Usefulness of the traceability of pharmaceutical analysis in patient's medical record

CP-102

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BACKGROUND:

Pharmaceutical analysis (PA) is one of the most important activity of clinical pharmacist as a real benefit on care security. Each day all prescription should be analyzed. But because of lack of time or dedicated staff it is hard to achieve it in good condition. That's why we wanted to show the interest to trace a complete analysis (CA) (that is at least a level 2 analysis) in the patient record (PR) in terms of time saved on the daily analysis (DA) while increasing its quality.

OBJECTIVES:

- To show that traceability of CA saves time on DA
- To determine when all patients will have a CA in their medical record and the time totally won

METHOD:

Only EHPAD* patients are included.

1) Achievement of 30 random CA and measurement of time spent on each prescription.
2) DA by 2 different means and measurement of time spent on each prescription :
   30 DA of PR ***without*** traceability
   30 DA of PR ***including*** CA traced
   The sum and the average were calculated on Excel.
3) Results extrapolation to estimate when all PR will include a CA traced and the time saved.

** Health structure devoted to old and dependant people*

The 3 levels of pharmaceutical analysis:
(SFPC's definition)

- **Level 1:** Prescription review (posology, contra-indications, main drug-drug interactions)
- **Level 2:** Therapeutic's review (included biology for dose adjustement)
- **Level 3:** For new or unstable patients (to follow up therapeutic objectives, drug monitoring, compliance…)

RESULTS:

Is daily analysis time shorter when a CA is recorded?

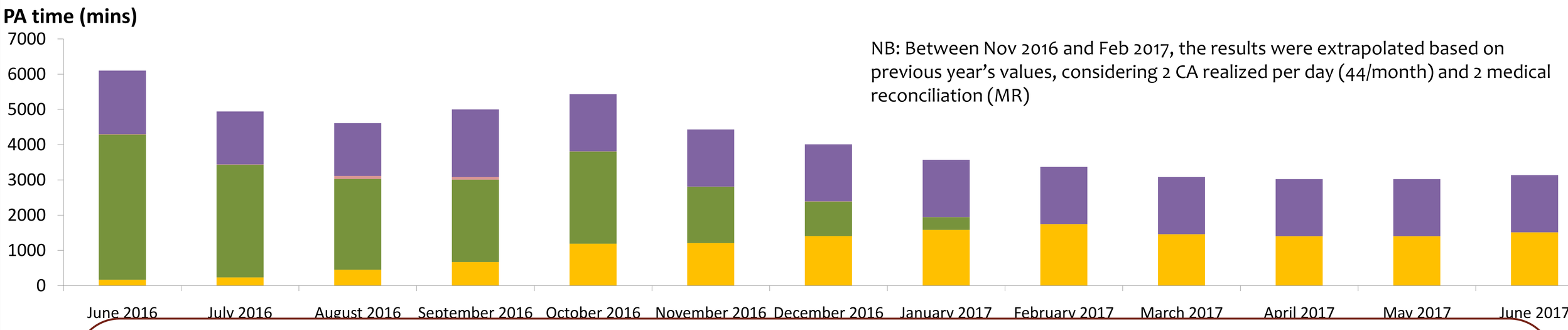
Without traceability:
Total: 105,39mins
Average: *3,51mins/prescription*

With traceability:
Total: 34,32mins
Average: *1,14min/prescription*

- **For PR without CA: DA requires on average 3,51mins per prescription**
- **For PR with CA: DA requires on average 1,14mins per prescription**
- **On average it takes 9,2 minutes [5,27-14,27] to make a CA for prescription of approximatively 10,5 lines [5-19].**

Three times less spent on DA when a CA is drawn.

And what about the time when all PR will include a CA or a MR? And the total time saved?



NB: Between Nov 2016 and Feb 2017, the results were extrapolated based on previous year's values, considering 2 CA realized per day (44/month) and 2 medical reconciliation (MR)

- In **yellow**, the time spent for **DA when a CA is traced**. It becomes constant from march 2017, when all PR have a CA or a MR.
- In **green**, the time spent for **DA when there is no CA traced**. It decreases from Nov 2016 when 70% of PR have a CA or a MR.
- In **pink** (August and Sept), the **time not spent on PA**, because of a lack of time (holidays time)
- In **purple**, the **time spent on medical reconciliation (MR)** for all new patients (on average 24 per month).

We clearly see that the **overall analysis time decreases as soon as CA are included into PR** and remains constant when all PR have a CA.
The time spent for MR remains stable (on average 1hour including the interview with the doctor and the traceability of the MR)
Finally, the PA time is divided by 2,7 (4118 vs 1511mins) and the total time is divided by 2.

CONCLUSION and DISCUSSION:

This study shows that the **traceability of the CA optimizes the DA time and quality**. Indeed, the decrease in DA time is explained by the systematic search for the CA, which identifies the particular points to watch. The DA is more focused on critical points of the prescription , which explains its better quality and the time saved.
This time will be used to **develop clinical pharmacy** in the hospital , such as the establishment of output medication reconciliation , medication review with the doctor, pharmaceutical interviews with patients (compliance, therapeutic education, drug information…)
However, it is important to note that the implementation of CA requires **complete computerization** and an easy access to medical information necessary for pharmaceutical validation. The time required to achieve the CA can be planned over several weeks or months.