



Unité de Recherche en Pratique Pharmaceutique

Centre Hospitalier Universitaire Sainte-Justine
Université de Montréal



Hôpital universitaire
Robert-Debré

CIRCUS

(CIRcuit of Child drug USe)
a tool for pediatrics drug-use
process quality.
Validation with a Delphi technique

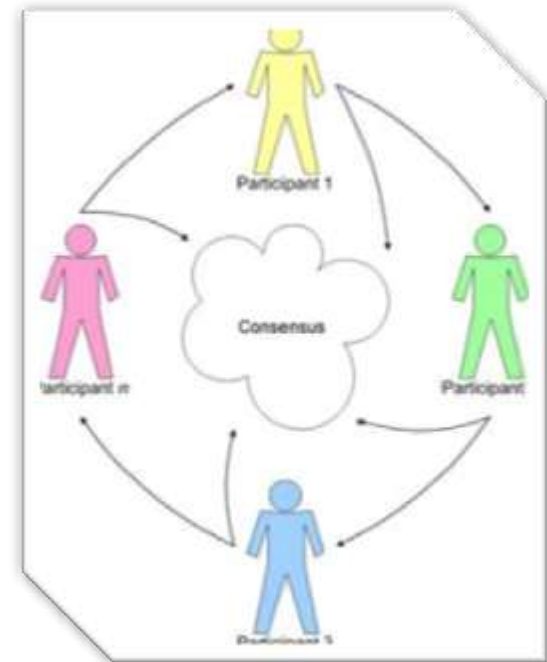
Guérin A, Prot-Labarthe S, Boulkedid R, **Bourdon O**, Bussièrès JF

43rd ESCP Symposium on clinical pharmacy. Copenhagen, Denmark. 22-24 october 2014

- **Objectives**
- **Methods**
 - **Identification of the safety practices domains and development of compliance criteria**
 - **Professional panel**
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- **Discussion**
 - **An innovative and relevant tool**
 - **Criteria removed**
- **Conclusion**

Objectives

- Develop a tool for pediatrics drug-use process quality with a Delphi technique.



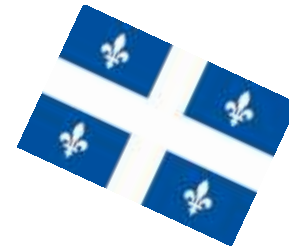
Methods

Identification of the safety practice domains and development of compliance criteria

- Literature review in order to identify the different safety practice domains for the pediatric medications circuit.
- **Twenty-six safety practice domains** were identified and **48 compliance criteria** were formulated.

Methods

Professional panel



- The CIRCUS tool was validated by a panel of professionals : **pediatricians, pharmacists and nurses.**
- From eight university hospitals in four French speaking countries :
 - **Belgium** : Saint-Luc University Clinics (Brussels), Charleroi University Hospital Centre (Charleroi)
 - **France** : Robert-Debré Hospital (Paris), Angers CHU (Angers),
 - **Quebec** (Canada) : Sainte-Justine CHU (Montreal), Quebec CHU (Quebec)
 - **Switzerland** : Vaudois University Hospital Centre (Lausanne) and the Geneva University Hospitals (Geneva)

Methods

Rounds

Each survey participant was asked to score each proposed criterion on a 1 to 9 Likert scale

✓ **First round**

- Between March and May 2013.
- A safety practice compliance criterion was deemed to be relevant if it obtained a median score of at least 7 with over 60% of panelists having allocated it a score of 7 or more.

Methods

✓ Second round

- Between May and July 2013
 - A personalized questionnaire
-
- In order to be included in the CIRCUS tool a safety practice compliance criterion was required to achieve a median score of 7, with more than 75% of panelists allocating a score of 7 or over.

CIRQUE – DELPHI – 1^{er} tour - M. Benoit Bailey

Age du patient

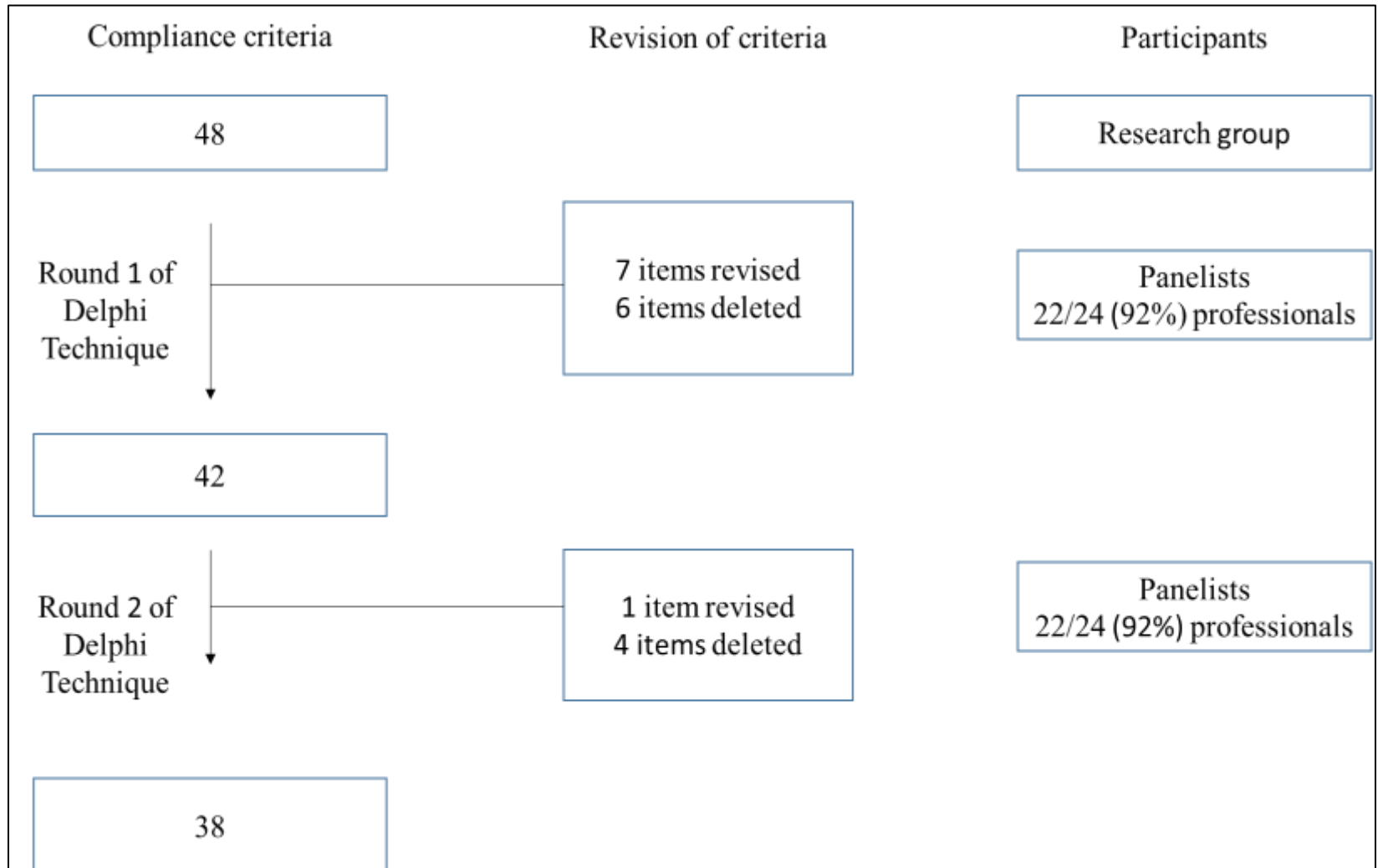
1. L'absence de date de naissance du patient est un critère bloquant pour la REDACTION d'une ordonnance.
Médiane : 9
Vote note : 5
2. L'absence de date de naissance du patient est un critère bloquant pour la DISPENSATION d'une ordonnance.
Médiane : 8
Vote note : 7

Poids du patient

3. L'absence de poids récent (i.e. < de 30 jours) est un critère bloquant pour la REDACTION d'une ordonnance.
Devient : L'absence de poids récent est un critère bloquant pour la REDACTION d'une ordonnance.
Médiane : 8
Vote note : 8
4. Le poids est toujours associé à la date de mesure du poids.
Médiane : 7
Vote note : 7
5. Les outils de transcription du poids permettent clairement de confirmer l'unité de mesure de poids utilisée (i.e. g, kg, onces, lbs).
Médiane : 9
Vote note : 9
6. L'absence de poids récent (i.e. < de 30 jours) est un critère bloquant pour la DISPENSATION d'une ordonnance.
Devient : L'absence de poids récent est un critère bloquant pour la DISPENSATION d'une ordonnance.
Médiane : 7
Vote note : 7
7. Le dossier pharmacologique informatisé calcule un percentile de poids à partir du poids et de l'âge saisis
ITEM SUPPRIMÉ
Médiane : 5
Vote note : 5

Results

Delphi process



Results

Final CIRCUS tool validated by the Delphi technique

Domains

Patient age

Patient weight

Allergies and intolerances

Use of the decimal point

Recommended medication dose

Concentration of a medication solution

Concentration of an oral solution/suspension

Medication infusion

Off-label use/use outside of guidelines

Selection of the most appropriate pharmaceutical form

Identification of excipients

Drug formulary

Relevant information sources

Validation of medication treatment protocols

Pre-written prescription sheet for intensive care

Validation of medication prescriptions

Use of correct oral syringes

Specific preparation by pharmacy

Double checking by care staff

High risk medications

Use of bar code readers

Local pharmacists in departments

Training in the risks of the medication circuit

Examples of safety practice compliance criteria

Lack of a patient date of birth is a blocking criterion for DISPENSING a prescription.

The reference to allergies and intolerances is always consulted by the PHARMACIST before DISPENSING a prescription

A document stating the dose rate/mg/ml equivalences for oral proprietary products is available for all health professionals.

A procedure describes the recognised information sources to support pediatric pharmacotherapy practice.

The electronic pharmacological record displays alerts when the dose prescribed is above or below the recommended interval taking account of weight.

High risk medications are identified in order to increase awareness of the different stages of the medication circuit

Discussion

An innovative and relevant tool

- First study to describe a self-assessment tool for safety criteria for the pediatric medications circuit
- Practice domains making up the tool identified from a literature search
- Many criteria like age, weight, height and allergies well known and widely described in the literature
- Compliance criteria produced based on the expertise and experience of the research group.

Discussion

**3 factors
explaining the removal**

1.
Not
technically
feasible

2.
Financially
unfeasible

3. Resistant to
changing
current
practices

Conclusion

- Development of a self-assessment tool for safety practices in the pediatric medication circuit using a Delphi method.
- The tool contains 38 criteria divided into 23 domains and was developed by 22 panelists from three professions (doctors, pharmacists and nurses) from four French speaking countries.
- This tool may be used in order to record and compare the prevalence of best safety practices in the pediatric medication circuit.



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Thank you Questions?

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