist impact on ischemic stroke care in the emergency department (ED)

To compare the accuracy of rtPA dosing, mean door-to-rtPA time and identification of CI to rtPA therapy when a pharmacist was present versus absent in the ED

- Retrospective study
- Jan 2008 to Oct 2012
- 105 patients

Pharmacist impact on ischemic stroke care in the emergency department (ED)

To compare the accuracy of rtPA dosing, mean door-to-rtPA time and identification of CI to rtPA therapy when a pharmacist was present versus absent in the ED

- Retrospective study
- Jan 2008 to Oct 2012
- 105 patients

Pharmacist may have a beneficial effect on door to rtPA time and patient care

Door-to-recombinant tissue plasminogen activator time (min) for pharmacist-absent and pharmacist-present groups (p=0.0027)

Gosser et al - J EMERG MED 2016, 50:187-93

CP: STROKE

Stroke Clinical Pathway: Is a clinical pharmacist useful?

First contact

Transportation

Hospital admission (stroke unit)
Stroke Clinical Pathway: Is a clinical pharmacist useful?

- Medication reconciliation on hospital admission
- Medication records checking during the hospital stay regularly

- Prospective study
- Jan 2011 to June 2011
- Patients with TIA or ischemic stroke
- who were taking 2 or more drugs during hospital stay and at discharge

- 68% of patients presents 1 DRP* or more (105/155)
- 271 DRP = 1.8/patient
- Pharmacist’s interventions
  - 89% were adopted by the physicians

*DRP = drug related problem


CP: STROKE

Stroke Clinical Pathway: Is a clinical pharmacist useful?

First contact

Transportation

Hospital admission (stroke unit)

Hospital discharge (stroke unit)

Acute stroke care
CP: STROKE

Stroke Clinical Pathway: Is a clinical pharmacist useful?

- Detailed information on medication upon hospital discharge
  - Effect of a structured medication report as part of the discharge letter on GP adherence to discharge medication

Table 2. Adherence to the Recommended Medication 3 Months After Discharge

<table>
<thead>
<tr>
<th></th>
<th>Control Group</th>
<th>Intervention Group</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire medication regimen</td>
<td>median (IQR)</td>
<td>median (IQR)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>n=135 patients</td>
<td>83.3 (71.4-100%)</td>
<td>90.9 (90-100%)</td>
<td></td>
</tr>
<tr>
<td>Antithrombotic drugs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
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Clinical pharmacist is useful

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Acute stroke care

Home return 70%
CP: STROKE

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39

**Stroke Clinical Pathway: Is a clinical pharmacist useful?**

- Impact of Pharmaceutical Care on Health-Related Quality of Life after Ischemic Stroke
  - Randomized clinical trial
  - Patients assigned to either an intervention (IG) or a control group (CG)
  - First intervention at hospital discharge - next interventions by community pharmacist/one year following

![Table showing data](image)

**Clinical pharmacist is useful**

*HOHMANN C et al - Health Qual Life Outcomes 2010, 8:59*

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40

**CP: STROKE**

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**Stroke Clinical Pathway: Is a clinical pharmacist useful?**

**What works best**

- Brief interventions
- Repeated interventions
- Long term follow up
- Interprofessional collaboration and communication
- Pharmaceutical expertise

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ADMED-AVC
A randomised clinical trial
In 6 french university hospitals

ADMED-AVC project is a randomized controlled trial (RCT) consisting in a patient-centered, pluriprofessional, and structured intervention, coordinated around the patient, targeting secondary preventive treatments adherence after ischemic stroke.

Two groups (intervention group versus control group) of inpatients will be recruited into stroke unit or neurological rehabilitation unit following stroke.

**Primary outcome**
- Overall adherence to secondary preventive treatments:
  - Antiplatelets or anticoagulants with antihypertensive agents and/or statins
  - at one year after hospital discharge

**Secondary outcomes**
- Adherence to each drug
- Iatrogenic events
- Recurrent stroke or any cardiovascular event
- Hospital readmissions
- Quality of life
- Patient satisfaction
- Professionals satisfaction
CP: STROKE

Admed AVC

**Intervention period**

**Month 0**
- Pharmacist interview before patient's discharge (stroke or rehabilitation units)
- Communication between hospital and community pharmacist, hospital physician and GP

**Month 3, 6 and 9**
- Phone calls follow up (motivational interviewing)
- Communication between hospital and community pharmacist, hospital physician and GP

**Month 12**
- Final pharmacist interview in hospital
- Measurement of medication adherence

**Control period**

**Usual hospital care**

**Usual ambulatory care**

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**Hospital pharmacists**

**Community pharmacists**

**Hospital neurologists & Physicians in Physical medicine and rehabilitation**

**General practitioners**

**Caregivers**

**Other health professionals, Social workers**

**Nurses**
Conclusion

Process vision: Clinical Pathway => seamless care

Need an interprofessional communication
Need to analyse your environment before (≠ diseases / ≠ patients / ≠ units …)

Opportunity for the pharmacist

Don’t forget your aim: improve the patient’s outcomes

Quiz

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2. Clinical pathway is disease specific

3. The clinical pathway is a simple concept known to all healthcare professionnals and widely implemented

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Thank you for your attention

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