PHARMACY PRACTICE RESEARCH -The missing link

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- Research is not just for academics
- A great deal of research takes place at grass roots level
- Research findings can impact on all sectors of the pharmacy profession
- A culture change is needed whereby pharmacists see research as a core part of their normal daily practice
- **There is a need for more practice research to help the profession meet its aspirations**
- **Pharmacists need help and advice about how to get involved** (Roberts and Kenningtin,PJONLINE 2010)

RESEARCH IN PHARMACY PRACTICE

Pharmaceutical Care

- Is the responsible provision of ***drug*** therapy for the purpose of achieving ***definite outcomes*** that improve a ***patient's quality of life***

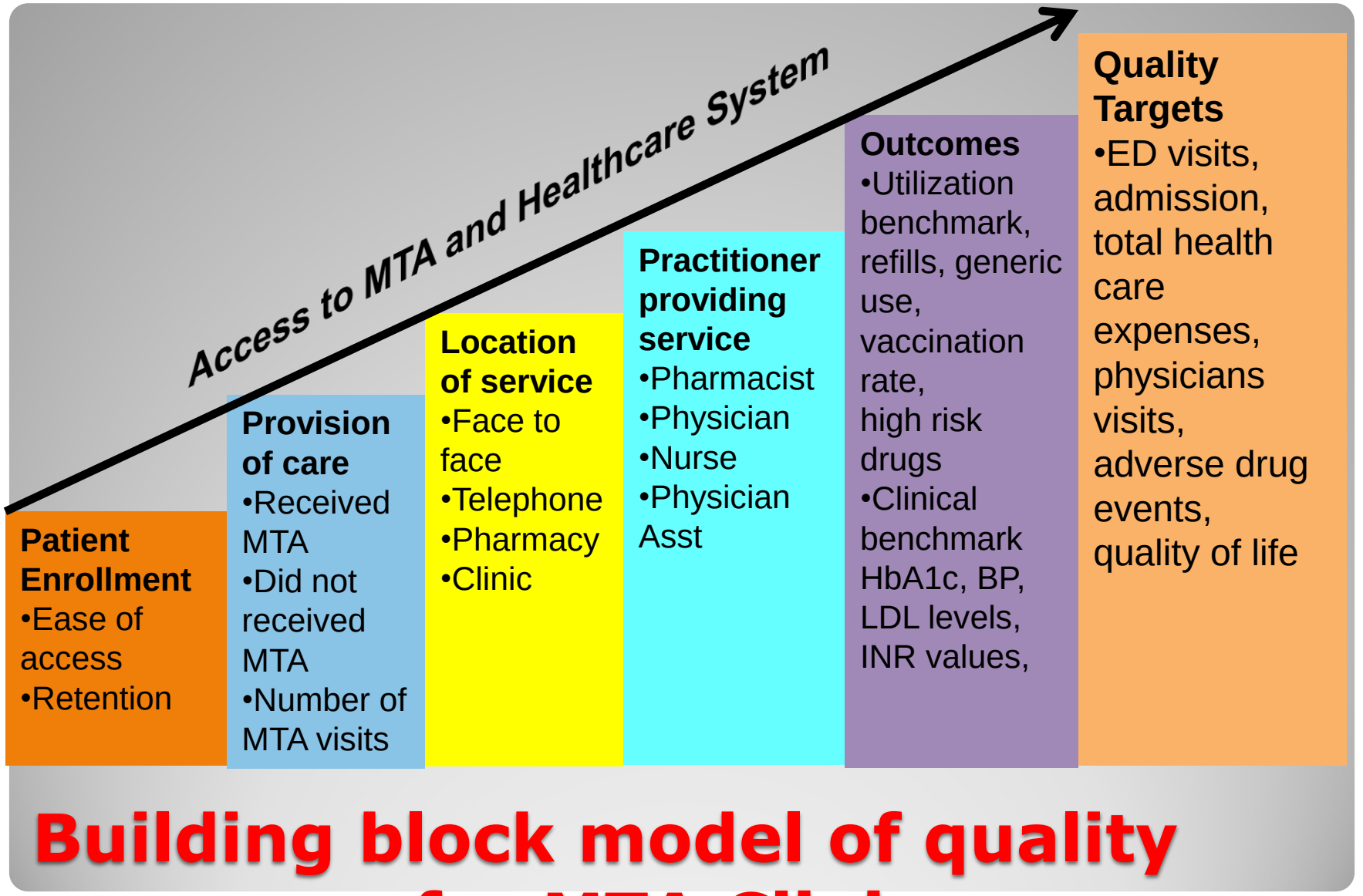
- Helper, DD and Strand, LM, AJPE 1989

Pharmacy Practice Research

- A useful definition of pharmacy practice research has been provided by the King's Fund (1997), which describes it as research which attempts
  - to inform and understand pharmacy and the way in which it is practised,
  - to support the objectives of pharmacy practice
  - to ensure that pharmacists' knowledge and skills are used to best effect in solving the problems of the health service and
  - On meeting the health needs of the population.[1]

- As the area of pharmacy concerned with the science and practice of rational medication use.
  I. Embraces the philosophy of pharmaceutical care
  II. Blends a caring orientation with specialized therapeutic knowledge, experience and judgement for the purpose of ensuring optimal patient outcomes
  III. Has the obligation to contribute to the generation of new knowledge that advances health and quality of life
    - ACCP: Pharmacotherapy 2008;28(6):816-817

Clinical Pharmacy



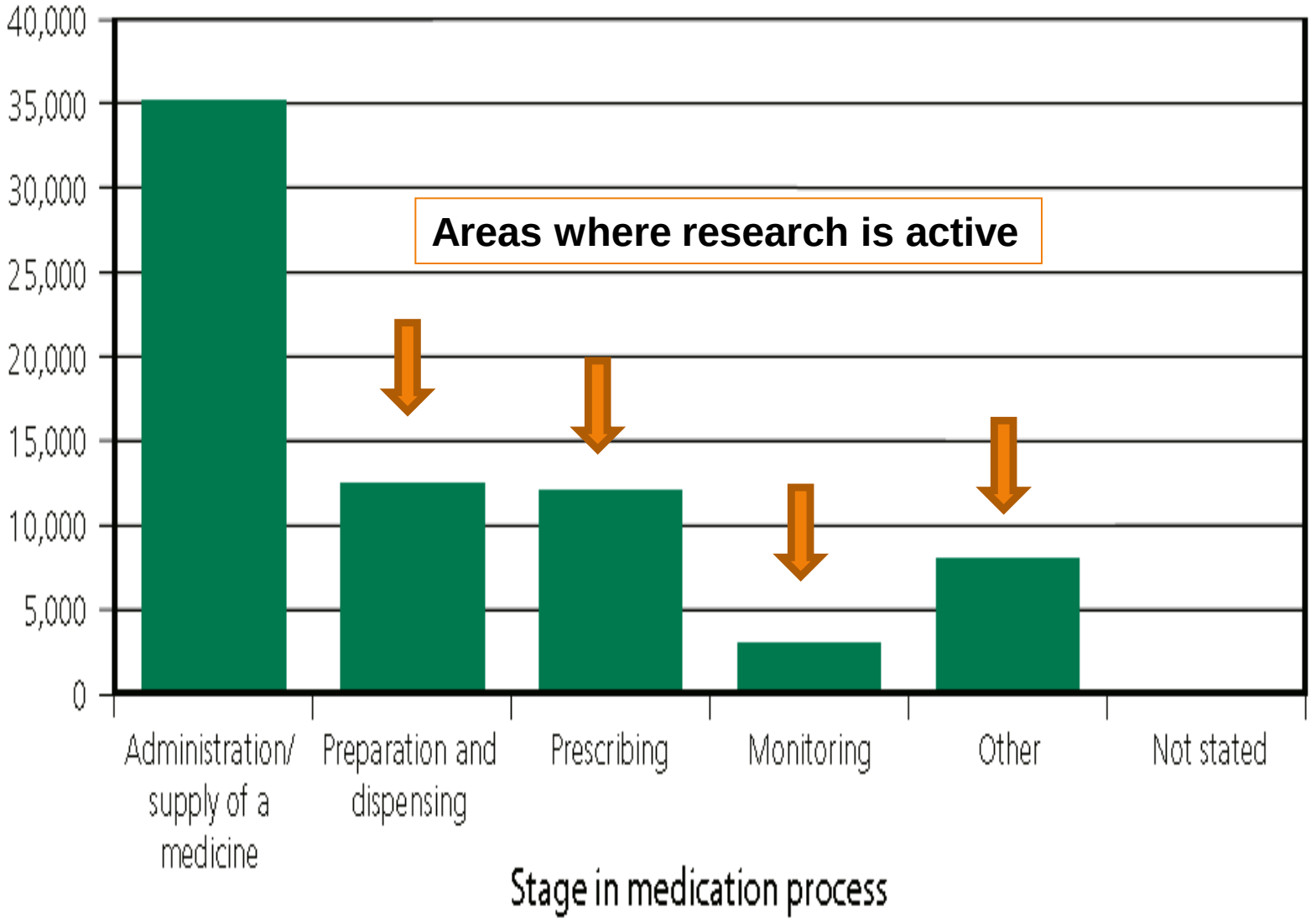
Building block model of quality measures for MTA Clinic

- **Definition**
- **"the clinical, cost-effective and safe use of medicines to ensure that patients get the maximum benefit from the medicines they need, while at the same time minimizing potential harm"**
  - RPSGB Research Policy

Health Policy and Medicines

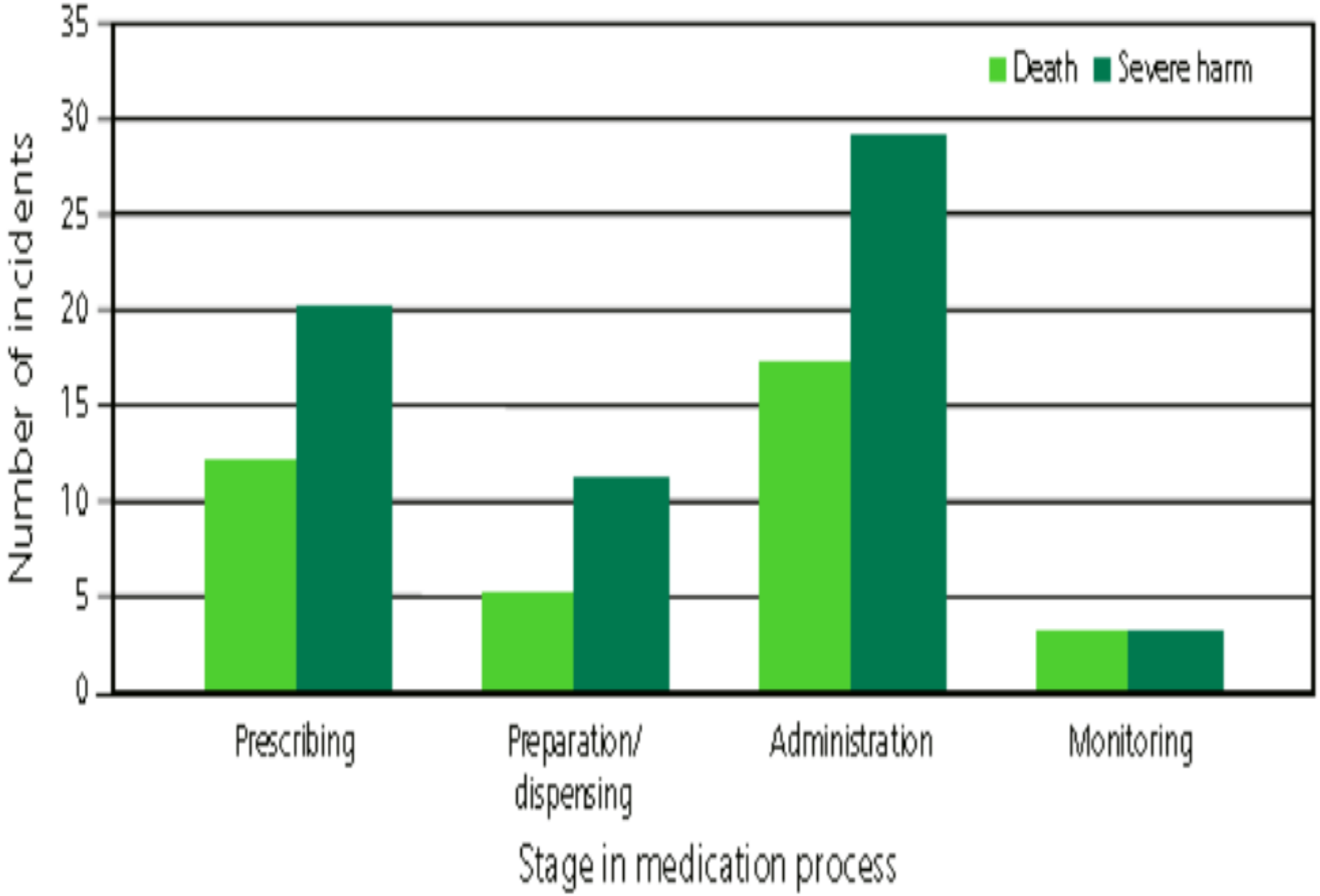
Study type	N(%) - poster	N(%) - clinical	N(%) - practice	N(%) -others	All
Audit/DUE/ Pharmaco-epidemiology	8 (22.2)	4 (16.0)	4 (14.8)	2 (7.7)	18 (15.9)
Service evaluation (provider)	7 (19.4)	2 (8.0)	8 (29.6)	11 (42.3)	27 (23.9)
Service evaluation (patient)	15 (41.7)	1 (4.0)	5 (18.5)	10 (38.5)	31 (27.4)
Outcome/others	6 (16.7)	18 (72.0)	10 (37.0)	3 (11.5)	37 (32.7)
Total	36	25	27	25	

TYPES OF RESEARCH IN R&D 2014


40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Areas where research is active
Administration/ supply of a medicine
Preparation and dispensing
Prescribing
Monitoring
Other
Not stated
Stage in medication process

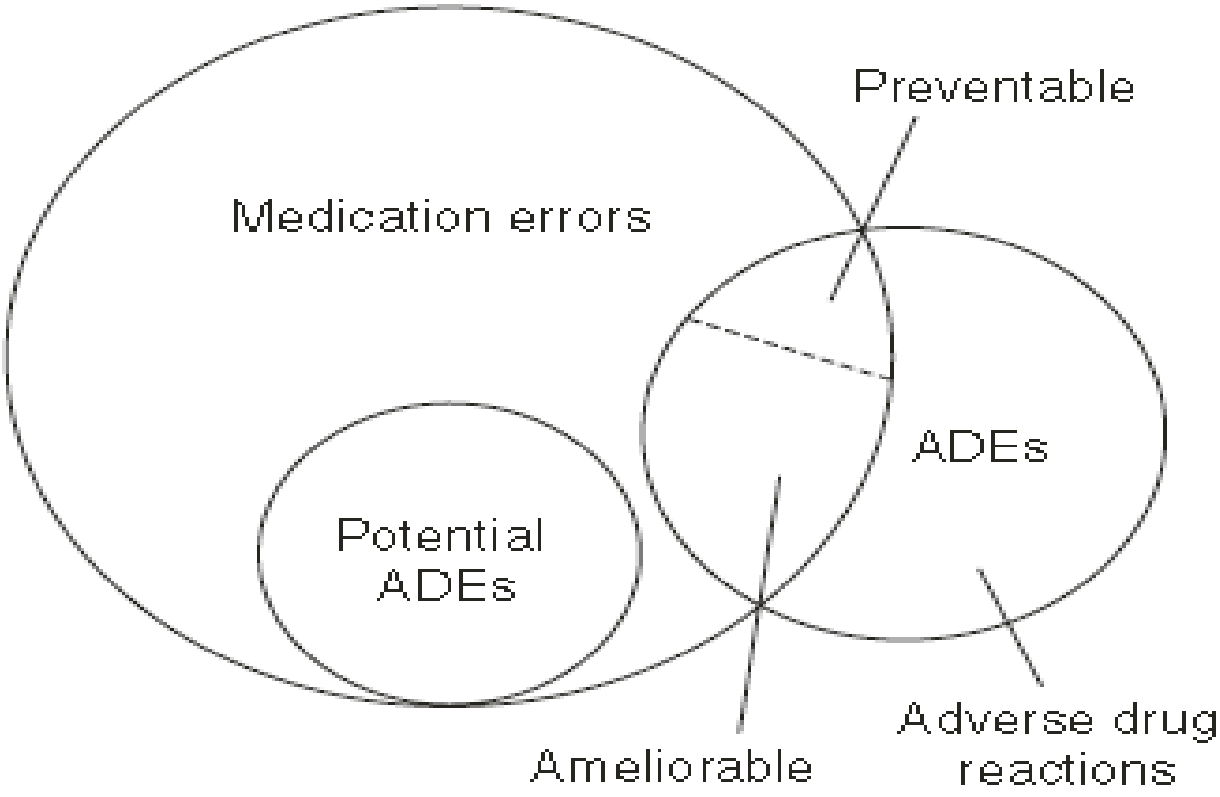
Medication incidents by stage of medication process of all settings.

Stage in the medication process	Total	Percentage
Administration/supply of a medicine	35,982	50
Preparation and dispensing	12,726	18
Prescribing	11,819	16
Monitoring	3,253	5
Other	8,699	12
Not stated	3	<1
Total	72,482	100


35
30
25
20
15
10
5
0
Number of incidents
Death
Severe harm
Prescribing
Preparation/ dispensing
Administration
Monitoring
Stage in medication process

Medication incidents that report death and severe harm by stage of medication process.

Stage	Death	Severe harm	Total
Prescribing	12	20	32
Preparation/dispensing	5	11	16
Administration	17	29	46
Monitoring	3	3	6
Total	37	63	100



Relationship between adverse drug events (ADEs), potential ADEs, and medication error. Adapted from (Morimoto, 2004).

Administration errors

- Numerous studies on medication administration error focus on error rates using Total Opportunity for Error (TOE) as the denominator and used prospective observational method described a greatly varied error rate.(Keers, Williams, Cooke, & Ashcroft, 2013)
- Studies on medication administration error in developed countries (UK, US, Spain, France) range from 4.9% to 28.3% if wrong time error rate was considered.

Administration errors

- Maricle et al reported 74 errors from a total of 1514 doses of administered medicine.
- The main error type according were wrong technique (34%), inaccurate time(32%) and omission (19.5%).
- Result of Ghaleb et al from UK was consistent with Barker et al from US - reported 19% of error rate.
- Ghaleb et al reported the wrong rate of intravenous administration as the common error (Ghaleb, Barber, Franklin, & Wong, 2010) while Barker stated the most error was wrong time (43%) (Barker, Flynn, Pepper, et al., 2002).

- Wrong time error(WTE) was excluded, the reductions on the error rate were seen in all studies.
- Eg,Barker et al, Poon et al, Maricle et al and Poon et al reported error rate without wrong time error was 11.5% compare with 28.3% error rate with wrong time error(Poon et al., 2010)

Administration errors

Administration errors

- Local result from Chua et al, the error rate - Chua et al reported 11.4% errors from total of 1118 opportunities for error(S S Chua, Tea, & Rahman, 2009).
  - This error rate decreased to 8.7% only when incorrect time was excluded.
- In pediatric setting, the error rate is reduced from 11.7% to 7.8% for the same situation (Siew Siang Chua, Chua, & Omar, 2010).

Administration errors

- Other study reported corticosteroid as the most drug involve in error.
- In Ethiopia had reported antibiotics as a common drugs involved in error (Agalu, Ayele, Bedada, & Woldie, 2012).
- Frequency of Malaysian hospital of medication administration error is likely to be like the error rate in developed countries????

Department-adult wards	N(%)	Error(%)
Medical	453(34.5)	113(25.3)
Orthopedic	291(22.2)	126(28.3)
Surgical	569(43.3)	207(46.4)
Total	1313 (100)	Overall errors 446 (33.97)

LOCAL DATA-ADMINISTRATION ERROR

- As a pharmacist, our research should be
  - About real issues that affect pharmacists and the patients we see every day
  - To meet the policy aspirations for the pharmacy profession
  - To lead pharmacist in the direction pharmacist wish to take it

Pharmacy Practice Research

THANK YOU

WASSALAM