Monitoring people for adverse effects of medicines: The Adverse Drug Reaction (ADRe) Profile

# Benefits and harms of medicines: the problem

* Medication-related harm accounts for ~50% of preventable harm during healthcare delivery & costs ~$42 billion p.a. (WHO 2022).
* ADRs cause 5-8% unplanned UK hospital admissions (NICE 2015):
  + 8.7% in older people (Oscanoa et al 2017)
  + 18.4% medical admissions (Osanlou et al 2022)
  + most ADRs predictable and avoidable
* Voluntary reporting of serious ADRs omits 94% (Hazel & Shakir 2006),

<1% of GI haemorrhages are reported in UK (Shuttleworth et al 2023).

* “Definitely avoidable” ADRs cause 712 deaths directly, and contribute to another 1,708, costing NHS ~£98.5 million p.a. (Elliott et al 2018).
* Potentially inappropriate prescribing doubles costs in 1° care (Robinson et al 2022): 1 preventable ADR costs €2,851-9,015 (Formica et al., 2018).
* Hospital admissions to manage ADRs cost £490.716 / month in 1 UK hospital ~£2.2bn pa to NHS England (Osanlou et al 2022)\*.
* Non-indicated, unnecessary prescribing of dependency-forming medicines costs NHS England ~£500,000 p.a. (Davies et al 2022).

\* The total NHS budget for England 2023 was £163bn (Health Foundation 2024)

# What ADRe does:

# ADRe checks patients for potential ADRs and offers decision support.

In routine practice, ADRe:

1. **Improves patients’ lives** e.g. reduces pain, dyspnoea, sedation
2. **Assists in early identification** of serious problems, some wholly or partly due to ADRs e.g. pancreatitis, falls, chest pain
3. **Identifies live-threatening conditions** in ~10% participants
4. **Supports and documents medication reviews**
5. Ensures compliance with policies & guidelines.

ADRe has been tested in clinical trials, observation, before and after and follow up studies. We hope to work with organisations digitising patient records, developing monitoring devices or recording ADRs.

Please visit our website: [**http://www.swansea.ac.uk/adre/**](http://www.swansea.ac.uk/adre/)

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