Page 1: Introduction

Background

Thank you for agreeing to help rate the severity of potential consequences which could arise from the following medication errors. These results will be used to assess our newly developed system to score the potential consequences of medication errors. If this new system is found to be effective, it could be a very useful tool for researchers and may be used in future studies.

On the following pages are brief descriptions of 10 errors which resulted in patients not receiving their medication as intended. As a full clinical history is not available for each patient, please use your judgement to rate the **potential clinical significance** for a **typical patient** in each situation. You are welcome to look anything up if you wish but you do not need to.

We have asked staff from different disciplines to take part, so that a wide range of health care professionals are represented. Your responses are therefore important, so please rate the cases yourself.

Information regarding saving

Please note that the **survey is not saved automatically**. When you have rated all the incidents, please click the **finish button** at the end of the last page, otherwise your answers will not be saved. If you wish to save your responses and finish the survey later, please click on the finish later option at the bottom of each page. This will take you to a new page with a link you can save to come back to your partly completed survey.

This project has been reviewed by the University of Bath Ethical Implications of Research Activity process. All individual responses will be stored securely and confidentially at the University of Bath and will not be shared outside of the research team. We will delete identifiable data a few weeks after data collection, when it is no longer needed. We will keep non-identifiable data indefinitely for research purposes. This storage of data will be done in accordance with GDPR. <u>The University of Bath privacy notice can be found here</u>. Your responses will be pooled with those of other health care professionals to produce an average score for each case which may be published in research journals or at conferences.

Please complete all your responses as soon as possible and by the 20th December 2021 at the latest.

If you have any questions, please do not hesitate to contact us at errorscoringsystem@gmail.com. Alternatively you can contact our supervisor, Dr Matthew Jones (Senior Lecturer), at prpmdj@bath.ac.uk.

Many thanks for your help. Best wishes,

Cathy Chan,

Emily Samson,

Rached Al Atassi,

Rahel Kahsay,

Zivile Jurjonaite.

- Final year pharmacy students

Page 2: Consent to take part

If you have read the information on the previous page and agree to take part with the understanding that the data (including any personal data) you submit will be processed accordingly, please select the box below to get started. ***** *Required*

○ I agree to take part

Page 3: Information regarding the scoring systems

Introduction to scoring systems

Please could you rate the potential consequences of each of the following errors using **both** of the scoring systems provided after the description of each error.

Detailed descriptions of the scoring systems are as follows:

Scoring System 1: Interval Scale

This rating scale runs from 0 to 10, with 0 being an error which will have no effects on the patient, and 10 resulting in patient death.

Please select the appropriate box to indicate your rating for each error:

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (death)
Potential consequence											

Scoring System 2: Percentage Probability

The NPSA defines five levels of medication error severity (known as 'consequence descriptors'), as follows:

NPSA Consequence Descriptor	NPSA Definition			
Negligble	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.			
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.			
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered with potential adverse effects.			
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered with adverse effects.			
Catastrophic Incident leading to death. Multiple permanent injuries or irreversible health effects.				

You will be asked to give your opinion of how likely each of these five levels of consequence are as a result of that error. To do this, you need to give a percentage probability for each consequence descriptor - and of course your five percentages should add up to 100%. Very small percentages (e.g., <1%) can be allocated if you think this is appropriate

For example, a relatively minor error such as dispensing one-week expired paracetamol tablets might be scored as follows:

Negligible	Minor	Moderate	Major	Catastrophic	Total
99%	1%	0%	0%	0%	100%

But a more major error, such as failing to respond to very high gentamicin levels might be scored as follows:

Negligible	Minor	Moderate	Major	Catastrophic	Total
0%	25%	50%	24.5%	0.5%	100%

Page 4: Error 2

Please read over the following medication error and attempt to score the error's severity using the 2 presented systems.

An elderly patient was prescribed enteric coated aspirin 75mg once daily. One dose was omitted.

Scoring System 1

Please could you rate the potential clinical significance of this incident. The rating scale runs from zero to ten, where zero should be given if the incident will have no effects on the patient and ten should be given if the incident would result in death.

Select the appropriate box to indicate your rating for this incident. As a full clinical history is not available for this patient, please use your judgement to rate the potential clinical significance for a typical patient in this situation.

Please select the appropriate box to indicate your rating for this incident.

Please don't select more than 1 answer(s) per row.

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (Death)
Potential consequence	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г	Γ

Scoring System 2

NPSA consequence descriptor	NPSA definition
Negligible	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered, with potential adverse effects.
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered, with adverse effects.

Catastrophic	Incident leading to death.
	Multiple permanent injuries or irreversible health effects.

	Potential clinical significance (as a %)
Negligible	
Minor	
Moderate	
Major	
Catastrophic	

A patient was prescribed six doses of oral folinic acid (15mg three times a day) as rescue therapy following methotrexate treatment. The patient instead received six doses of folic acid 15mg.

Scoring System 1

Please could you rate the potential clinical significance of this incident. The rating scale runs from zero to ten, where zero should be given if the incident will have no effects on the patient and ten should be given if the incident would result in death.

Select the appropriate box to indicate your rating for this incident. As a full clinical history is not available for this patient, please use your judgement to rate the potential clinical significance for a typical patient in this situation.

Please select the appropriate box to indicate your rating for this incident.

Please don't select more than 1 answer(s) per row.

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (Death)
Potential consequence	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г

Scoring System 2

NPSA consequence descriptor	NPSA definition
Negligible	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered, with potential adverse effects.
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered, with adverse effects.

Catastrophic	Incident leading to death.
	Multiple permanent injuries or irreversible health effects.

	Potential clinical significance (as a %)
Negligible	
Minor	
Moderate	
Major	
Catastrophic	

A patient was prescribed soluble insulin 10 units every six hours. This was initially interpreted as 10ml (1000 units), but the mistake was realised and the injection stopped after 2ml (200 units) had been given.

Scoring System 1

Please could you rate the potential clinical significance of this incident. The rating scale runs from zero to ten, where zero should be given if the incident will have no effects on the patient and ten should be given if the incident would result in death.

Select the appropriate box to indicate your rating for this incident. As a full clinical history is not available for this patient, please use your judgement to rate the potential clinical significance for a typical patient in this situation.

Please select the appropriate box to indicate your rating for this incident.

Please don't select more than 1 answer(s) per row.

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (Death)
Potential consequence	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г

Scoring System 2

NPSA consequence descriptor	NPSA definition
Negligible	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered, with potential adverse effects.
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered, with adverse effects.

Catastrophic	Incident leading to death.
•	Multiple permanent injuries or irreversible health effects.

	Potential clinical significance (as a %)
Negligible	
Minor	
Moderate	
Major	
Catastrophic	

Page 7: Error 15

Please read over the following medication error and attempt to score the error's severity using the 2 presented systems.

A patient prescribed 5mg morphine IV was given intravenously 5mg of Oramorph (oral morphine solution 10mg/5ml) solution.

Scoring System 1

Please could you rate the potential clinical significance of this incident. The rating scale runs from zero to ten, where zero should be given if the incident will have no effects on the patient and ten should be given if the incident would result in death.

Select the appropriate box to indicate your rating for this incident. As a full clinical history is not available for this patient, please use your judgement to rate the potential clinical significance for a typical patient in this situation.

Please select the appropriate box to indicate your rating for this incident.

Please don't select more than 1 answer(s) per row.

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (Death)
Potential consequence	Г	Г	Г	Г	Г	Γ	Г	Г	Г	Г	Γ

Scoring System 2

NPSA consequence descriptor	NPSA definition
Negligible	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered, with potential adverse effects.
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered, with adverse effects.

	Incident leading to death.
Catastrophic	Multiple permanent injuries or irreversible health effects.

	Potential clinical significance (as a %)
Negligible	
Minor	
Moderate	
Major	
Catastrophic	

An elderly patient prescribed paracetamol suspension 250mg/5ml in a dose of 10ml (500mg) every six hours was given one dose of 20ml (1g).

Scoring System 1

Please could you rate the potential clinical significance of this incident. The rating scale runs from zero to ten, where zero should be given if the incident will have no effects on the patient and ten should be given if the incident would result in death.

Select the appropriate box to indicate your rating for this incident. As a full clinical history is not available for this patient, please use your judgement to rate the potential clinical significance for a typical patient in this situation.

Please select the appropriate box to indicate your rating for this incident.

Please don't select more than 1 answer(s) per row.

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (Death)
Potential consequence	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г	Γ

Scoring System 2

NPSA consequence descriptor	NPSA definition
Negligible	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered, with potential adverse effects.
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered, with adverse effects.

	Incident leading to death.
Catastrophic	Multiple permanent injuries or irreversible health effects.

	Potential clinical significance (as a %)
Negligible	
Minor	
Moderate	
Major	
Catastrophic	

One dose of oral diltiazem 60mg was omitted in a newly admitted patient with angina who normally took the drug three times a day.

Scoring system 1

Please could you rate the potential clinical significance of this incident. The rating scale runs from zero to ten, where zero should be given if the incident will have no effects on the patient and ten should be given if the incident would result in death.

Select the appropriate box to indicate your rating for this incident. As a full clinical history is not available for this patient, please use your judgement to rate the potential clinical significance for a typical patient in this situation.

Please select the appropriate box to indicate your rating for this incident.

Please don't select more than 1 answer(s) per row.

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (Death)
Potential consequence	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г	Γ

Scoring system 2

NPSA consequence descriptor	NPSA definition
Negligible	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered, with potential adverse effects.
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered, with adverse effects.

	Incident leading to death.
Catastrophic	Multiple permanent injuries or irreversible health effects.

	Potential clinical significance (as a %)
Negligible	
Minor	
Moderate	
Major	
Catastrophic	

Page 10: Error 37

Please read over the following medication error and attempt to score the error's severity using the 2 presented systems.

A patient prescribed vancomycin 1g IV twice daily was given one of the doses as a bolus rather than by infusion.

Scoring system 1

Please could you rate the potential clinical significance of this incident. The rating scale runs from zero to ten, where zero should be given if the incident will have no effects on the patient and ten should be given if the incident would result in death.

Select the appropriate box to indicate your rating for this incident. As a full clinical history is not available for this patient, please use your judgement to rate the potential clinical significance for a typical patient in this situation.

Please select the appropriate box to indicate your rating for this incident.

Please don't select more than 1 answer(s) per row.

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (Death)
Potential consequence	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г	Γ

Scoring system 2

NPSA consequence descriptor	NPSA definition
Negligible	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered, with potential adverse effects.
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered, with adverse effects.

	Incident leading to death.
Catastrophic	Multiple permanent injuries or irreversible health effects.

	Potential clinical significance (as a %)
Negligible	
Minor	
Moderate	
Major	
Catastrophic	

Page 11: Error 38

Please read over the following medication error and attempt to score the error's severity using the 2 presented systems.

A patient was prescribed gentamicin ear drops, two drops three times a day to the right ear, for the treatment of an ear infection shown to be sensitive to gentamicin. On the second day of treatment, one dose was administered to the left ear instead of the right ear.

Scoring system 1

Please could you rate the potential clinical significance of this incident. The rating scale runs from zero to ten, where zero should be given if the incident will have no effects on the patient and ten should be given if the incident would result in death.

Select the appropriate box to indicate your rating for this incident. As a full clinical history is not available for this patient, please use your judgement to rate the potential clinical significance for a typical patient in this situation.

Please select the appropriate box to indicate your rating for this incident.

Please don't select more than 1 answer(s) per row.

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (Death)
Potential consequence	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г

Scoring system 2

NPSA consequence descriptor	NPSA definition
Negligible	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered, with potential adverse effects.
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered, with adverse effects.

Catastrophic	Incident leading to death.
•	Multiple permanent injuries or irreversible health effects.

	Potential clinical significance (as a %)
Negligible	
Minor	
Moderate	
Major	
Catastrophic	

A patient prescribed cefotaxime 1g IV three times a day for post-partum pyrexia had a dose reconstituted with 10ml of 15% potassium chloride solution instead of 0.9% sodium chloride. The dose was then administered by bolus injection.

Scoring system 1

Please could you rate the potential clinical significance of this incident. The rating scale runs from zero to ten, where zero should be given if the incident will have no effects on the patient and ten should be given if the incident would result in death.

Select the appropriate box to indicate your rating for this incident. As a full clinical history is not available for this patient, please use your judgement to rate the potential clinical significance for a typical patient in this situation.

Please select the appropriate box to indicate your rating for this incident.

Please don't select more than 1 answer(s) per row.

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (Death)
Potential consequence	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г

Scoring system 2

NPSA consequence descriptor	NPSA definition
Negligible	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered, with potential adverse effects.
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered, with adverse effects.

Catastrophic	Incident leading to death.
•	Multiple permanent injuries or irreversible health effects.

	Potential clinical significance (as a %)
Negligible	
Minor	
Moderate	
Major	
Catastrophic	

A patient with oesophagitis was prescribed omeprazole (Losec) 20mg daily. For three days the patient received furosemide (Lasix) 20mg.

Scoring system 1

Please could you rate the potential clinical significance of this incident. The rating scale runs from zero to ten, where zero should be given if the incident will have no effects on the patient and ten should be given if the incident would result in death.

Select the appropriate box to indicate your rating for this incident. As a full clinical history is not available for this patient, please use your judgement to rate the potential clinical significance for a typical patient in this situation.

Please select the appropriate box to indicate your rating for this incident.

Please don't select more than 1 answer(s) per row.

	0 (no effect)	1	2	3	4	5	6	7	8	9	10 (Death)
Potential consequence	Г	Г	Г	Г	Г	Г	Г	Г	Г	Г	Γ

Scoring system 2

NPSA consequence descriptor	NPSA definition
Negligible	Minimal injury requiring no/minimal intervention or treatment. Incorrect medication dispensed but not taken.
Minor	Minor injury or illness requiring minor intervention. Increase in length of hospital stay by 1–3 days. Wrong drug or dosage administered, with no adverse effects.
Moderate	Moderate injury requiring professional intervention. Increase in length of hospital stay by 4–15 days. Wrong drug or dosage administered, with potential adverse effects.
Major	Major injury leading to long-term incapacity/disability. Increase in length of hospital stay by >15 days. Mismanagement of patient care with long-term effects. Wrong drug or dosage administered, with adverse effects.

	Incident leading to death.
Catastrophic	Multiple permanent injuries or irreversible health effects.

	Potential clinical significance (as a %)
Negligible	
Minor	
Moderate	
Major	
Catastrophic	

Page 14: Conclusion and Thank You

Thank you for completing our follow up survey!

Best wishes

Cathy, Emily, Rached, Rahel and Zivile