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Provider actions in response to drug alerts generated in the Composite Health Care System

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Background

- Composite Health Care System (CHCS) is an integrated enterprise computerized provider order entry system (CPOE) used by the US Department of Defense

- CHCS is deployed at over 500 medical treatment treatment facilities worldwide

CHCS

- CHCS performs medication order checks for:
  - drug to drug interaction
  - drug to allergy
  - drug dosage
  - drug duplication
  - drug under-utilization
  - drug over-utilization

Study Objective

- To assess provider actions in response to drug alerts generated in the CHCS

Method

- Survey of prescribing providers was conducted at two military treatment facility (MTF) clinics:
  - Military Family Health Clinic at the Bethesda National Naval Medical Center
  - General Medicine Clinic at Walter Reed Army Medical Center

Survey Participants

- Physicians (17)
- Physician assistants (5)
- Nurse Practitioners (6)
- Dentist (1)
- Pharmacist (1)

Demographics

<u>Gender</u>

◆ Male	15 (50%)
◆ Female	15 (50%)

<u>Specialty</u>

◆ Family Practice/Family Medicine	19 (63.3%)
◆ General Internal Medicine	5 (16.7%)
◆ Pediatrics	2 (6.7%)
◆ Other	4 (13.3%)

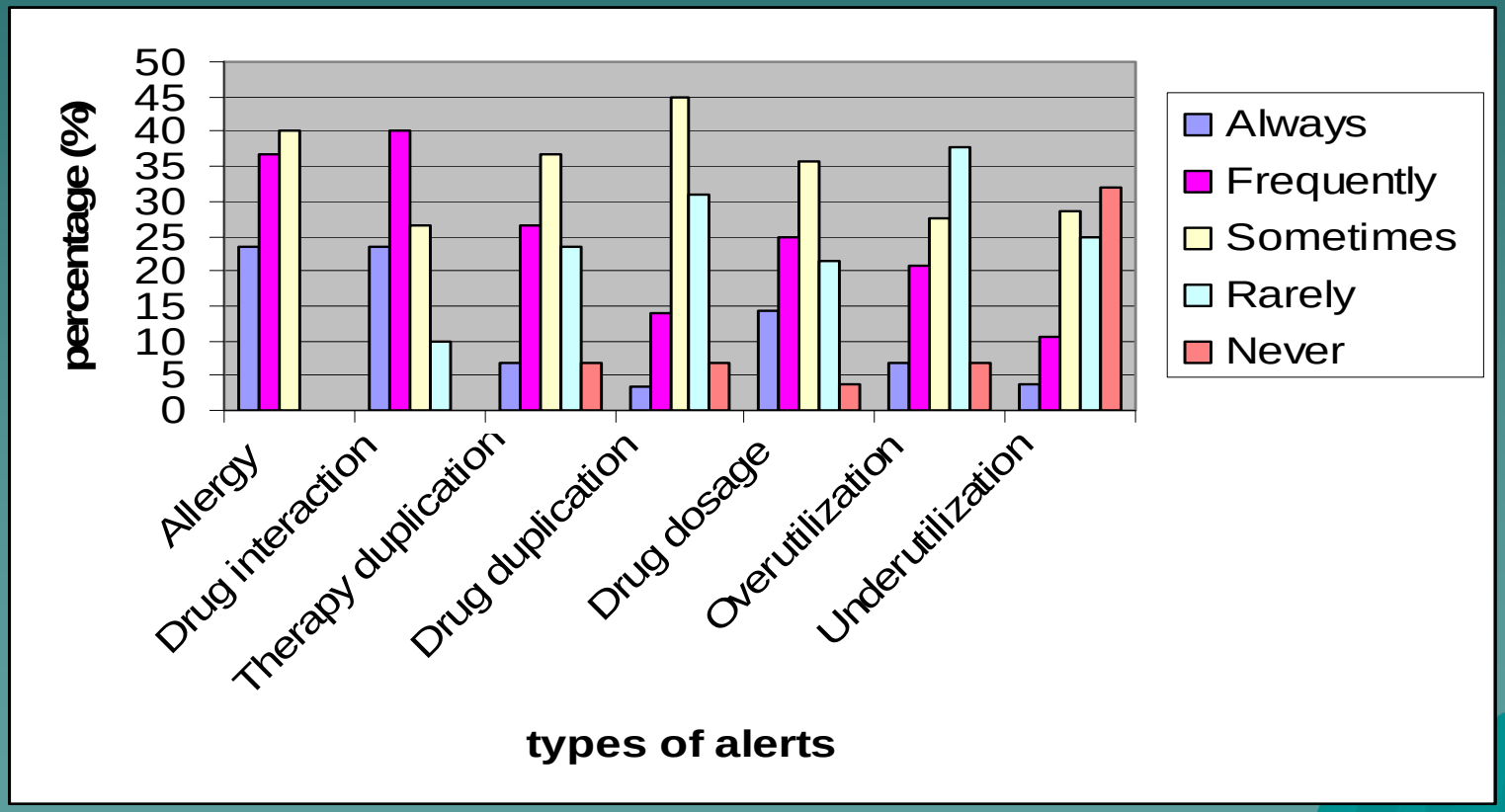
Usefulness of alert types

Type of Alert	Always N (%)	Frequently N (%)	Sometimes N (%)	Rarely N (%)	Never N (%)	Total N (%)
Drug-allergy	7 (23.3)	11 (36.7)	12 (40.0)	–	–	30 (100)
Drug–drug interaction	7 (23.3)	12 (40.0)	8 (26.7)			30 (100)
Therapeutic duplication	2 (6.7)	8 (26.7)	11 (36.7)	7 (23.3)	2 (6.7)	30 (100)
Drug duplication	1 (3.5)	4 (13.8)	13 (44.8)	9 (31.0)	2 (6.9)	29 (100)
Drug dosage	4 (14.3)	7 (25.0)	10 (35.7)	6 (21.4)	1 (3.6)	28 (100)
Drug over-utilization	2 (6.9)	6 (20.7)	8 (27.6)	11 (37.9)	2 (6.9)	29 (100)
Drug under-utilization	1 (3.6)	3 (10.7)	8 (28.6)	7 (25.0)	9 (32.1)	28 (100)

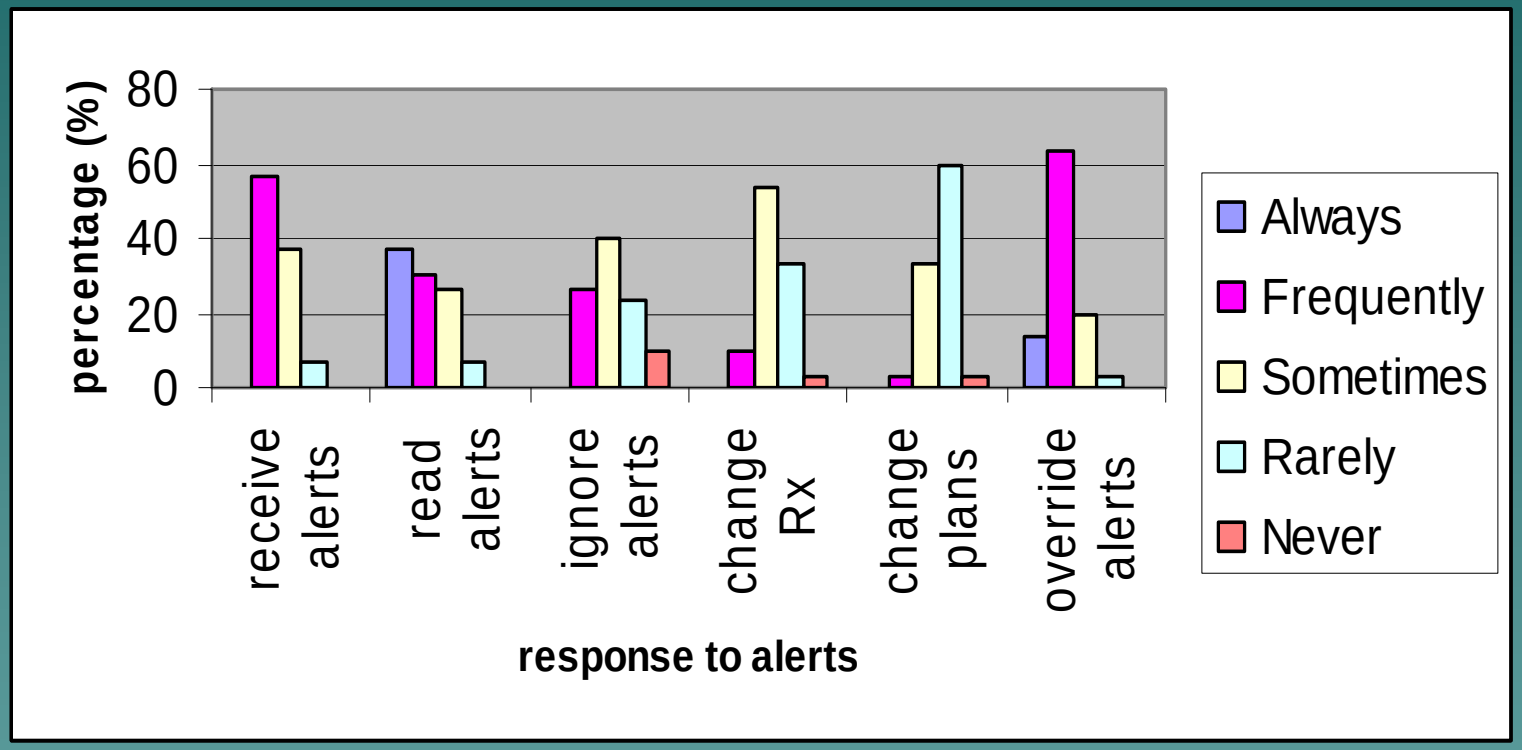
Provider actions to alerts

Provider action	Always N (%)	Frequently N (%)	Sometimes N (%)	Rarely N (%)	Never N (%)	Total N (%)
Receive alerts	–	17 (56.7)	11 (36.7)	2 (6.7)	–	30 (100)
Read alerts	11 (36.7)	9 (30.0)	8 (26.7)	2 (6.7)	–	30 (100)
Ignore alerts	–	8 (26.7)	12 (40.0)	7 (23.3)	3 (10.0)	30 (100)
Change prescription	–	3 (10.0)	16 (53.3)	10 (33.3)	1 (3.3)	30 (100)
Change / monitoring plans	–	1 (3.3)	10 (33.3)	18 (60.0)	1 (3.3)	30 (100)
Override alerts	4 (13.3)	19 (63.3)	6 (20.2)	1 (3.3)	–	30 (100)

Usefulness of alert types by percentages



Provider response to alerts by percentage



Conclusion

- Providers frequently do not consider alert warnings or messages in_making their prescribing decisions

- Eliminating specific alerts can improve system integrity and increase provider acceptance