

Box S1. Main threats to safe patient transitions from hospital to primary care settings identified in literature review (PubMed April 2018)

<p>Keywords used in search: "Patient safety", "safety", "transitions of care", "patient transitions", "patient discharge", "incident" and "safety incident"</p> <ul style="list-style-type: none"> • Keywords were combined with Boolean terms AND and OR during searches • Reference lists of relevant papers also searched for additional papers 	
<p>Discharge communication</p>	<ol style="list-style-type: none"> 1. Incorrect information on discharge letter 2. Missing information on discharge letter, including where a patient should attend for medical attention if they become unwell, severity of patient's condition or how urgently they needed to be assessed by their primary care doctor 3. Discrepancy between information given to patient or their relatives and their GP 4. Incorrect advice to patients or relatives 5. Lacking advice to patient or relatives 6. Illegible handwriting on discharge letter
<p>Medication provision</p>	<p><u>General Problems</u></p> <ol style="list-style-type: none"> 7. Incomprehensible documentation on prescriptions by secondary care doctors 8. Errors or missing information 9. Unclear instructions given to patient 10. Unclear instructions given to GP 11. Side effect profile not explained to patient 12. Drugs prescribed that interact with patients' other medications 13. Drugs prescribed which are contraindicated due to a patient's medical condition <p><u>Prescribing</u></p> <ol style="list-style-type: none"> 14. Incorrect dose 15. Incorrect medication 16. Incorrect formulations 17. Incorrect routes of administration <p><u>Monitoring</u></p> <ol style="list-style-type: none"> 18. Responsibility for monitoring not established 19. Appropriate monitoring not commenced 20. Doses not adjusted following monitoring <p><u>Dispensing errors</u></p> <ol style="list-style-type: none"> 21. Incorrect dose given 22. Incorrect medication given e.g. if similar names <p><u>Administration errors</u></p> <ol style="list-style-type: none"> 23. Incorrect medication administered 24. Incorrect dose administered 25. Medication received at incorrect time
<p>Medications considered to pose risks to patients</p>	<ol style="list-style-type: none"> 26. Warfarin 27. Insulin 28. Opiates 29. Antibiotics 30. ACE Inhibitors (ACEI) 31. Disease modifying anti-rheumatic drugs (DMARDS) 32. Clexane 33. Immunisations 34. NSAIDs 35. Steroids 36. Antiepileptic drugs
<p>Referrals to community care teams</p>	<ol style="list-style-type: none"> 37. Failures to recognise patients who would need community care 38. Failure to reinstate care packages 39. Poor assessment of patients and carers aptitude and dexterity for using therapeutic adjuncts

	<p>40. Incomplete referrals sent, or insufficient information provided to ensure safe provision of community care.</p> <p>41. Incorrect paperwork, pathway or referral method used</p>
Availability of therapeutic adjuncts and care equipment	<p>42. Urinary catheters</p> <p>43. Catheter bags</p> <p>44. Insulin needles</p> <p>45. Wound dressings</p> <p>46. Medication dispensing (dosette) boxes</p> <p>47. Sharps boxes</p>
Other problems	<p>48. Lack of preparation of patients or relatives for discharge</p> <p>49. Requests by secondary care teams inappropriately asking GPs to carry out tasks which are beyond the remit of primary care services (e.g. inappropriate requests to refer patients to other specialties or organising investigations)</p> <p>50. Requests for GPs to follow up outstanding hospital test results</p> <p>51. Poor arrangement of follow up plans</p>

Box S2. Delphi round 1 questionnaire: outline of free-text questions format (sent electronically using Qualtrics survey software (<http://www.qualtrics.com>))

DISCHARGE COMMUNICATION
<p>This category relates to problems with communication between secondary and primary care teams during a patient's discharge.</p> <p>In the space below, please list any problems which have occurred in your practice, related to communication between secondary and primary care teams during the discharge of patients following an inpatient stay, that have put patients at risk of harm.</p>
<p><i>Examples:</i> <i>Incorrect or missing information on a discharge letter</i> <i>Lack of information given to patient or relatives</i> <i>Instructions in discharge letter not followed or missed by primary care team</i></p> <p><i>If you cannot provide any examples, please write "not applicable" or "N/A" in the space below.</i></p>
High Risk Patient Groups
<p>In the space below, please list any patient groups who you feel are especially vulnerable to harm when problems occur in the communication between secondary and primary care teams following their discharge from hospital.</p> <p><i>You may wish to consider groups based on specific medical problems, age, gender, or social or ethnic backgrounds.</i></p> <p><i>If you cannot provide any examples, please write "not applicable" or "N/A" in the space below.</i></p>
MEDICATION PROVISION
<p>This category relates to problems that threaten the safe, ongoing provision of patients' medications following their discharge from hospital.</p> <p>Please list any problems which have occurred in your practice, related to the safe provision of medications during a patient's transition from secondary to primary care settings, which have put patients at risk of harm.</p>
<p><i>Examples:</i> <i>Prescription errors</i> <i>Inappropriate monitoring of patients on medications</i> <i>Patients unsure of how to take medications</i></p> <p><i>If you cannot provide any examples, please write "not applicable" or "N/A" in the space below.</i></p>
<p>Please list the medications, or groups of medications, which you have found in your practice to be most regularly associated with risks to patient safety during their transition from secondary to primary care settings</p>
<p><i>Examples:</i> <i>Opiates</i> <i>Warfarin</i> <i>Antibiotics</i></p> <p><i>If you cannot provide any examples, please write "not applicable" or "N/A" in the space below.</i></p>
High Risk Patient Groups

In the space below, please list any patient groups who you feel are **especially vulnerable** to harm when problems occur in the provision of medications for patients **transitioning from secondary to primary care settings** following their discharge from hospital.

You may wish to consider groups based on specific medical problems, age, gender, or social or ethnic backgrounds.

If you cannot provide any examples, please write "not applicable" or "N/A" in the space below.

REFERRALS

This category relates to the reliability of **referrals** made by clinical staff in secondary **or** primary care to other services, for ongoing patient care **following their discharge from hospital**.

Please list any problems which have occurred **in your practice**, related to referrals of patients to other services, which have put patients at risk of harm.

Examples:

Inappropriate referrals by secondary care teams to community nursing staff or health visitors

Referrals not made by primary care teams for follow up investigations as recommended by discharging secondary care team

If you cannot provide any examples, please write "not applicable" or "N/A" in the space below.

High Risk Patient Groups

In the space below, please list any patient groups who you feel are **especially vulnerable** to harm when problems occur in referrals to other services following patient transitions from **secondary to primary care services**.

You may wish to consider groups based on medical problems, age, gender, or social or ethnic backgrounds.

If you cannot provide any examples, please write "not applicable" or "N/A" in the space below.

AVAILABILITY OF THERAPEUTIC ADJUNCTS AND CARE EQUIPMENT

This category relates to the **availability of therapeutic adjuncts and care equipment** for patients following their discharge from hospital into primary care.

Please list any problems which have occurred **in your practice** related to problems in the provision of therapeutic adjuncts or care equipment, posing a potential, or actual, risk of harm to patients **following their discharge from hospital**.

Examples:

No provision of appropriate catheters

Equipment requested by secondary care teams not available in the community

If you cannot provide any examples, please write "not applicable" or "N/A" in the space below.

High Risk Patient Groups

In the space below, please list any patient groups who you feel are **especially vulnerable** to harm when problems occur in the provision of therapeutic adjuncts and care equipment during patient **transitions from secondary to primary care services**.

You may wish to consider groups based on medical problems, age, gender, or social or ethnic backgrounds.

If you cannot provide any examples, please write "not applicable" or "N/A" in the space below.

Box S3. Threats to safe patient transitions, patient groups considered most at risk and medications considered to pose the greatest risk to patients during transitions from hospital to primary care following analysis of Round 1 responses

Main Categories	Themes	Threats
Key threats to safe patient transitions from hospital to primary care settings	Communication between primary and secondary care teams	Poor quality of handover instructions from secondary care teams Key handover instructions not acted upon by primary care. Problems in sending and receiving discharge paperwork
	Collaboration between primary and secondary care teams	Unreasonable handover of workload from secondary to primary care teams Poor engagement with primary care services in patient discharge planning
	Communication with patients, relatives and carers	Poor information given to patients, relatives or carers on discharge from hospital
	Support for patients, relatives and carers in the home environment	Patients discharged before arrangements for care are in place at home or in the community.
	Medication safety	Unsafe provision or availability of medication Unsafe prescribing practices
Groups of patients considered at greatest risk of harm	Age	Children Elderly and Frail
	Medical factors	Cancer patients Complex patients on >5 meds Diabetic patients, including those newly started on insulin Drug addicts or those with alcohol dependency Heart failure patients Immunosuppressed patients Learning disabilities and cognitive disorders (including dementia) Orthopaedic patients Palliative care patients Patients on anticoagulants Patients requiring services such as physiotherapy following surgery Patients who are frequently admitted to hospital Patients who've had a recent change to their medication Patients with chronic kidney disease Patients with poor vision or hearing Pregnant women Psychiatric illness Stroke patients
	Social factors	Illiterate patients Low socio-economic status Non-English speakers, ethnic minorities and refugees Out of area discharges Patients being partly managed by private health services Patients who are new to the practice or unsure about the NHS health system Patients who live on boundaries of CCG catchment areas Patients with no fixed abode Patients with poor mobility Patients with poor understanding of their health conditions Socially isolated patients (including housebound)

		Vulnerable adults requiring social care support and safeguarding cases
Groups of medications considered to pose the greatest risk to patients		Antibiotics Anticoagulants (rivaroxaban, warfarin, clopidogrel, NOACs, DOACs) Anti-epileptic medications Antihypertensive medications (ACEi, ARB) Antipsychotics DMARDS Eye drops Hormone tablets initiated by gender reassignment clinics Hypoglycaemics and insulin Immunosuppressants Injectables Melatonin Pain medications (including opiates) Sedatives (including benzodiazepines) Statins Steroids (oral and topical) Unlicensed medications of various specialties