



Comparison of Drug Information Databases

Amy Sutton Peak, PharmD; Iftexhar Kalsekar, PhD; Sabrina Hopkins, PharmD; Rebecca Lambert, PharmD

Butler University Drug Information Service



Background

Several electronic drug information databases are available, but few independent studies have provided comprehensive comparisons of the currently available products.

Study Objective

To determine and comparatively evaluate the dependability, completeness, and ease of use of common drug information databases

Databases Included in Study

Clinical Pharmacology (CP), Facts and Comparisons 4.0 (F&C), Lexi-Comp (LC), Micromedex Point of Care Interface/ Clinical Xpert (MDX CX) and Micromedex Healthcare Series (MDX HCS), were included in the study.

Methods

120 questions were researched in each database (24 categories, 5 each)

Primary outcome measures:

•Dependability

- Correct answer, no information, or incorrect answer

•Completeness

- 5 points for correct, complete answer
- 2 points for correct, partially complete answer
- 0 points for no information or incorrect answer

•Ease of Use

- Number of steps past initial search screen

Calculated composite score: Dependability-Completeness Score minus an ease of use factor

Additional measure:

- “Findability Factor”**- number of times a drug information specialist could locate information in the database, when others could not

Results

Dependability

	CP	F&C	LC	MDX CX	MDX HCS
Correct Answer	77	72	74	68	81
No Information	42	46	46	50	37
Incorrect Answer	1	2	0	2	2

Completeness

	CP	F&C	LC	MDX CX	MDX HCS
Total Completeness Score	343	325	294	291	359
Average Completeness Score (All questions)	2.22	2.46	2.11	2.63	2.78
Average Completeness Score (Correctly answered questions)	4.45	4.51	3.97	4.28	4.43

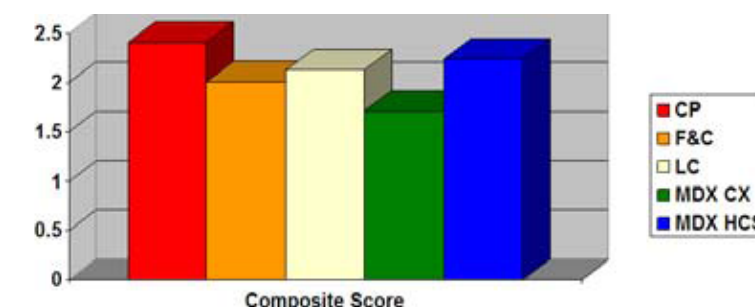
Ease of Use

	CP	F&C	LC	MDX CX	MDX HCS
Total number of clicks required	267	295	253	316	334
Average number of clicks (all questions)	2.22	2.46	2.11	2.63	2.78
Average number of clicks (correctly answered questions)	2.43	2.61	2.42	3.25	3.05

“Findability Factor”

	CP	F&C	LC	MDX CX	MDX HCS
Number of times a drug information specialist could locate information when others could not	3	14	1	5	3

Results



There were no statistically significant differences regarding overall dependability, completeness, or composite scores. However, there were clinically relevant differences between the databases when the following individual question categories were compared: cost, extemporaneous compounding, foreign medications, herbal products/dietary supplements, investigational drugs, monitoring/laboratory, non-therapeutic ingredients, off-label uses, over-the-counter medications, and pregnancy related information.

There were statistically significant differences in regards to ease of use ($P < 0.001$). LC, CP, and F&C were superior to both MDX products.

Conclusions

No drug information database is truly comprehensive. The highest performing database answered 67.5% of questions researched. Although there were no statistically significant differences between the databases in regards to overall dependability and completeness, clinically relevant differences may exist, mainly in regards to specialty question categories. The differences between the two Micromedex databases are clinically significant and practitioners should not treat these databases as being interchangeable. There are both statistically and clinically significant differences between databases in regards to ease-of-use. No single drug information database is clearly superior to any other database studied.

Disclosure

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

Amy Sutton Peak, Iftexhar Kalsekar, Sabrina Hopkins, and Rebecca Lambert:
Nothing to disclose

Presented December 9, 2008 at the 43rd ASHP Midyear Clinical Meeting