

Conception and Evaluation of a regional tool for risk situations of errors or exposure related to the use of cytotoxics

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INTRODUCTION:

As part of the ongoing health simulation initiative led by the French National Authority for Health (HAS), an "error room" was designed for cytotoxic drug reconstitution units (URCs) in the Centre-Val de Loire region.

- Propose a **dematerialized and easy-to-use simulation exercise** designed for all professionals involved in the chemotherapy circuit, from prescription to administration.
- Raise awareness of cytotoxic-related medication errors**, by emphasizing good practices.

MATERIALS AND METHODS:

Healthcare simulation framework: **Briefing → Scenario execution → Debriefing**

Data collection: practical cases and common error-prone situations were gathered through the active involvement of URCs, including pharmacists and pharmacy technicians (PT)

Dissemination format: **5 retractable banners (kakemonos)** covering 5 key themes related to injectable chemotherapy.

Content: development of practical training modules and complementary educational materials. A **toolbox** is provided with links to the reference materials used.

Conception

Evaluation

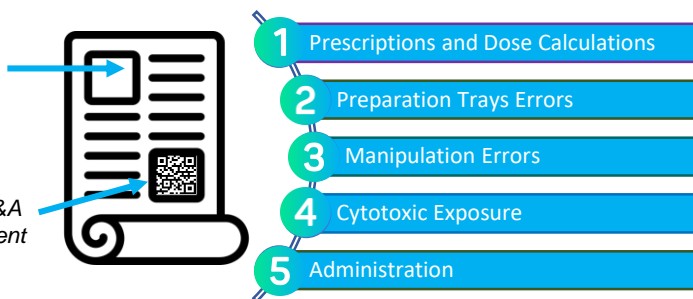
Dissemination: coordinated by a local referent in each URC → includes the logistic of kakemono transport and set a predefined return date. From December 2024 to the end of August 2025.

Communication: through regional committees, email, and personal contacts

Evaluation indicator: a satisfaction questionnaire (SQ) was used to assess the relevance, visual quality, usability of the tool, and difficulty level of each banner. Accessible via QR code.

Banner instructions + targeted professional categories

QR code linking to an interactive module: Q&A and/or additional content



RESULTS:



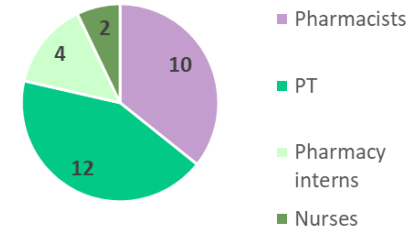
Participation of 5 centers for data collection, including 3 centers providing audiovisual content (photos, videos).

Briefing → Scenario execution → Debriefing = supervised by a pharmaceutical technologist pharmacist

Average display duration of the banners in each URC: **47 days**.

→ Depending on URC activity and period (summer holidays, year-end festivities).

- **6 URC** + 11 Health Professionals Training Institute (IFPS)
- **3 departments**: Indre-et-Loire (37), Loiret (45), Cher (18)



28
Participants

SQ feedback: the following criteria were rated on a 5-point scale (array) + the most frequent comments

Kakemono	N°1	N°2	N°3	N°4	N°5	Total
Visual	4,71	4,68	4,63	4,33	5	4,67
Relevance	4,86	4,32	4,63	4,8	5	4,72
Usability	4,07	4,05	4,44	3,67	4,71	4,19
Difficulty	4	4,27	4,56	4,27	4,29	4,28



Heterogeneity of the materials presented
Convenient and quick setup



Average time to complete the exercises:

18 minutes

Less than the indicated reference times

Not compatible with all mobile devices



Cases sometimes too specific to certain URCs

DISCUSSION / CONCLUSION:

- ✓ Users described the **tool as relevant and educational**.
- ✓ Exchanges between centers contributed to the **diversity of case scenarios**.
- ✗ However, the lack of feedback from lower-activity URCs limited inclusiveness.
- ✗ Main limitation = lack of time due to the workload in pharmaceutical technology units.



- Centers with limited use of the tool received the banners in PDF for later use: **36% of response**
- Practical implementation with PT students at the IFPS: potential presentation (kakemono 5) to nursing students ?
- National rollout considered with support from Regional Health Agencies (ARS).