



Measures to reduce disposal of pharmaceuticals in distribution and health care

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A Swedish National Drug Strategy

- **Vision**
- Rational medicine use for the benefit of the patient and the society
- **Long term goal**
 1. World class medical results and patient safety
 2. Health care equality
 3. Cost effective medicine use
 4. Good innovative climate for products and services
 5. Minimal negative environmental impact

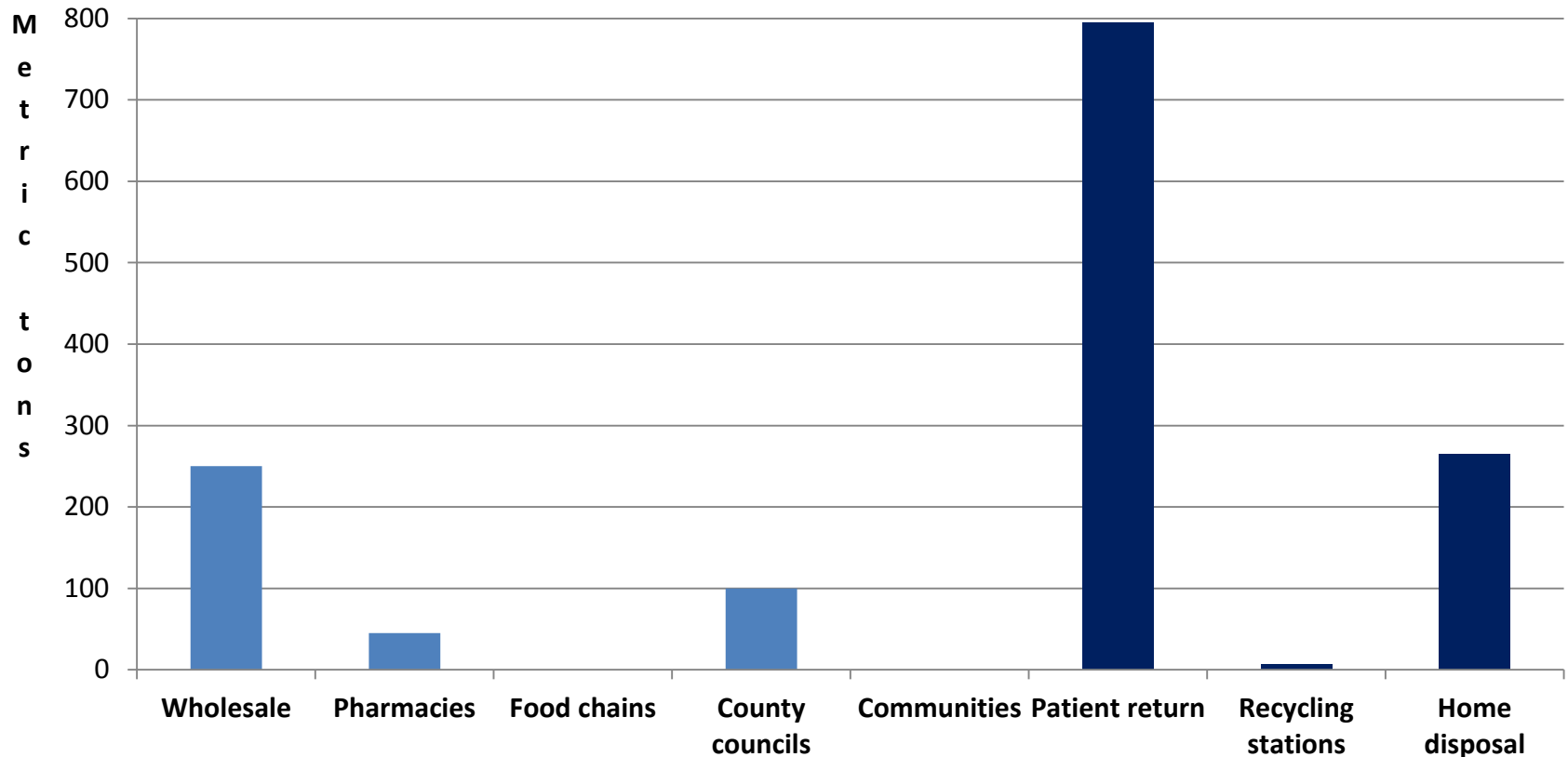
Mission given to the Medical Products Agency (MPA)

- Investigate what more can be done nationally to reduce the disposal of drugs or other ways to reduce the environmental impact of drug use.
 - One part of the investigation focused on data collection in distribution and health care
 - already implemented measures to reduce unused medicines to evolve
 - reasons for unused medicine appearing and a ranking of the reasons
 - quantitative data and statistics related to amounts of unused medicine

Actors included in data collection

- **Major pharmaceutical wholesale business companies**
- **Major actors in the retail trade**
 - pharmacies
 - food chains
- **Those responsible for hospital and home care**
 - 21 county councils
 - A selection of the 290 communities

Scale of waste medicines 2011 in Sweden



The Patient Role

- Report:

Trueman P et al. Evaluation of the Scale, Causes and Costs of Waste Medicines.

Final Report. York Health Economics Consortium, University of York, and The School of Pharmacy, University of London, 2010 ISBN 978 090 293 620 1

- Review:

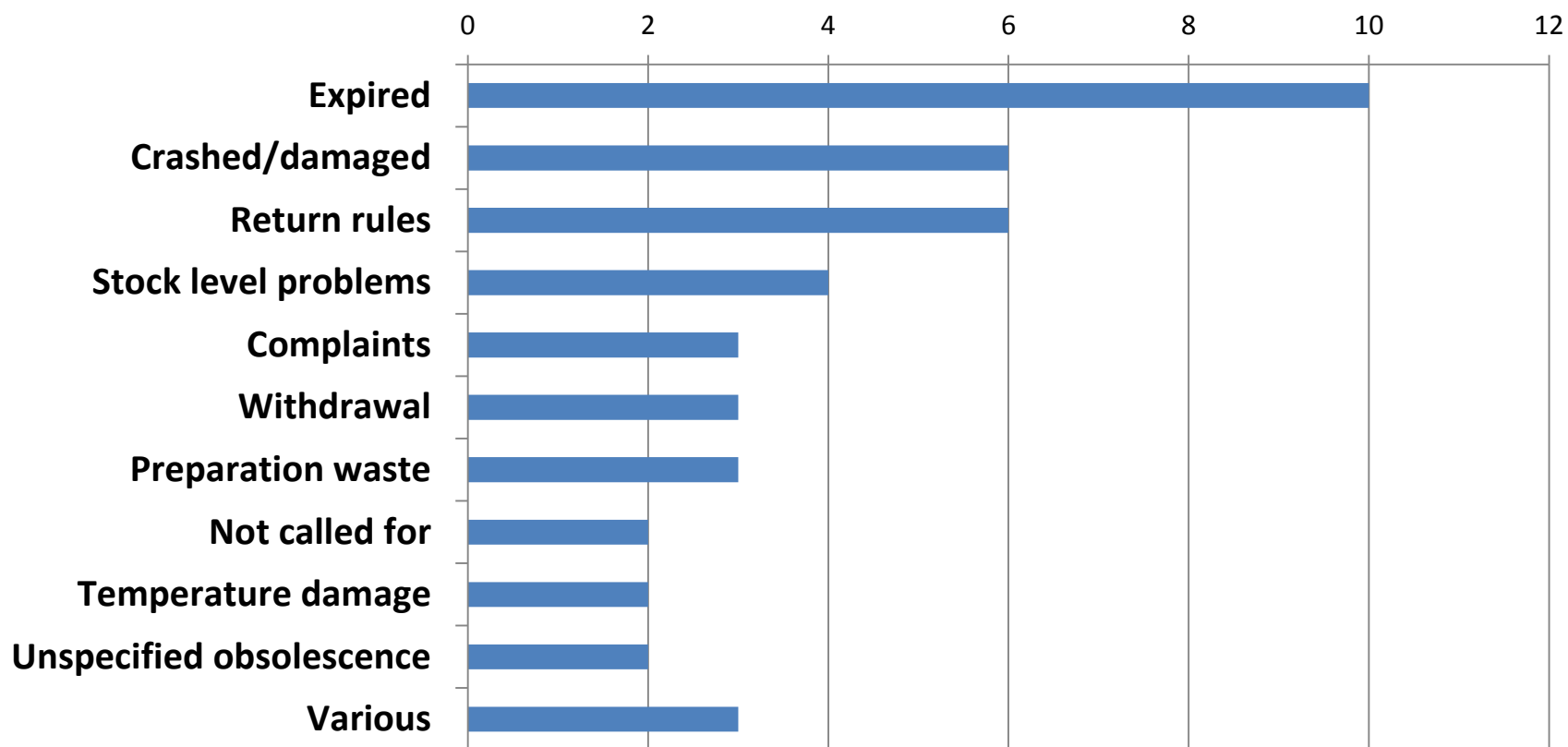
Castensson S, Ekedahl A. Pharmaceutical Waste: The Patient Role.

In: Kümmerer K, Hempel M, eds. Green and Sustainable Pharmacy. Berlin, Heidelberg, New York, Springer 2010; pp. 179-200

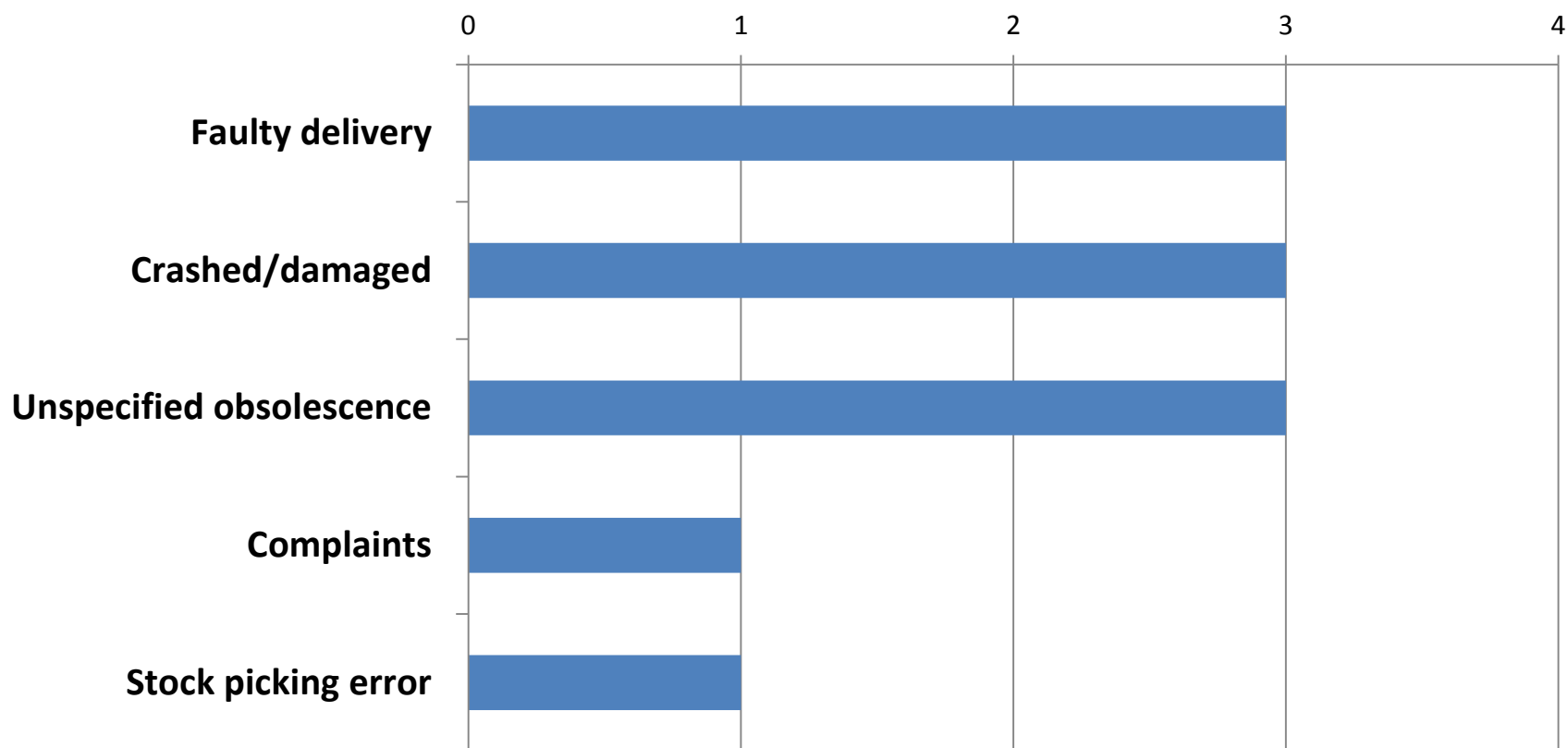
Reasons in wholesale business (250 tons)

- Expired (~80%)
- Crashed/damaged (~10%)
- Withdrawal/deregistration (~10%)

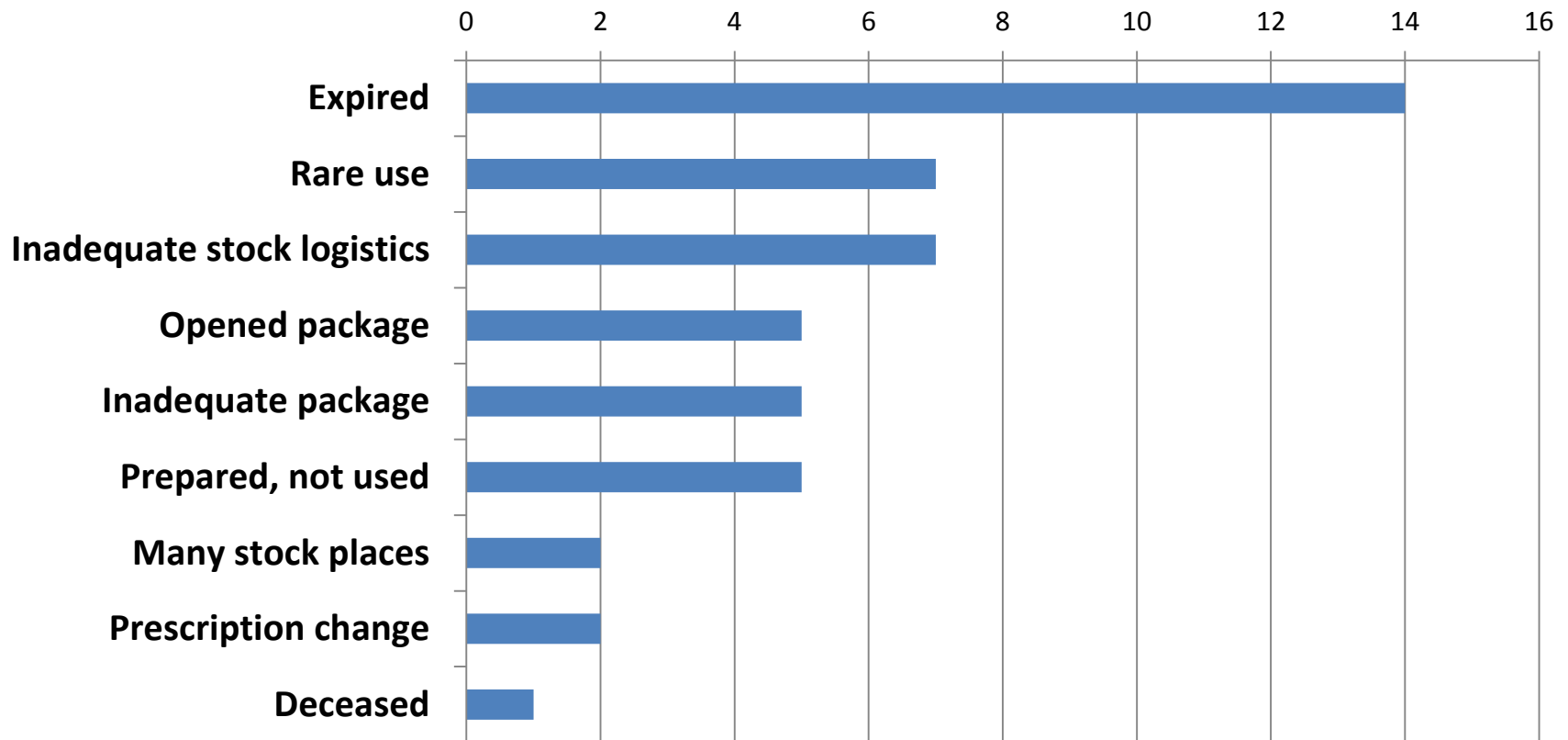
Reasons for unused medicines in pharmacies



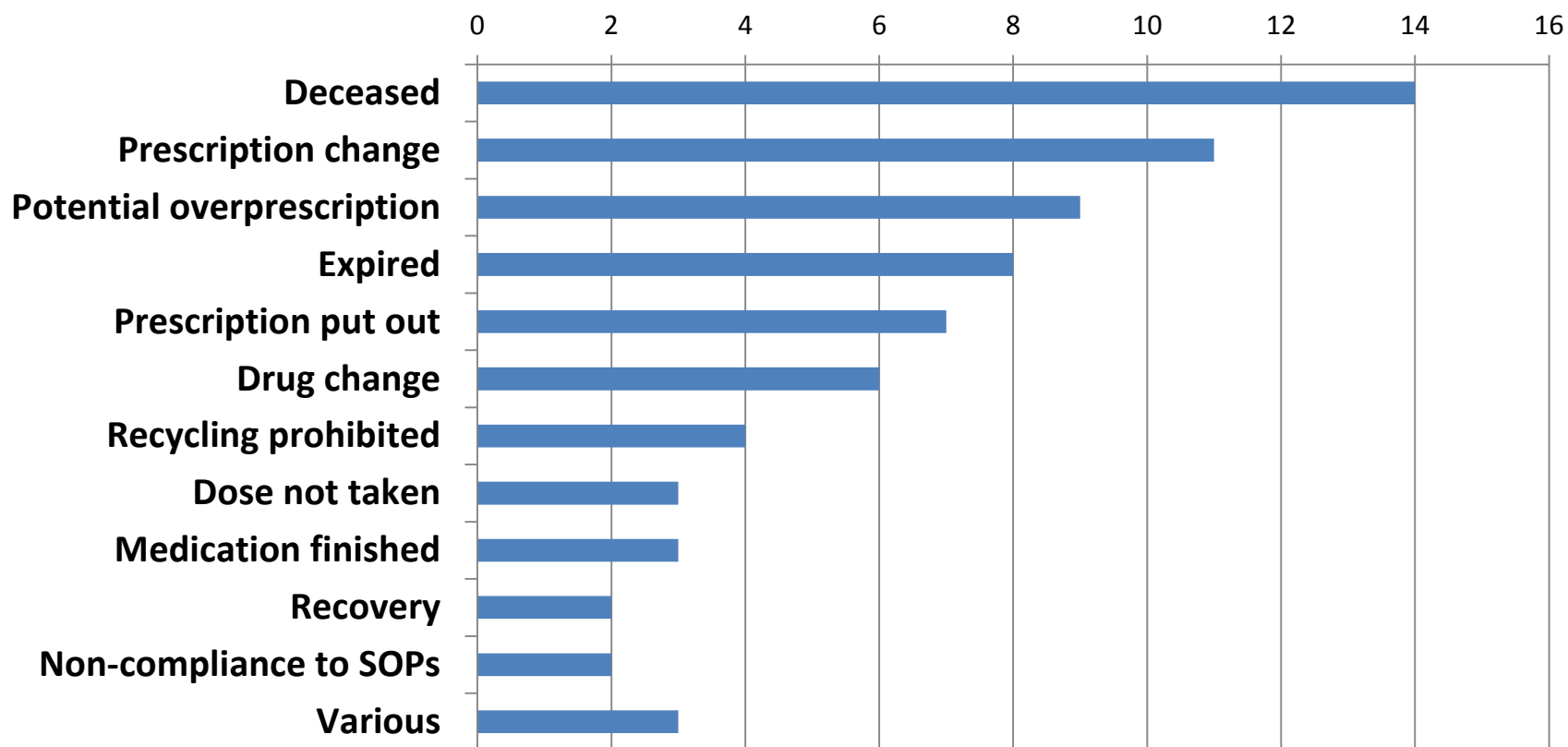
Reasons for unused medicines in food chains



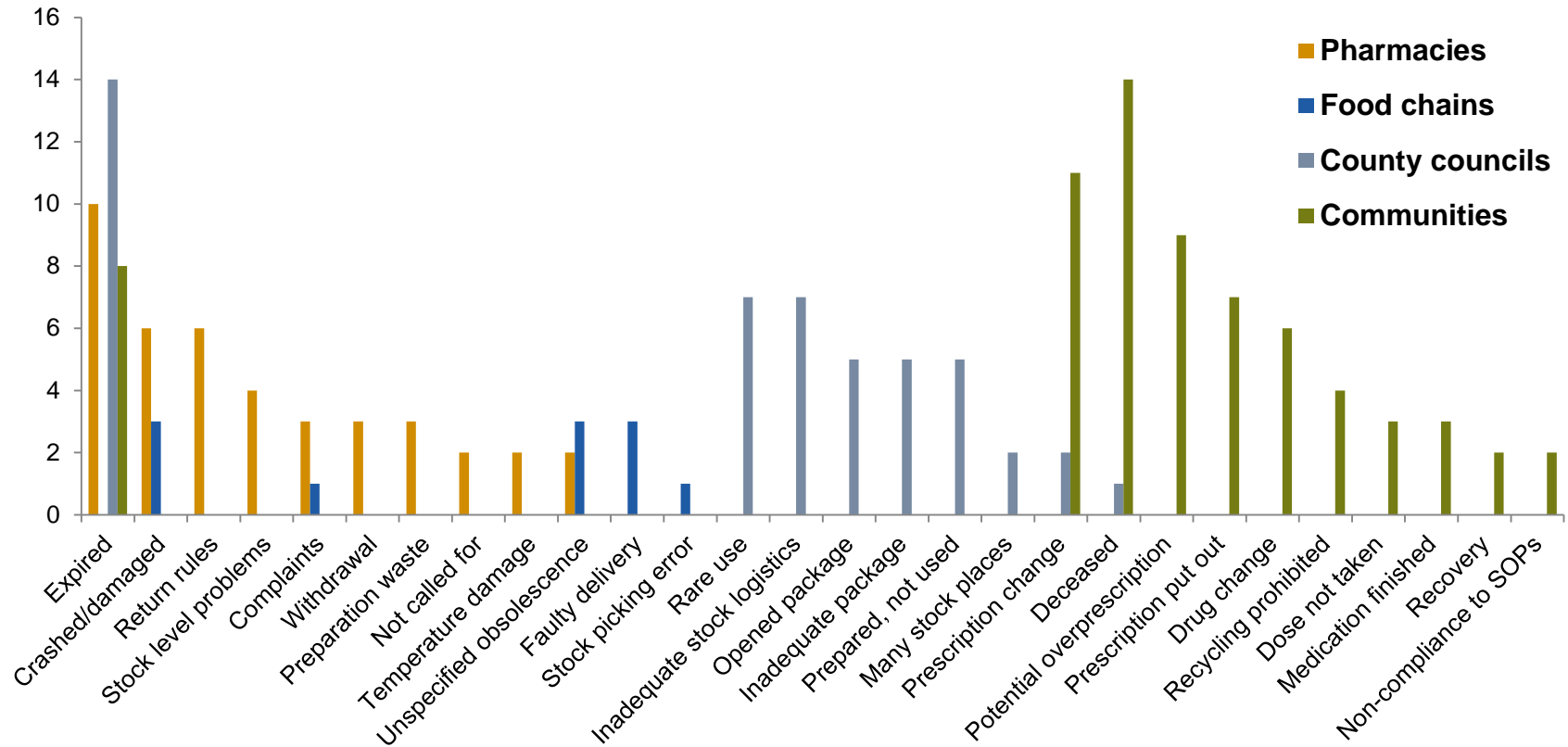
Reasons for unused medicines in county councils



Reasons for unused medicines in communities



Consolidated frequency data for reasons



Reduction of unused medicines

- **Wholesale**
 - Lowering of crashed/damaged goods in transport and handling
- **Pharmacies**
 - Optimize stock logistics and stock turnover
 - Assortment adaption to the generic substitution system
- **Food chains**
 - Optimize stock logistics and assortment

Reduction of unused medicines (continued)

- **County council**

- Optimize stock logistics and assortment
- Drug automates instead of store-rooms for dispensing
- Trial packages or starter packages for long-term treatment
- Choose drug products with long storage stability
- Choose small packages for rare use drugs

- **Communities**

- Trial packages or starter packages for long-term treatment
- Use dose dispensing
- Individual dispensing from store for short-term treatment

Investigation proposals

- Develop a comprehensive and clear national solution for disposal of unused medicines from the public including sharps and needles
- Environmental risk is part of the assessment for OTC status
- Co-operative and regular national campaigns on disposal of unused drugs to maintain/improve the public attitude and knowledge level

Proposals at the EU-level

- Improved environmental risk assessment of pharmaceuticals before market authorisation
- Environmental risk shall be included in the risk/benefit assessment for market authorisation of human pharmaceuticals
- GMP-rules shall include environmental aspects to prevent harmful emissions of APIs from pharmaceutical production

Thanks for your interest!

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