

FENTANYL PATCHES: ANALYSIS OF INTERNATIONAL MEDICATION INCIDENTS

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BACKGROUND

- Medication incidents reported around the world with fentanyl transdermal systems (fentanyl patches)
- Many of these incidents have resulted in patient harm and in some cases, even death

OBJECTIVES

- To gain an in-depth understanding of fentanyl patch incidents through the following:
 - an aggregate analysis of fentanyl patch incidents
 - a review of relevant medical literature
- To present recommendations for medication systems enhancements to ensure the safe use of fentanyl patches

METHODOLOGY

DATA COLLECTION

Fentanyl patch incident data received from the participating medication and patient safety centres in the UK, US, Canada and Ireland

QUANTITATIVE ANALYSIS

- Incidents classified according to:
 - Severity / outcome (Figure 1)
 - Type of incident (Figure 2)
 - Medication system stages involved (Figure 3)

QUALITATIVE ANALYSIS

- Incidents with narrative data fields available
- Incidents reviewed by two analysts to identify main themes
- Further categorization within each main theme to achieve homogeneous clusters
- Clusters studied to identify potential contributing factors

RESULTS

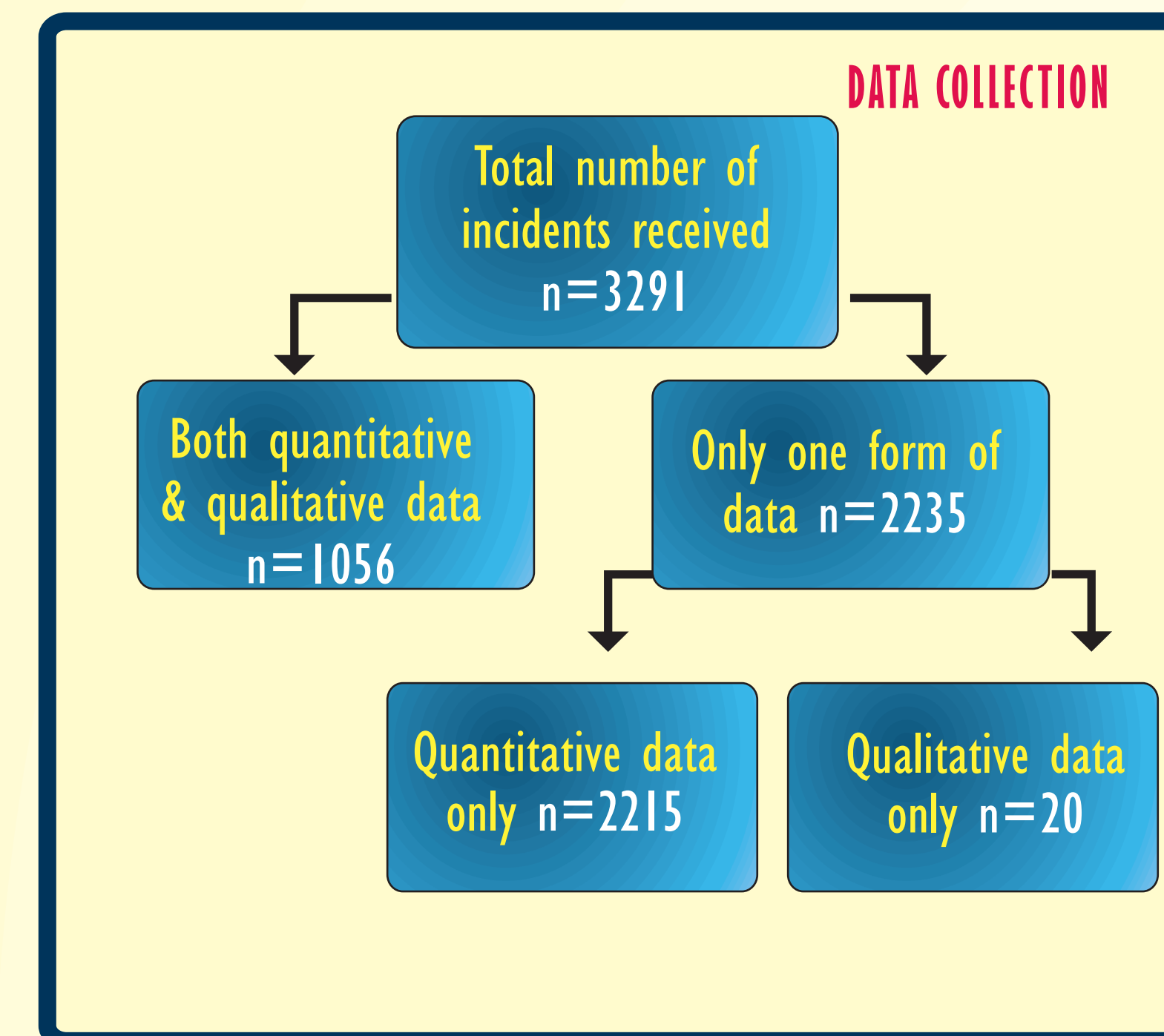


Figure 1 Severity of outcome

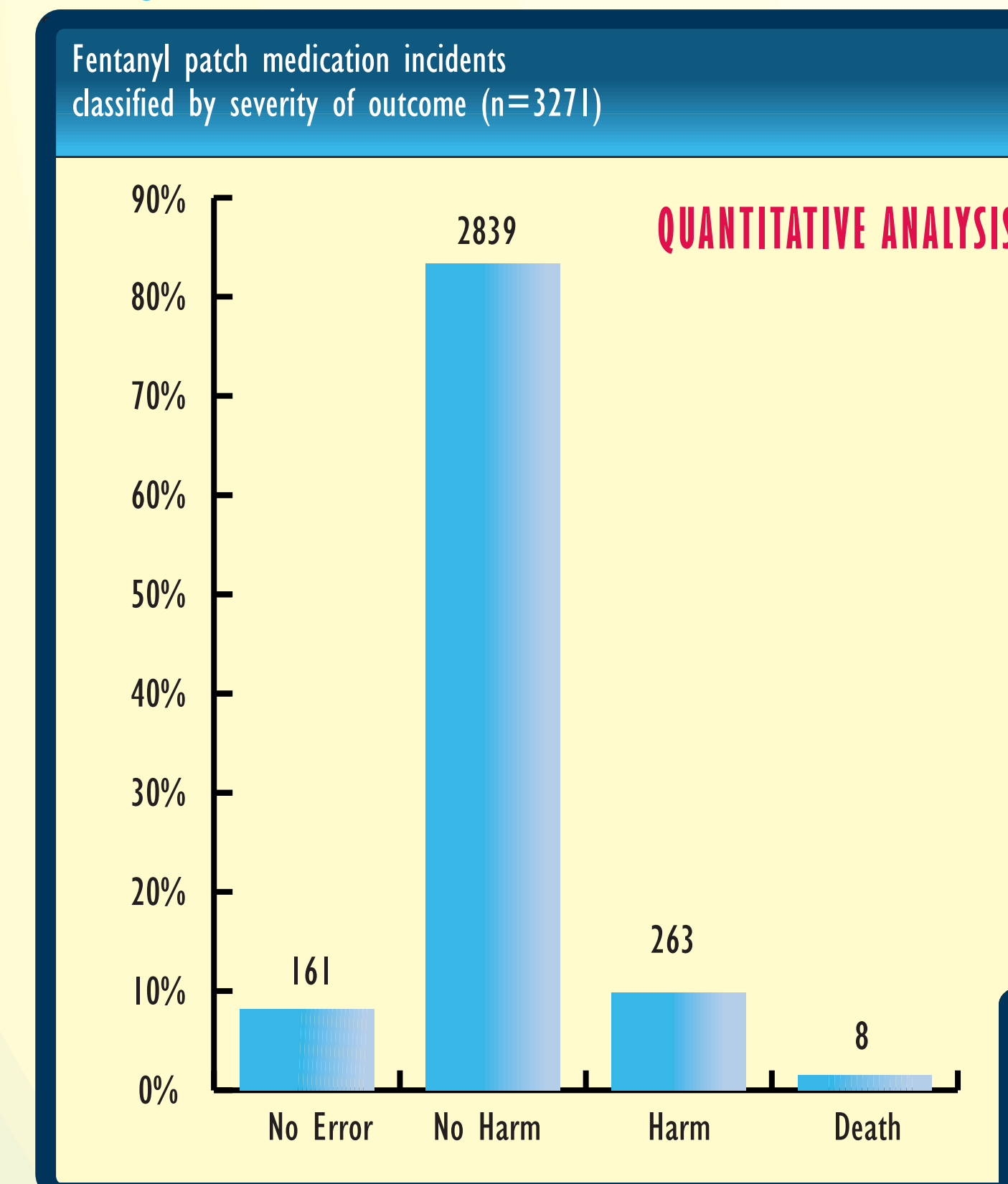


Figure 2 Type of Incident

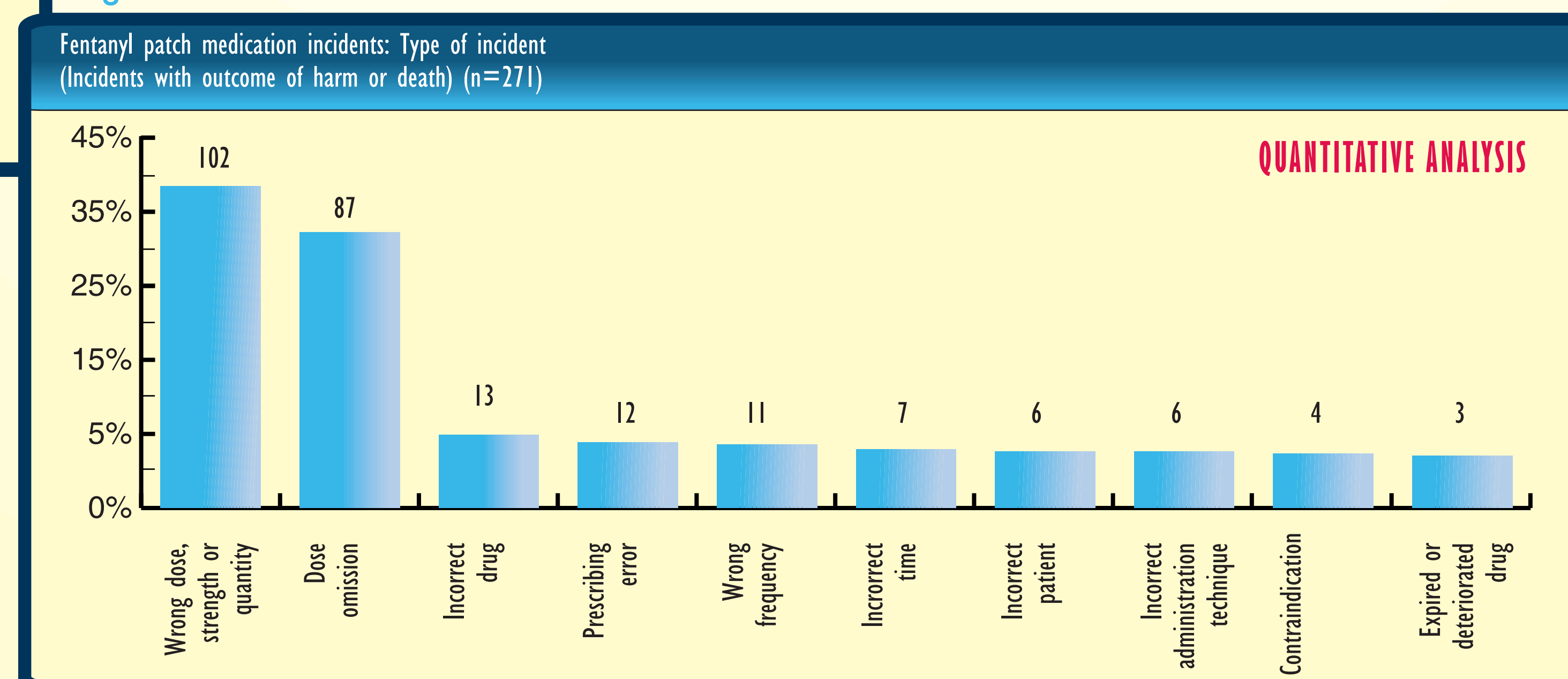
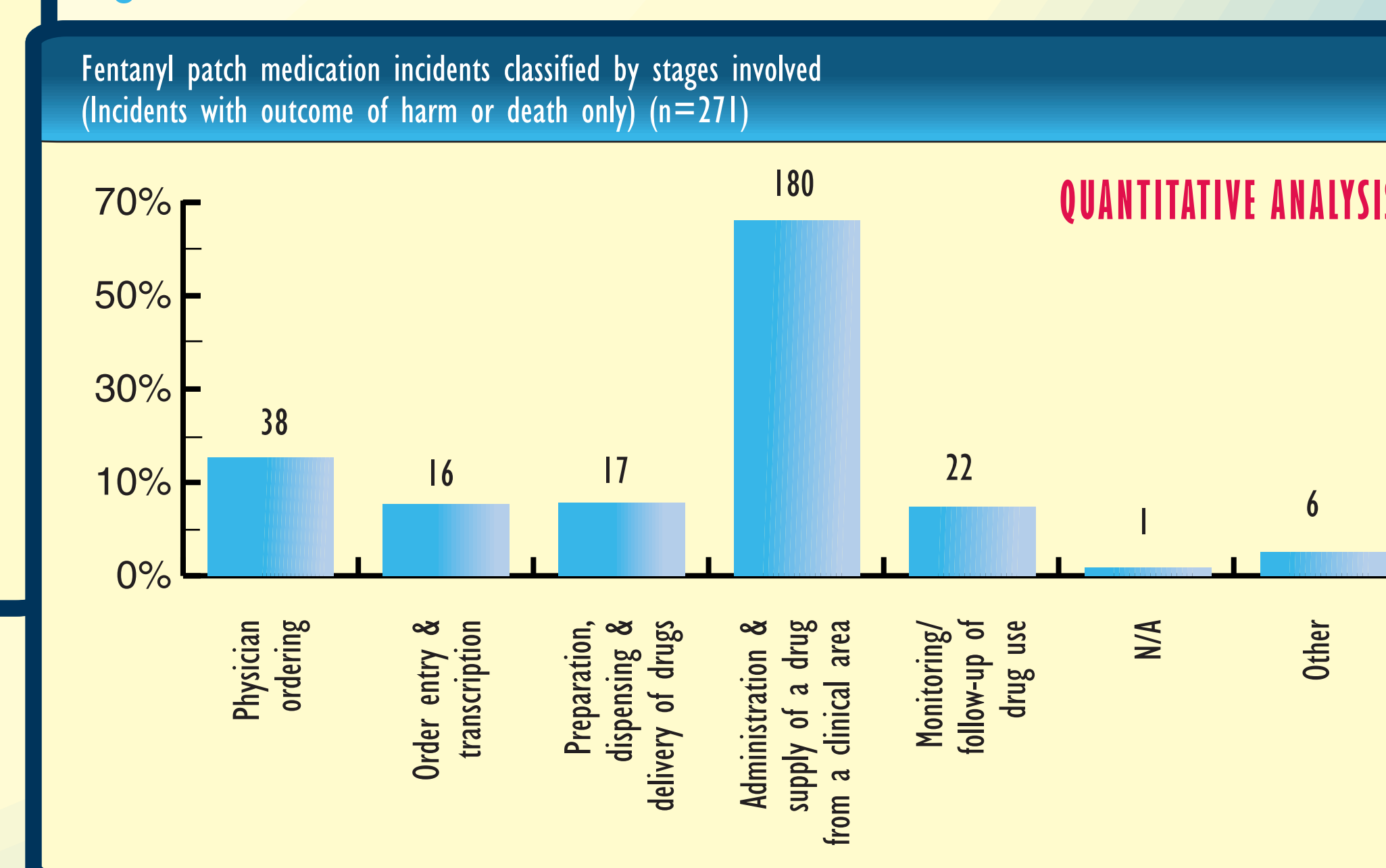


Figure 3 Medication System Stages Involved



QUALITATIVE ANALYSIS

From patients' perspective

- 4 main themes identified:
 - Too much, too soon:** dose or frequency too high
 - Too little, too late:** dose or frequency too low
 - Don't need (shouldn't get):** Inappropriate patient
 - Other**

21 potential contributing factors identified within each of the main themes

From health systems perspective:

21 potential contributing factors re-grouped to 6 areas of medication systems improvement:

- Critical information** (e.g., inadequate knowledge on the part of health care practitioners)
- Patient education**
- Complexities of administration**
- Communication** (ordering and transcription)
- Product design**
- Interfaces of care** (e.g. fentanyl patches not recognized at interfaces of care)

Example of potential contributing factors

- Patient education not provided

"...a patient's caregiver placed the fentanyl patch on the patient's buttock, which was the site of her pain. When the patient went to bed, she also used a heating pad at the same place. The patient was discovered dead two days later...neither the prescribing physician nor the pharmacist had counselled her on how to use the patch properly, and they hadn't told her to avoid applying heat over the patch."

- Patients with reduced functional status:

"A physician gave a 78 year old patient with chronic pain a prescription for fentanyl patch, with directions to apply on 25mcg patch. The patient was confused and put the patches "wherever it hurt." She applied 6 patches in all..."

- Lack of awareness of indication:

"A 14 year old boy was prescribed duragesic 25 for throat pain due to infectious mononucleosis. He was found in a respiratory arrest 14 hours after the first and only patch was applied. Resuscitative efforts were unsuccessful."

RECOMMENDATIONS

- Greater efforts must be focused on safe guards to **ensure healthcare practitioners have adequate knowledge and training** in the proper use of fentanyl patches.
- Effective strategies should be put in place to **ensure patients, care takers and their family are well informed and educated** about the use of fentanyl patches.

CONCLUSIONS

- Multi-centered analysis conducted to gain an in-depth understanding of fentanyl patch-related incidents
- 6 areas of medication system improvement identified (21 potential contributing factors)
- Recommendations: Ensure **practitioner knowledge** and **patient education**
- Continued efforts are necessary for the further development of effective systems based solutions targeting the various areas of improvements identified in this analysis

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