METHODS

B :	M. Delmée
DK :	M. Tvede
G :	C. Schneider
GB :	J. Brazier, I. Poxton
I :	P. Mastrantonio
Sp :	R. Alonso
NL :	E. Kuipjer
F:	V. Lalande, F. Barbut

Standardized questionnaire → Co-ordinator in each country

↓

Laboratory selection (1 lab/10 000 beds)

↓

Feedback of questionnaires to co-ordinators and investigators → Analysis Epi-Info 6.0c

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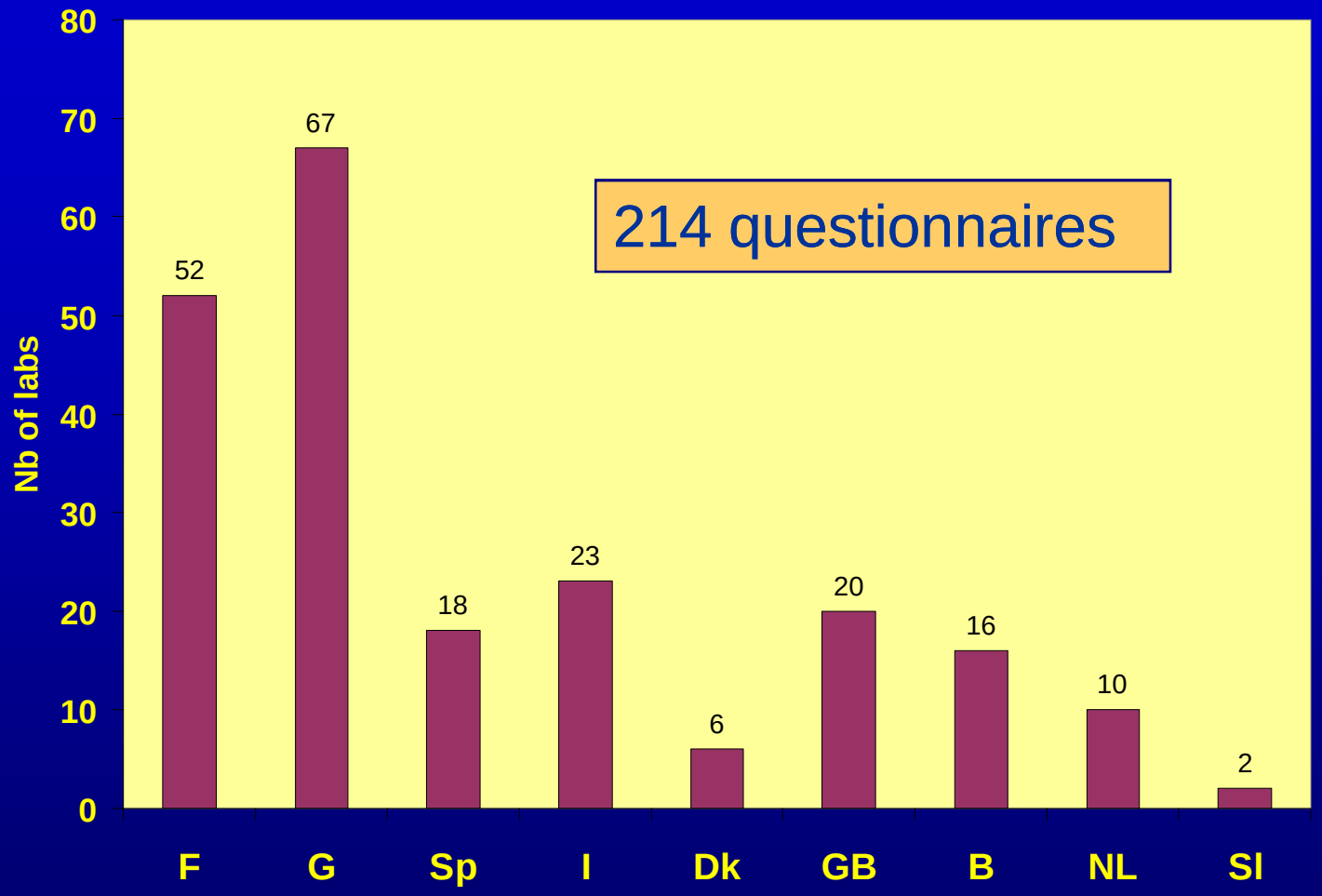
RESULTS



University-affiliated hospitals = 101 (47.4%)
Hospital > 500 beds = 76 (35.5%)

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FREQUENCY OF LABS NOT PERFORMING *C. difficile* TESTING

- 12.3 % of labs forward stool samples to an outside laboratory
  - 32.4% for Hosp < 500 beds (vs 1.4% for H > 500 beds) (p<0.001)
  - 21.6 % for non univ-affiliated (vs 2% for univ aff.) (p<0.001)
- 3.3 % of labs never or very rarely receive requests for *C. difficile*

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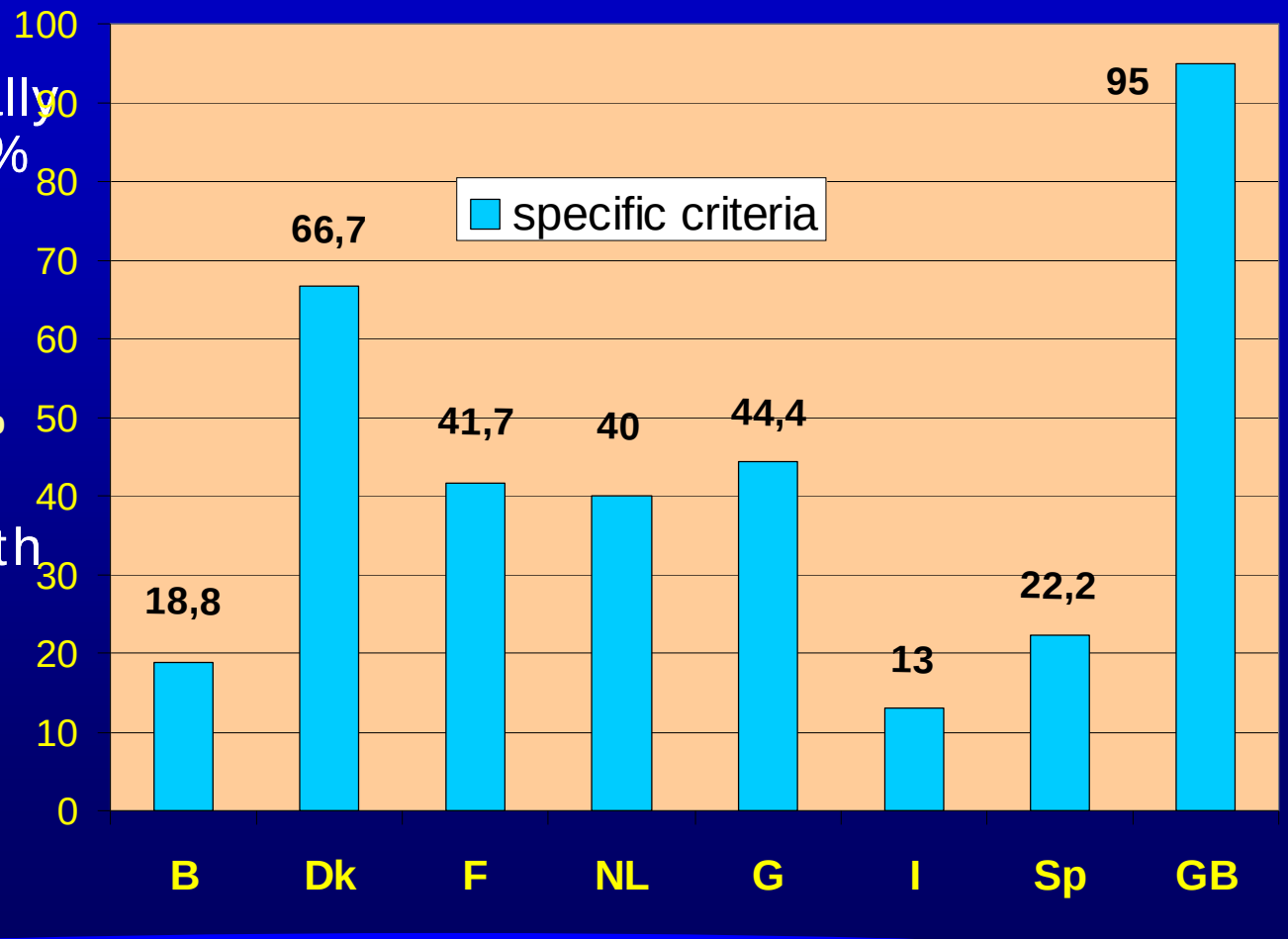
CRITERIA FOR TESTING FOR CD

- ONLY if specifically requested : 58.6 %
- Systematically on specific criteria : 40.7%
- No correlation with size ou type of hospital



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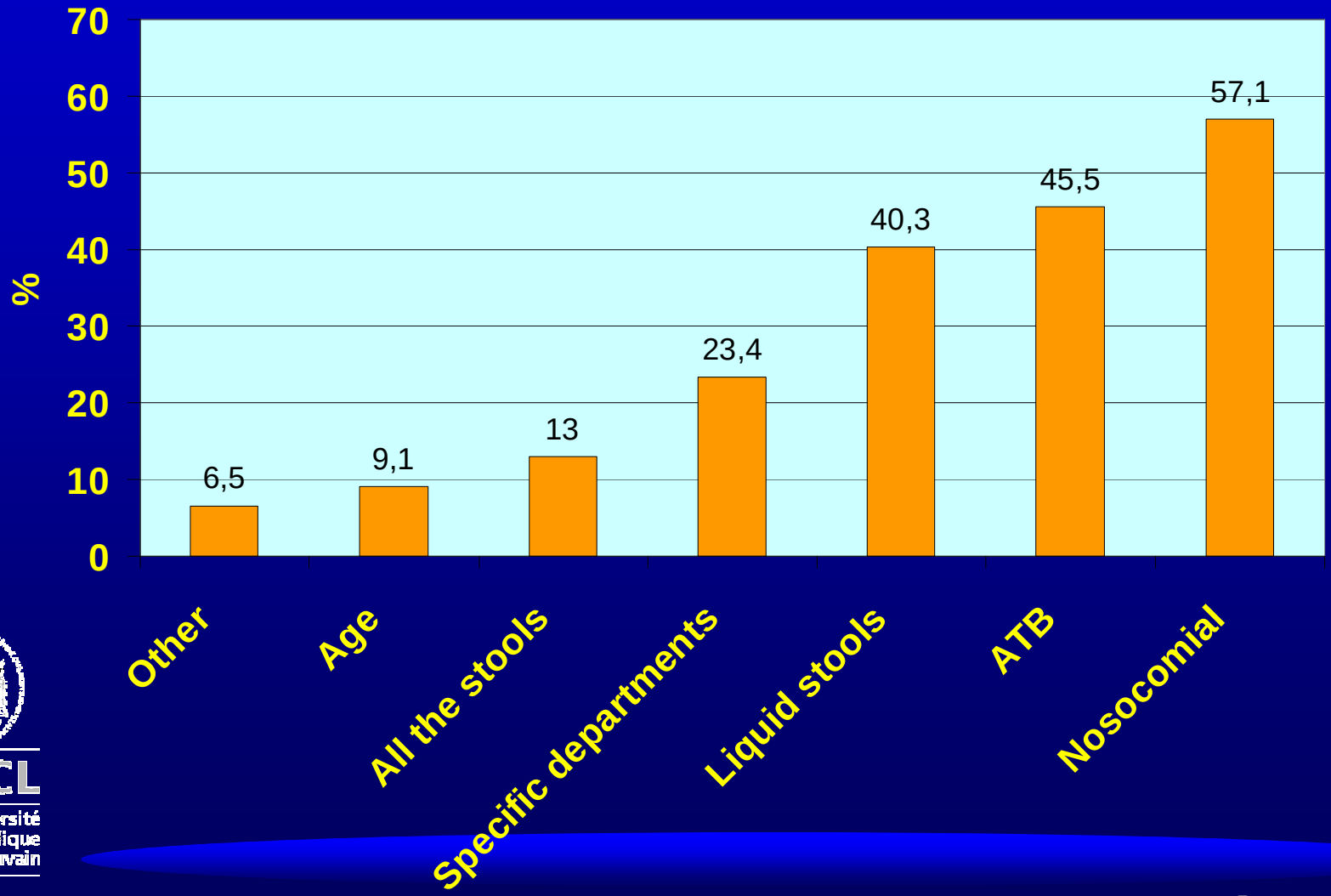
CRITERIA FOR UNDERTAKING C. difficile TESTING



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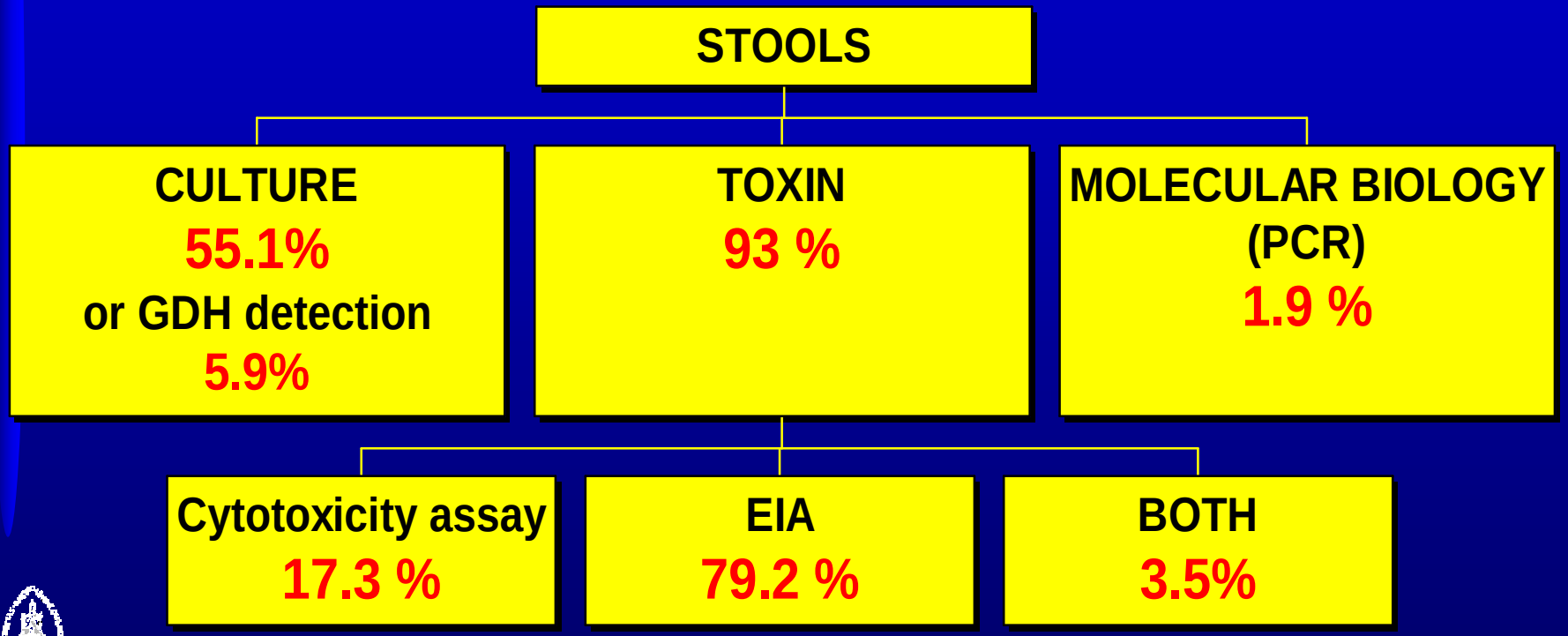
Parma 2003

METHODS : an overview



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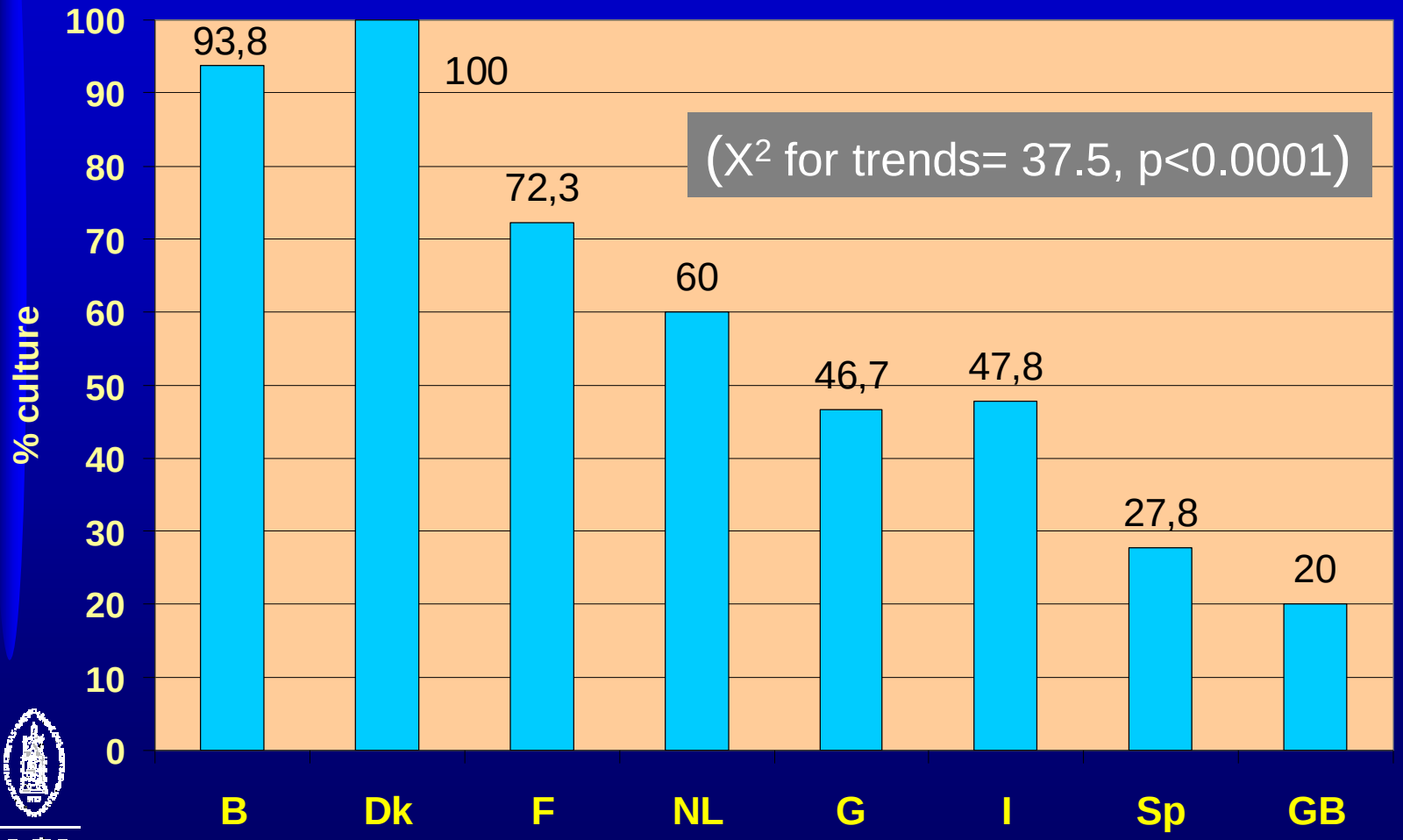
CULTURE (n=102/185)



No difference between:

Univ. versus non Univ. H (p=0.14)

>500 versus <500 bed H (p=0.87).

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CULTURE

- **Media** : home made : 28.4%
  commercial (CCA) : 68.6% (Biomérieux>>Oxoid, Becton)

- **Inoculation** (no difference between countries) :
  - direct : 68.6%
  - enrichment step : 26.5% → Alcohol : 69.7 %, Thermal : 18.2%, Liquid : 12.1%
  - both : 4.9 %

- **Incubation** (X^2 for trends : 41.1, $p<0.001$)
  - chambers : 29.4 % (100% for Sp and Dk)
  - jars : 70.6% (Anoxomat : 29.2% but 100% for NL and 61 % for B)

- **Time incubation** : 48 h (82.4%) (no difference between countries)

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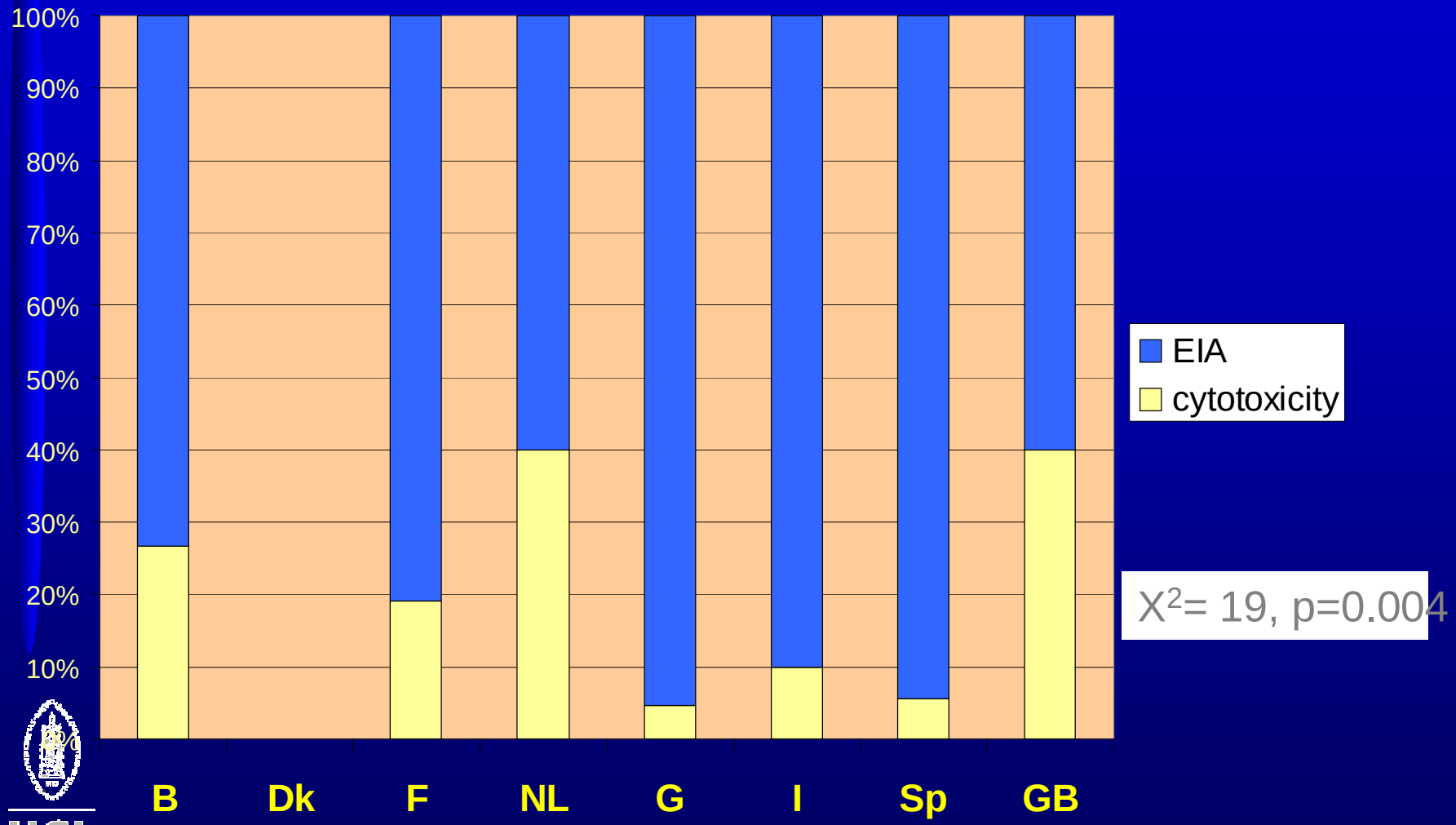
TOXINS : EIA vs cytotoxicity



X^2= 19, p=0.004

No difference with size and type of hospitals.

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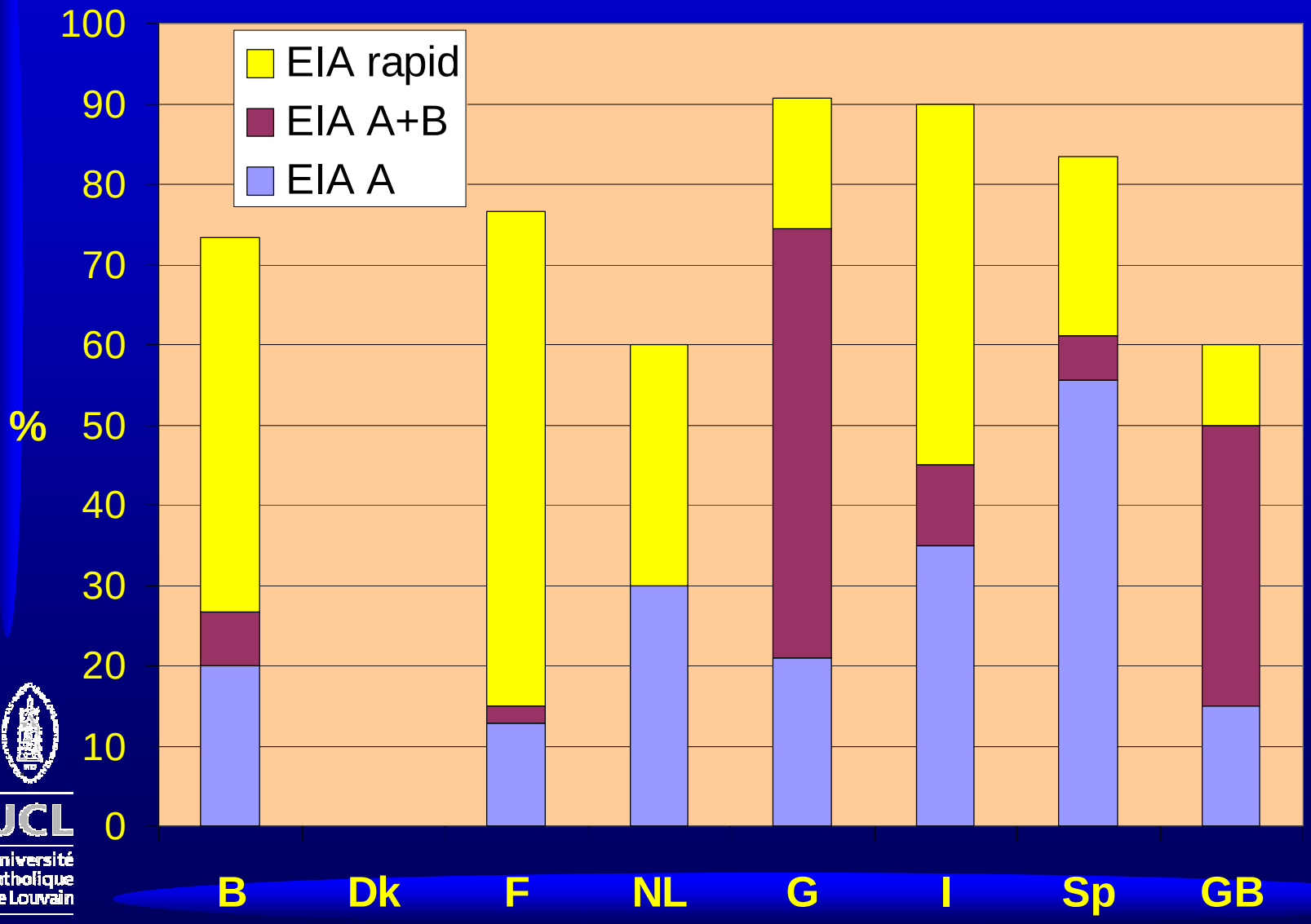
TOXINS : types of EIA



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STRATEGIES

- Inappropriate (only culture or antigen) : 4.8%
- Standard (toxins in stools) : 42.2 %
- Optimal (culture and toxins) : 41.6 %
- Others : 11.4 %

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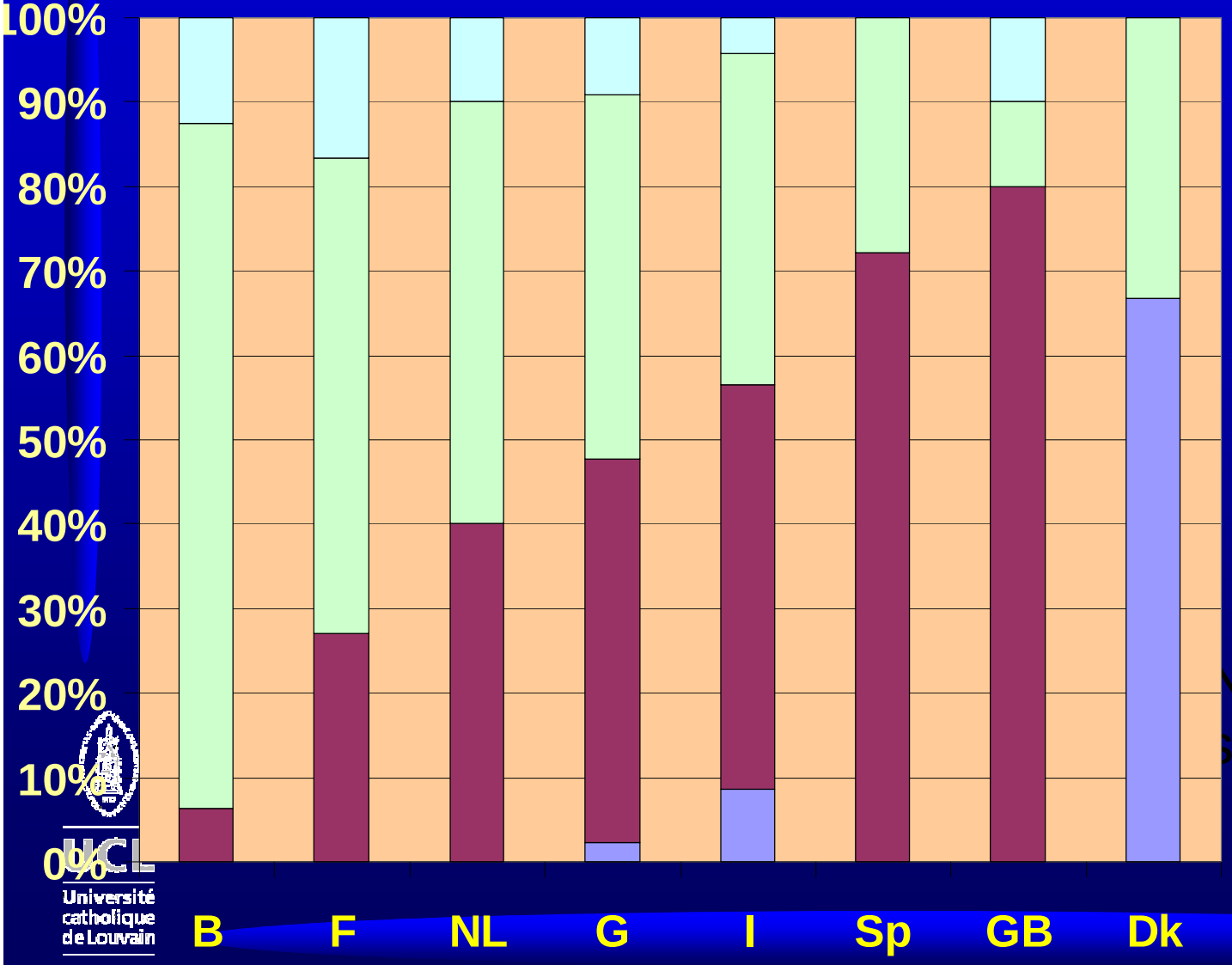
STRATEGIES for DIAGNOSIS



No difference with
size or type of H

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Parma 2003

SUSCEPTIBILITY TESTING

- 18.3 % of labs routinely test for *C. difficile* susceptibility
  - (F, NL (40-50%) > I, Sp (11-17%) > DK, GB, B (0%))
  - Large hospital > small hospitals ((22.1% vs 8%, p=0.04)
  - University > non-university (24.2% vs 11.5%, p=0.039)

TYPING METHODS

- 10.7 % of labs can perform *C. difficile* typing
  - Large hospital > small hospitals (13.6% vs 2.3%, p=0.04)
  - University > non-university (16% vs 4.0%, p=0.022)

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FREQUENCY OF STOOLS WITH POSITIVE TOXIN (n=136)

- Means : 9.47 % ± 6.46 %
- Median = 8.15 % (25%ile = 5%- 75%ile =12.95%)

- No influence of size, type of hospitals

- No influence of methods (Cytotoxicity vs EIA) or criteria used for diagnosis (on request vs systematically)

- No difference between countries

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DISCUSSION-CONCLUSION

- First european survey of diagnostic methods for CD
- Possible bias related to the mode of labs selection
  - No control procedures for labs selection
  - The more you do, the easier you answer
  - Important weight of answers from F and G
- Estimation of incidence based on data from all departments including pediatrics, long term facilities, oncology…

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DISCUSSION-CONCLUSION

- 88% of labs are able to perform CD diagnosis and half of them do it systematically on appropriate criteria (nosocomial, ATB, liquid stools)
- 92.7% undertake direct detection of toxins in stools, with an EIA in 80% of cases
- Marked discrepancies are noticed between countries in strategies used and some inappropriate methods are still used in 4.8 % of cases.
- 41.6 % of labs use a reference strategy.

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