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Prevention of Medical Errors: Findings of the Threats to Australian Patient Study (TAPS)

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TAPS Project

- A study of errors in Family Practice from the perspective of family doctors
- First study in the world to describe and quantify the types of errors recognised by family doctors



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TAPS GP Participants

- Random sample of 320 GPs
- 84 participants:
 - 41 large city practice
 - 21 regional cities
 - 22 from rural/remote locations



TAPS Reporting Methods

- Asked doctors to report errors noted over a 12 month period
- Doctors made their reports of errors on-line
- Highly secure website was developed with a network security engineer
- Reports were all anonymous



Definition of Error

Errors are events in your practice that make you conclude: *'that was a threat to patient well-being and should not have happened. I don't want it to happen again'*.

Such an event affects or could affect the quality of care you give your patients. Errors may be large or small, administrative or clinical, and actions may have been taken or not taken. Errors may or may not have discernable effects on patients.

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Threats to Australian Patient Safety

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TAPS Results

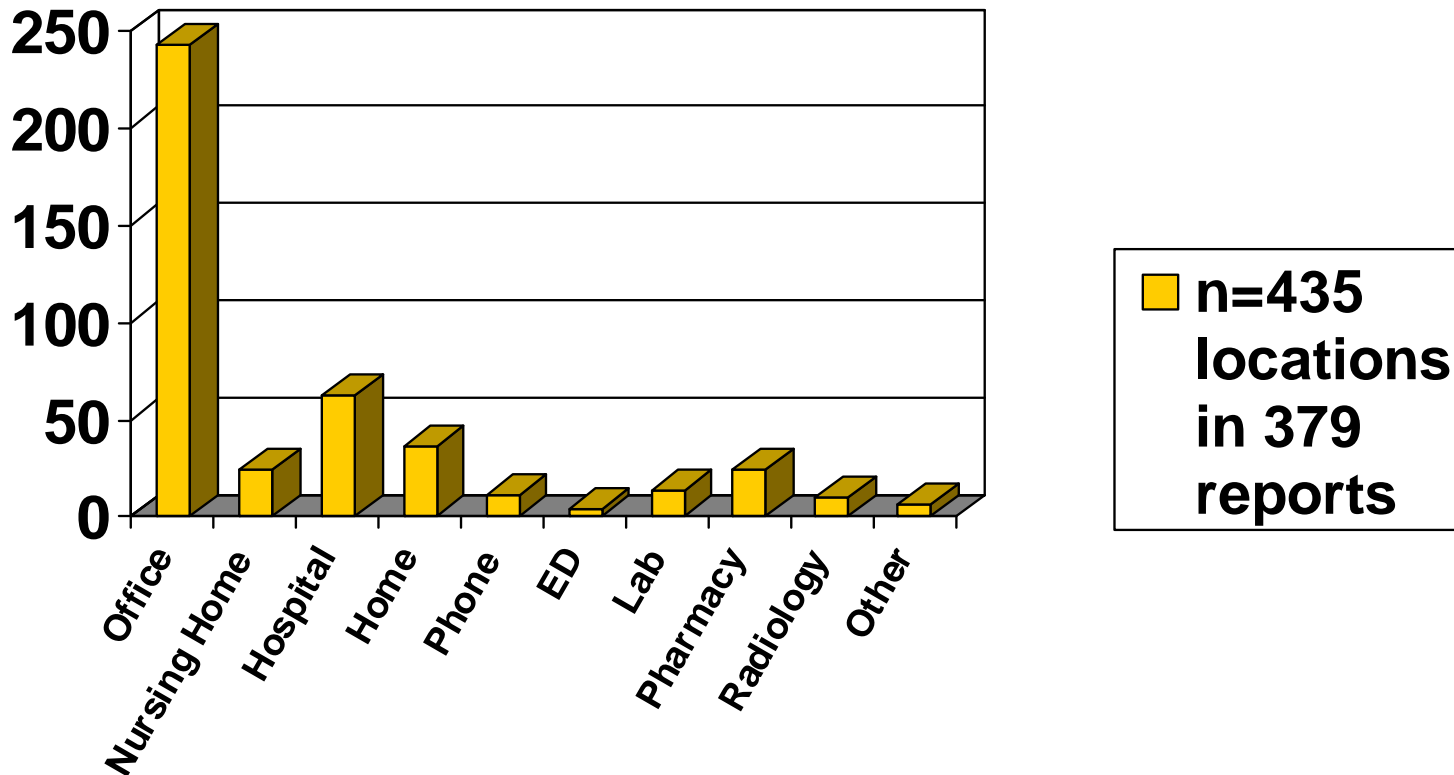
- 648 error reports
- 82 of 84 participants made reports

- Incidence of reports was 1 report per 1,000 patients seen



TAPS Results at August 2004

Error reports by location





TAPS Case study... patient's home

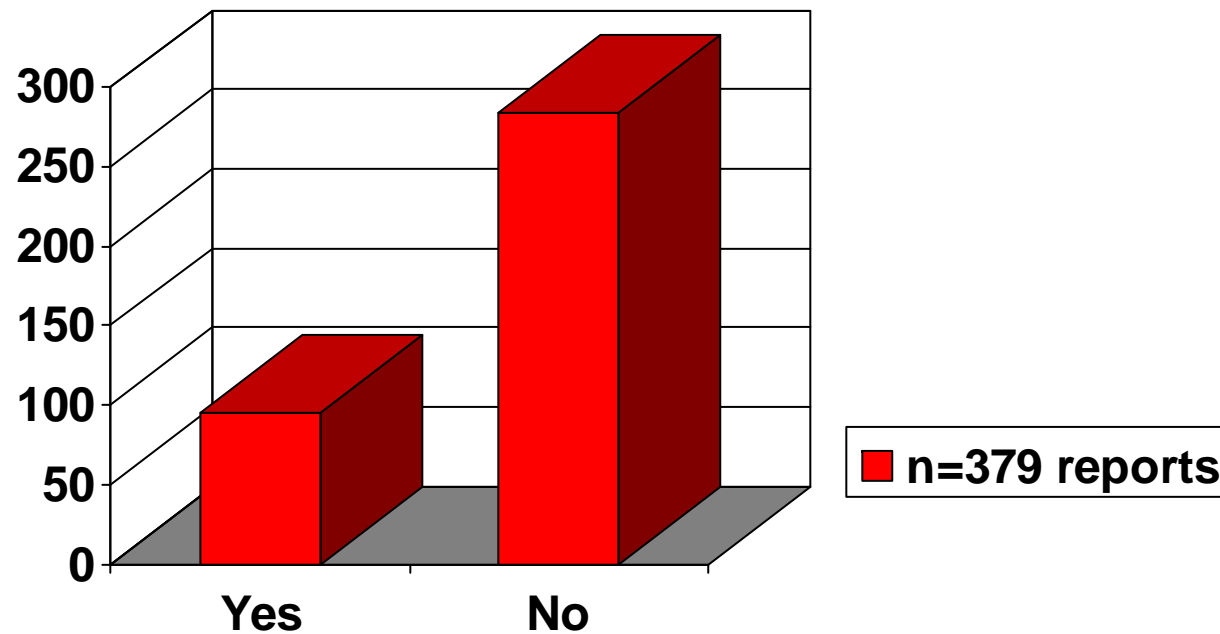
A GP visited an elderly patient at home, and decided to prescribe oral Daktarin Gel for thrush. The patient's INR was routinely checked 1 week later and was found to be 12.5. The patient was experiencing some PR bleeding, and had to be transferred to hospital for IV Vitamin K.

The GP identified that failing to rigorously check for drug interactions and the absence of their computer prescribing software in the home visit setting contributed to the error.



TAPS Results

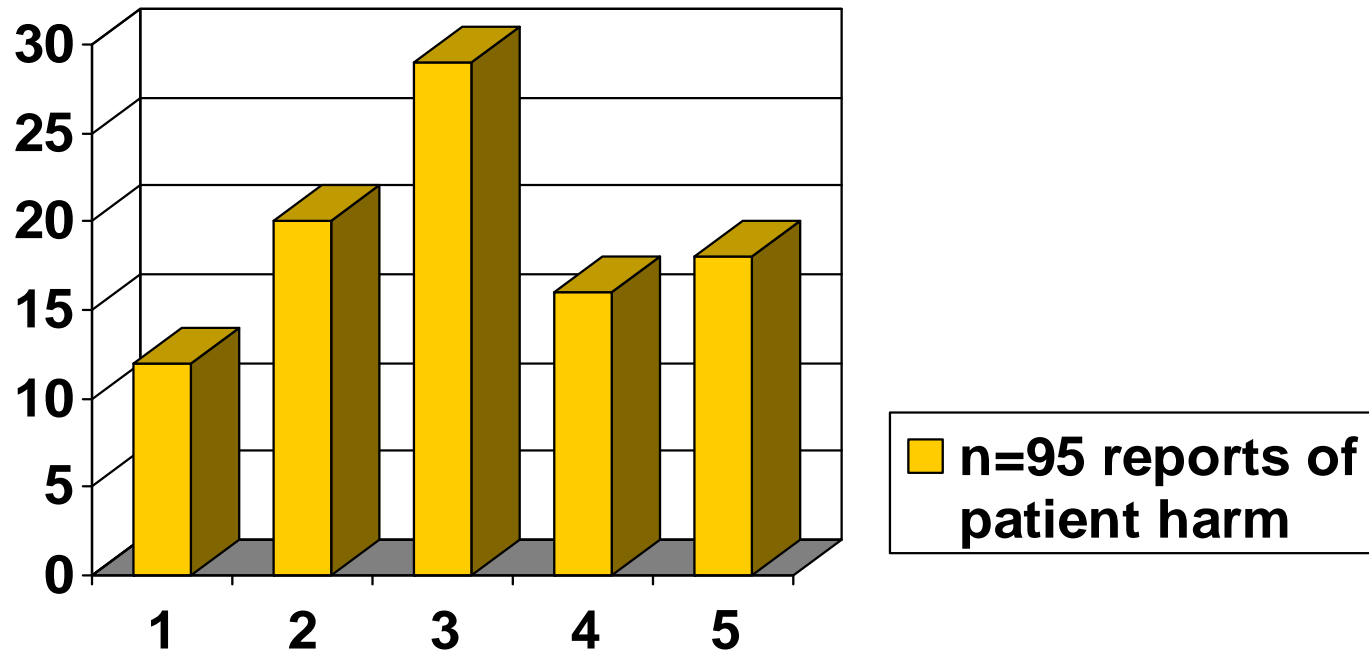
Error reports by patient harm





TAPS Results

Number of patients by degree of harm
(1 = not serious, 5 = very serious)





TAPS Case study... serious harm

A patient on warfarin therapy was commenced on a new treatment for cancer by their specialist physician. The GP was unaware of the changed medication regime, and there was a communication failure between the patient and specialist regarding the need for an earlier than usual INR. When it was tested “routinely” some weeks later, it was 6.3. The patient died 48 hours later from an intracranial haemorrhage.

The GP identified that multiple health professionals being involved could have contributed to the error.



TAPS analysis methods

○ Quantitative analysis

- using insurance data about participating GPs
- number of patient encounters over the study
- incidence estimates

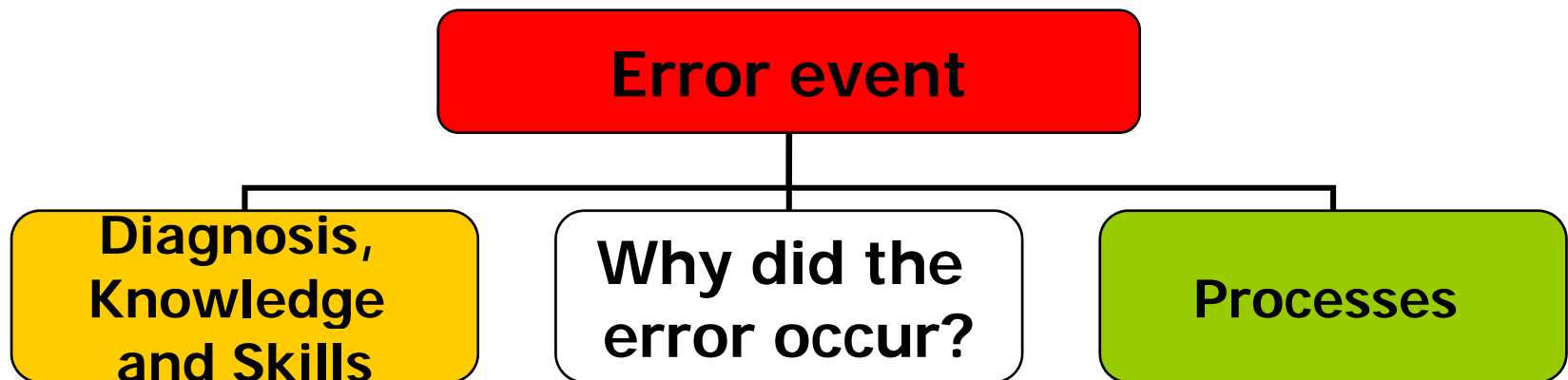
○ Descriptive analysis

Classification of error types

- Development of an error taxonomy
- International Classification of Primary Care (ICPC-2) adaptation for error coding



Descriptive Analysis of error event using ICPC



di

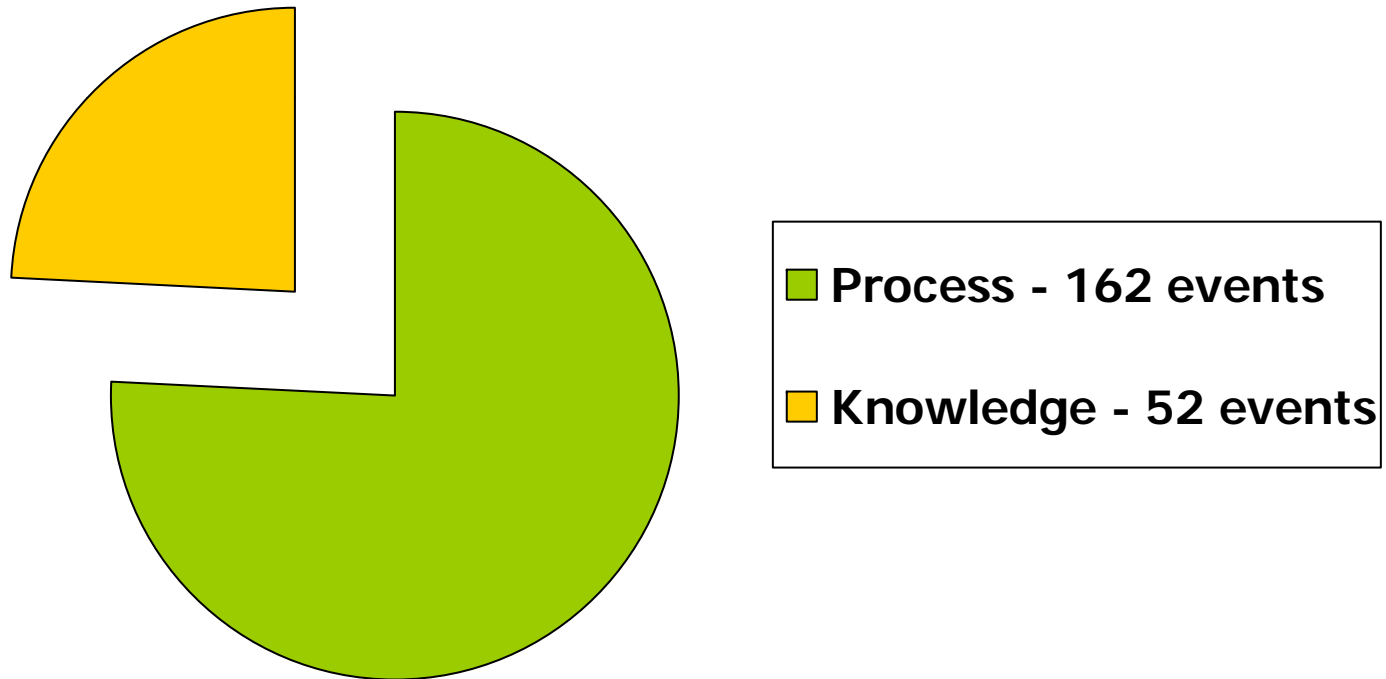
diagnostic incident

pi

process incident



Knowledge vs Process errors





TAPS Case study... public health risk

A GP went to administer a meningococcal C vaccine to a patient. The vaccine had been supplied in bulk, with a single box containing vials of both active vaccines and diluents. The GP noticed that there were more vials of active vaccine left than diluent, and realised therefore that a previous patient must have only been administered diluent, leaving out the active ingredient of the vaccine and thus not being immunised.

The GP identified that the packaging having been changed from individually packaged pairs of vaccine and solvent to a bulk supply contributed to the error.



TAPS Case study... medication process

A patient with nausea was prescribed Maxalon by their GP. After excessive drowsiness for about three days, they checked the medication with their local pharmacist, who realised the patient had accidentally been dispensed Mogadon instead of Maxolon.

The reporting GP suggested that a lack of attention to detail by the pharmacist with similar spellings of the drug names probably contributed to the error.



TAPS – a new way of looking at error

- Looking at errors from the General Practice setting lets us understand how and why serious patient safety threats occur in Primary Care.
- Improved GP research capacity through new IT methods with ease of use for clinicians
- Major implications for health policy and practice
- The TAPS model provides a system for GPs to discuss errors in primary care – cultural change



Lessons for preventing knowledge and skills errors

- Allow adequate time for difficult consultations, and ask patients to return for a longer appointment if inadequate time has been allocated.
- Avoid 'corridor' and phone consultations where appropriate physical examination cannot be readily undertaken.



Lessons for preventing knowledge and skills errors

- If checking investigation results before a report is available, be vigilant in checking that your diagnosis was consistent with the final report.
- Make use of decision support software such as drug interaction warnings.
- Maintain your clinical knowledge and skills across the breadth of general practice with a variety of continuing education activities.



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Lessons for preventing medical record and filing system errors

- Ensure that practice administrative staff always check and update patient details on arrival.
- Ensure the correct patient is listed on the practice appointments system.
- Check that the correct patient file is open as you commence each consultation.
- Avoid using a combination of paper and computer records simultaneously; it is best to update the computer record and cease using the paper record.



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Lessons for preventing medical record and filing system errors

- Always update any changes to the patient's electronic medical record after a home visit or other visit outside the surgery.
- Always make adequate notes about patient management during each consultation.
- If a patient's medical record is sent to another practice, always ensure that you keep a copy.



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Lessons in preventing message and appointment errors

- Educate reception staff on recognizing urgent medical presenting complaints
- Avoid responding to messages from patients with medical management plans that need to be relayed verbally by reception staff
- Avoid messages systems based on slips of paper left on desks or in-trays with no copies



Lessons in preventing message and appointment errors

- Keep a written record of tasks to be completed each day and messages received and responded to, preferably on an electronic system
- Establish boundaries around responding to phone requests and ensure that these are clearly understood by reception staff



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Lessons in preventing errors in the process of providing treatment

- Ensure your practice has clear written protocols on practice systems such as sterilization, and ensure that all GPs and other staff in the practice have an awareness and understanding of these protocols.
- Ensure your practice performs routine audits of the refrigerator and stocking room to ensure that all items are labeled correctly and can be accessed conveniently and safely by staff and that any expired stock is removed.



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Lessons in preventing errors in the process of providing treatment

- Avoid physically separating the active ingredient and diluent of vaccines that require re-constitution in the refrigerator where they are stored – when possible choose products where all ingredients for vaccines requiring reconstitution are presented in a single dose package.
- Keep your practice's physical environment, including chairs, flooring, and examination couches, well maintained.



Lessons for preventing errors in the management of acutely ill people

- All GPs should maintain their emergency life support skills
- Ensure all staff in your general practice are trained in basic CPR
- Display a CPR protocol or poster in your practice waiting area
- Do not attempt procedures such as intubation unless you are properly trained and have kept your skills up to date – remember that a bag and mask can effectively maintain a person's airway whilst an ambulance is called



Lessons for preventing errors in the management of acutely ill people

- Take the time required to adequately assess all people presenting to your practice with symptoms of potentially life-threatening conditions such as chest pain, respiratory distress, abdominal pain or head injury
- Be vigilant in the maintenance of your practice's emergency life support equipment – have a staff member assigned to its routine checking and ensure that you have a protocol for reviewing the maintenance of equipment and that the protocol is followed and documented



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Lessons in preventing errors relating to investigation processes

- Ensure the investigation you are requesting, or the report upon which you are acting, corresponds to the correct patient
- Be vigilant in your practice system of checking and acting on all investigation results.
- Use recall and reminder systems in your practice to follow-up outstanding investigation results from other providers and appropriately act upon all abnormal results that you receive



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Lessons in preventing errors relating to warfarin therapy

- Patient education on commencing warfarin is an important responsibility of the clinician who initiates therapy. When therapy commences in hospital, GPs should also reinforce messages relating to safety and monitoring
- Clinicians and patients should clearly record warfarin dosages and INR levels in medical records, which may be electronic, and a patient's personal diary



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Lessons in preventing errors relating to warfarin therapy

- Details of when the next INR is due should be discussed with the patient at the same time as the latest result and any dosage change is discussed
- INR results and warfarin dosages should be communicated to the patient on the day of the testing, and patients and their carers should be educated to follow up with their treating doctor if this does not occur



Lessons in preventing errors relating to warfarin therapy

- Clinicians must always check for possible interactions or contraindications if a new medication is commenced by a patient taking warfarin
- Hospital discharges involving warfarin should be carefully planned and clearly communicated with the patient and their GP prior to discharge
- Point of care INR testing at the GP's own surgery is encouraged



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Lessons in preventing errors relating to warfarin therapy

- Message systems in the practice should ensure that the GP's instructions have been clearly received and carried out and that the GP receives confirmation after the result is communicated to the patient
- Patient contact details must be kept up to date so that an abnormal INR result can be quickly communicated