AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE

National Guidelines for On-Screen Presentation of **Discharge Summaries**

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1. Introduction

The clinical handover of a patient on discharge from hospital generally occurs using an electronic discharge summary (eDS). A discharge summary is a collection of information about events during care of a patient by a provider or organisation. The document is produced during a patient's stay in hospital as either an admitted or non-admitted patient, and issued when or after the patient leaves the care of the hospital. Clinical handover is a known area of risk for patient harm, particularly in the transition from acute care to the community setting. Discharge summaries are critical for ensuring well-coordinated and effective clinical handover because they are the primary communication mechanism between hospitals and primary healthcare providers.

In July 2012, the Australian Commission on Safety and Quality in Health Care (the Commission) was appointed by the System Operator to develop and manage a clinical safety program for the My Health Record system, which is a secure online summary of health information, personally controlled by individuals. Patients' discharge summaries can be added to their My Health Record.

As part of the Commission's clinical safety program, eight clinical safety reviews of the My Health Record system were completed. The fourth clinical safety review, conducted in 2014, included an end-to-end investigation of the accuracy and data quality of eDS. Although the review verified that the information presented in discharge summaries in My Health Record was transmitted accurately from the source hospital, other findings from the review included the following:

- Information in the discharge summary varies between settings and is not displayed in a consistent order
- Terminology between the hospital discharge summaries and the general practitioner (GP) software view is inconsistent in some instances
- The breadth of information presented in the GP software view is not consistent with the information presented in the hospital discharge summaries
- The format of medications information across hospital discharge summary templates and the GP view of the My Health Record discharge summary varies.

The fourth clinical safety review recommended that the Commission work with relevant agencies, jurisdictions and peak clinical bodies to develop a common presentation format for discharge summaries. This would be submitted to the Australian Health Ministers' Advisory Council for endorsement for eventual use of the format in clinical systems across the country.

1.1 Objective and purpose

These guidelines aim to improve the on-screen presentation of discharge summaries and thereby improve the overall safety and quality of patients' continuity of care. The guidelines provide recommendations to ensure that the necessary information about a patient's hospital encounter, and immediate next steps and follow-up, are provided in a clear and unambiguous manner. This helps eDS recipients (for example, primary healthcare providers) identify any risk areas, as well as the most important discussion topics for patient consultation.

In 2015–16 the National E-Health Transition Authority activities transitioned across to a new entity called the Australian Digital Health Agency (the Agency). For the purpose of these guidelines all reference will be made to the NEHTA core information components[1] and clinical document architecture (CDA) specification for discharge summaries[2] as they are known and referenced as. The guidelines are based on NEHTA eDS core information components.[1] Other national or international standards are also referenced, where relevant. The guidelines provide recommendations on:

- The position for each component or element within the discharge summary
- Labelling for section headings and table headings
- Content to be displayed
- Presentation format (tables, bullet points and so on)
- Functionality requirements.

This document is intended for vendors and implementers of clinical information systems that generate or present eDS, and for local teams setting up eDS templates.

1.2 Development of the guidelines

The development of these guidelines has been supported by the Australian Government Department of Health. They were first published in August 2016 and were revised based on feedback received since that first publication. They were presented to states and territories in October 2017. The guidelines were developed by:

- Conducting a literature review and environmental scan on standards, specifications and studies relating to the on-screen presentation of discharge summaries
- Reviewing the NEHTA style guide and clinical document architecture (CDA) specification for discharge summaries[2]
- Reviewing current presentation of discharge summaries in clinical information systems, GP software and My Health Record, including both admitted and non-admitted patients
- Consulting extensively with healthcare providers across Australia, and convening an expert group to review the findings and draft guidelines
- Conducting human factors analysis of interactions and workflow on eDS using eye-tracking workshops on the draft prototype
- Identifying other barriers that may affect uptake of the proposed guidelines and proposing strategies to address these barriers.

Further information about the assessment, consultation, prototype testing and human factors analysis are presented in the *National Guidelines for On-Screen Presentation of Discharge Summaries – work report*.

These guidelines aim to drive standardisation in the way discharge summaries are presented, while ensuring that NEHTA eDS core information components[1] are captured and displayed. It is acknowledged, however, that certain hospitals and clinical specialties require additional information to be included in a discharge summary. Therefore, it is recommended that the principles in the guidelines are applied in these discharge summaries and any additional information can be incorporated to complement the guidelines.

1.3 Key findings from consultation

Electronic discharge summaries were reviewed by three major target audiences, each with a different focus (Table 1.1).

Table 1.1 Discharge summary audiences and focus areas

Audience	Focus area
Healthcare providers in hospitals authoring discharge summaries	• Patient journey within the hospital
Pharmacists, general practitioners and other healthcare professionals in primary healthcare settings receiving discharge summaries	• Information relating to the patient's continuity of care • Follow-up activities • Areas of risk that require immediate attention
Patients and carers	• Follow-up and prevention activities

1. Introduction

A consistent pattern identified during stakeholder consultation was that the preferred presentation of the eDS depended on the audience. Authors of discharge summaries (hospital healthcare providers) preferred a layout that mimics the patient journey while in hospital, with recommendations and follow-up actions being displayed after the hospital treatment. Primary healthcare providers highlighted that information about immediate actions for ongoing patient management and follow-up is most important, and should be presented as one of the initial sections of a discharge summary.

Data from eye-tracking sessions revealed that, in practice, recommendations and follow-up steps are viewed less than information about hospital treatment. This was validated at the discussion workshops, where feedback indicated that by presenting a high-level summary of what led the patient to present at the hospital and the conditions treated, followed by a succinct clinical summary, healthcare providers were able to quickly understand the next steps with minimal effort.

With this in mind, the guidelines are recommended for both the acute (authors) and primary healthcare (recipients) settings of discharge summaries.

1.4 Implementing the guidelines

To implement the guidelines, it is recommended that the eDS style sheet and authoring and rendering specification[1,2,3] be revised to include software requirements for:

- Discharge summary authoring systems that include
  - how to format information in the body of the CDA document, such as creating the problems and diagnoses tables
  - a type of identifier in the CDA document that is not displayed, but which tells a rendering system that the authoring system adopted the requirements in the eDS specification
- Discharge summary rendering systems that include requirements for presenting the CDA header information and section titles in the recommended format.

2. General presentation guidelines

This section describes recommendations that are applicable across several components throughout the discharge summary, including the use of abbreviations, dates, times, names, addresses, telephone numbers and email addresses.

2.1 Abbreviations

Avoid abbreviations in a clinical context because they can be misleading and therefore increase clinical safety risk.

2.2 Dates

The following recommendations align with NEHTA specifications and guidelines[2]:

- Display date values that include a month, day and year as a one- or two-digit day (for example, '1', '07', '14'), a three-character month (for example, Jan, May; with the first letter in upper case), and a four-digit year (for example, '2016')
- Separate day, month and year using a hyphen or a single space, but not both (for example, '14-Jun-2015' or '8 Jan 2016').

2.3 Times

The following recommendations align with NEHTA specifications and guidelines[2]:

- Present times as hours, minutes and seconds (where relevant) in the format HH:MM:SS, using a 24-hour clock (for example, '19:00' for 7:00pm, '00:00' for 12:00 am). Either one or two digits can be used for times before 10am (for example, '9:00' or '09:00')
- Separate hours, minutes and seconds using colons (':')
- Present time zones using '+' or '–' after the time, followed by the numbers of hours ahead or behind Coordinated Universal Time (UTC)
- Display hours ahead or behind UTC as four-digit values with no characters or spacing separating the hours and minutes (for example, '14:00–1000' or '07:00+1200')
- Display date and time, when used together, with the date first, followed by the time and time zone (for example, '04 Jan 2016 13:30+1000' or '15-May-2017 22:10–0600')
- Do not abbreviate time periods (for example, 4/52 should be written as '4 weeks').

2.4 Names

The following recommendations align with NEHTA specifications and guidelines[1,2]:

- Present names as a single text name (unstructured) or as a structured name with family name, given name, and prefixes and suffixes
- Display names in the following order: title(s) and prefix(es), first name, LAST NAME, name suffix(es) (for example, 'Dr Fred SIMPSON Jr')
- Display the patient and/or healthcare provider's family name in uppercase letters next to their first name (for example, 'Mr John CITIZEN')
- Display first names with the first letter in uppercase followed by lower case letters (for example, 'John')
- Present unstructured names as text
- Display structured names with the prefix and suffix as uppercase for the first letter followed by lower case letters
- Include the healthcare provider's title when presenting their name (that is, Dr, Professor, as appropriate).

2.5 Addresses

The following recommendations align with NEHTA specifications and guidelines[1,2]:

- Display residential or work addresses in the order of house/building number, street name, suburb, state, postcode and country, with a single space or comma (',') between each section (for example,

'276 Flinders Street, Melbourne, Victoria, 3000, Australia').

The following recommendation follows the guidelines from the UK's Health and Social Care Information Centre[4]:

- If an address is to be displayed across multiple lines (for example, wrapped in a table cell), break down the components as indicated in Table 2.1.

Table 2.1 Components of an address in a table

Component	Example
House/building number	276
Street name	Flinders Street
Suburb	Melbourne
State and postcode	Victoria, 3000
Country	Australia

2.6 Telephone numbers

The following recommendation aligns with NEHTA specifications and guidelines[2]:

- Format national and international telephone numbers according to the ITU-T E.123 standard [ITU-T2001] (for example, '(03) 9699 3466' and '+61 3 9699 3466').

2.7 Email address

The following recommendation aligns with NEHTA specifications and guidelines[2]:

- Display email addresses in the SMTP format, and include the label 'e-mail' or 'email' (for example, 'email: john@citizen.com').

3. Specific components

Figure 3.1 shows the recommended order of information components in an electronic discharge summary. The identifying letters for each information component correspond to subsequent sections of the guidelines. A sample discharge summary populated with full clinical information is shown in Appendix A.

Figure 3.1 Information components and layout of an electronic discharge summary

Discharge Summary

Patient details | Hospital details

A | B

START OF DOCUMENT

Recipients: C | Author: D

Presentation details E

Presentation date	Discharge date	Length of stay	Episode type	Clinical unit	Senior clinician	Discharge destination

Problems and diagnoses F

Principal diagnosis	
Reason for presentation	
Secondary diagnoses	
Complications	
Past medical history	

Procedures

- G

Clinical summary H

Allergies/Adverse reactions I

Substance/Agent	Reaction type	Clinical manifestation

Medicines on discharge J

Medicine	Directions	Duration/ End date	Status	Change reason/ Clinical indication	Quantity supplied

Ceased medicines K

Medicine	Reason for ceasing

Alerts L

-

3. Specific components

Discharge Summary	
Patient details	**Hospital details**

Recommendations M

Recommendation	Person responsible

Follow-up appointments N

Description	When	Booking status	Name	Location	Contact details

Information provided to the patient O

•

Recipients P

Name	Contact details	Address	Organisation	Department

Selected investigation results Q

Test name	Date	Result

Administrative details

Document type:

Create date/time:

Date/Time attested:

END OF DOCUMENT

3. Specific components

A Patient details

This section outlines the guidelines for presenting patient details within a discharge summary (labelled A in Figure 3.1).

Figure 3.2 Example discharge summary section: patient details

Discharge Summary	
Patient details	**Hospital details**
Bernice VANK Date of birth: 01 Jan 1951 (65y) Female 276 Flinders Street, Melbourne, Victoria, 3000, Australia Phone: (03) 9288 3467 (home) MRN: 913474 IHI: 1234 7683 9873 2984	**Roxboro Hospital, Eastern Health District** Miltown, Victoria, 3110, Australia Phone: (03) 9699 3466 (workplace), (03) 9895 3461 (fax)

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display the patient details on the upper left corner of the discharge summary, within the banner section	• Patient identification details should be displayed in a consistent manner so users can efficiently and accurately identify the patient • The upper left corner of a screen or document is usually where the most critical information is displayed in western countries, where text is read from left to right • Presenting patient details on the upper left corner of the screen also aligns with the recommendations of the National Institute of Standards and Technology[5] • Eye-tracking sessions revealed that the upper left corner of the summary received a significant number of fixations. Refer to the Commission's on-screen presentation of the eDS work report for additional information[6]
Heading	• Use the heading 'Patient details'	• The heading 'Patient demographics' was tested; however, feedback indicated that the word 'demographics' was misleading

3. Specific components

Presentation element	Recommendations	Rationale
Format	• Display the patient's name on a single line, in a larger, bold font • Display the patient's details in the following order, with no preceding label (except for date of birth) – date of birth – sex – address – telephone – Medical Record Number (MRN) – Individual Healthcare Identifier (IHI) • Ensure the patient's details are always visible, regardless of whether the user scrolls up or down	• A consistent order of information is likely to facilitate a faster review of the discharge summary • Presenting the patient's name in bold and using a larger font aims to minimise clinical safety risk of referring to an incorrect patient, especially when multiple screens are open at the same time • The IHI is displayed to assist with the patient's identification when accessing My Health Record • Displaying patient details consistently can help minimise clinical safety risks, especially when more than one document is open at the same time. This aligns with the recommendations provided by the National Institute of Standards and Technology[5]
Content	• Patient name • Deceased statement (if applicable) • Date of birth • Age in years • Sex • Residential address • Telephone (work and home, if available) • Patient identification number(s) (e.g. IHI, MRN)	• Recommendations for content are based on NEHTA eDS core information components[1,2]

Data fields

Data field	Recommendations	Rationale/reference to standards
Patient name	• Refer to the general presentation guidelines for names in Section 2	• Refer to the general presentation guidelines in Section 2
Deceased statement	• If a patient is deceased, display 'DECEASED' next to the patient's name in bold, upper case letters	• Healthcare providers should be able to immediately identify whether the patient for whom a discharge summary has been written is deceased

Data field	Recommendations	Rationale/reference to standards
Date of birth	• Refer to the general presentation guidelines for dates in Section 2 • Display the age of the patient in round brackets next to the date of birth	• Refer to the general presentation guidelines in Section 2
Sex	• Display the patient's sex in full, with no abbreviations • Display the patient's sex with the first character in upper case, the remainder in lower case	• NEHTA CDA rendering specification document[2] • NEHTA eDS core information components[1]
Address	• Refer to the general presentation guidelines for addresses in Section 2	• Refer to the general presentation guidelines in Section 2
Telephone	• Refer to the general presentation guidelines for telephone numbers in Section 2	• Refer to the general presentation guidelines in Section 2
Patient identification number(s)	• Display the IHI number in groups of four digits with a single space between each group (e.g. 1234 5678 9076 7382) • Display the patient's MRN with no spaces between digits (e.g. 12345)	• NEHTA CDA rendering specification standards[2]

B Hospital details

This section outlines the guidelines for presenting hospital details within a discharge summary (labelled B in Figure 3.1).

Figure 3.3 Example discharge summary section: hospital details

Discharge Summary

Patient details	Hospital details
Bernice VANK Date of birth: 01 Jan 1951 (65y) Female 276 Flinders Street, Melbourne, Victoria, 3000, Australia Phone: (03) 9288 3467 (home) MRN: 913474 IHI: 1234 7683 9873 2984	**Roxboro Hospital, Eastern Health District** Miltown, Victoria, 3110, Australia Phone: (03) 9699 3466 (workplace), (03) 9895 3461 (fax)

3. Specific components

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display the hospital details in the upper right corner of the discharge summary, within the banner section, next to the patient details	• Stakeholder consultation revealed that details of the treating hospital are critical pieces of information. They allow the healthcare provider to seek additional information on the patient's episode of care, if required
Heading	• Use the heading 'Hospital details'	• 'Hospital details' is intuitive and patient-friendly, and matches 'Patient details'
Format	• Display the hospital name on a single line, in bold, with a larger font • Display the hospital details in the following order, with no preceding labels – Local Health District, if applicable – address – telephone • Ensure that the hospital details are always visible, regardless of whether the user scrolls up or down	• Hospital details should be displayed in the order in which they are reviewed by healthcare providers • Hospital phone numbers are included in case the primary healthcare provider needs to contact the author or senior clinician for clarification. Displaying hospital information in a static position allows this information to be readily available regardless of the section of the discharge summary that is being reviewed
Content	• Hospital name and Local Health District (if applicable) • Address • Contact details	• Content recommendation is based on NEHTA eDS core information components[1]

Data fields

Data field	Recommendations	Rationale/reference to standards
Hospital name	• Display the hospital name with the first letter in upper case followed by lower case letters	• Ensures consistency throughout the document
Address	• Refer to the general presentation guidelines for addresses in Section 2	• Refer to the general presentation guidelines in Section 2
Telephone	• Refer to the general presentation guidelines for telephone numbers in Section 2	• Refer to the general presentation guidelines in Section 2

C Recipients

This section outlines the guidelines for presenting the name of all recipients of a discharge summary (labelled C in Figure 3.1).

Figure 3.4 Example discharge summary section: recipients

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display the names of all the recipients under the document's banner (and the start of document indicator). This is the first element of the document's content	• Stakeholder consultation revealed that it is important for healthcare providers to be able to quickly determine whether a discharge summary has been primarily directed at them • The name of the nominated primary healthcare provider should be displayed in this section, as the primary recipient of the discharge summary. Because the nominated primary healthcare provider is an optional component as per NEHTA specifications, there is a risk that this section may be left blank. Therefore, the name of all recipients (a mandatory component) is presented instead to ensure this section is never left blank • Many healthcare providers would like more specific information on who else has been sent a copy of the discharge summary, to help them understand the patient's treatment plan more broadly
Heading	• Use the heading 'Recipients'	• 'Recipients' is intuitive and patient-friendly
Format	• Present the names of all recipients as a list, with each name on a single line • Ensure the names of all recipients are clearly visible and separated from the rest of document's content • Link the name of the recipient so that, when it is clicked, the user is directed to the recipients section, where contact information is displayed	• Displaying recipients' names as a list facilitates review • Allowing users to navigate to the recipients section when a recipient's name is clicked enables quick access to contact details without having to manually scroll down

Presentation element	Recommendations	Rationale
Content	• Include only the names of all recipients of the discharge summary	• The top section of a discharge summary should display the most critical information. Presenting any other information in addition to recipients' names would result in critical information being displayed further down the document

Data fields

Data field	Recommendations	Rationale/reference to standards
Recipient's name	• Refer to the general presentation guidelines for names in Section 2	• Refer to the general presentation guidelines in Section 2

D Author

This section outlines the guidelines for presenting the document's author within a discharge summary (labelled D in Figure 3.1).

Figure 3.5 Example discharge summary section: author

Author: Dr Jane MCDONALD, (03) 9699 3498, (Medical Officer)

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display the name of the document's author next to the recipients' names, underneath the start of document indicator	• Stakeholder consultation highlighted that primary healthcare providers would like the author's name displayed close to the hospital details. This allows healthcare providers to readily determine who they need to contact and how they can be contacted if further clarifications are required
Heading	• Use the heading 'Author'	• The heading 'Author' is self-explanatory
Format	• Clearly separate the name of the author from the rest of the document	• Clearly separating the author's name from clinical information will help healthcare providers identify the author of the discharge summary and know who to contact if they have any concerns regarding the patient's follow-up care

Presentation element	Recommendations	Rationale
Content	• Include the name of the document's author, communication details (if different from hospital communication details), and the author's role/ job title in brackets next to the author's name (e.g. Junior Doctor)	• The absence of the author's name can cause primary healthcare providers to spend a significant amount of time trying to identify them • During stakeholder consultation, various healthcare providers requested that the author's role be displayed in a discharge summary, although this is not a specific data field within the NEHTA eDS core information components[1]

Data fields

Data field	Recommendations	Rationale/reference to standards
Author's name and role	• Refer to the general presentation guidelines for names in Section 2 • Although the author's role is not currently part of eDS core information components, it is recommended that it be included in brackets as part of the name	• Refer to the general presentation guidelines in Section 2
Contact details	• If contact details are available, display them next to the author's name	• Refer to the general presentation guidelines in Section 2

E Presentation details

This section outlines the guidelines for displaying presentation details within a discharge summary (labelled E in Figure 3.1).

Figure 3.6 Example discharge summary section: presentation details

Presentation details						
Presentation date	**Discharge date**	**Length of stay**	**Episode type**	**Clinical unit**	**Senior clinician**	**Discharge destination**
05 Mar 2016 09:00	08 Mar 2016 10:00	3 days	General surgery	Surgical unit	Dr Frank LIN (Consultant)	Home

3. Specific components

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display the presentation details across the screen, underneath 'Recipients' and 'Author'	• The length of hospital stay can indicate acuity, making presentation details one of the most critical components of a discharge summary. It should be one of the first elements displayed
Headings	• Use the heading 'Presentation details' for the section • Use the following headings for the table columns – 'Presentation date' – 'Discharge date' – 'Length of stay' (at hospital) – 'Clinical unit' (the location from which the patient was discharged) – 'Episode type' (the specialty in which the patient was treated) – 'Senior clinician' (the healthcare provider who was responsible for the patient's care at the time of discharge) – 'Discharge destination'	• The headings 'Admission details' and 'Admission date' were considered; however, these are not applicable for non-admitted patients • 'Encounter details' and 'Encounter date' were also trialled; however, stakeholder consultation revealed they were misleading and less intuitive than 'Presentation details'
Format	• Display the presentation details in a table • Display the presentation date and discharge date (both table headings and content) in bold and in a slightly larger font than standard text	• A table highlighting presentation date and discharge date helps healthcare providers to efficiently identify this information
Content	• Content should be provided under each of the headings outlined above	• As per stakeholder consultation, these data fields provide primary healthcare providers with a succinct summary of the presentation at hospital

3. Specific components

Data fields

Data field	Recommendations	Rationale/reference to standards
Presentation date and discharge date	• Refer to the general presentation guidelines for dates in Section 2 • For admitted patients, 'Presentation date' is the date of admission • For non-admitted patients, 'Presentation date' is the day the patient visited the hospital	• Refer to the general presentation guidelines in Section 2
Length of stay	• Present length of stay (the number of days the patient stayed at the hospital) as the difference between the presentation date and discharge date • Although this is currently not part of NEHTA eDS core information components[1], it is recommended that this calculation is performed	• As per stakeholder consultation, the length of stay at hospital can be an indicator of the level of acuity, and is therefore considered critical information for primary healthcare providers
Clinical unit	• For admitted patients, the clinical unit is the ward from which the patient was discharged • For non-admitted patients, the clinical unit is the emergency department or outpatient department • Avoid abbreviations	• Recommendations align with NEHTA eDS core information components[1]
Episode type	• Display the name of the specialty or specialties under which the patient was treated • If the patient was treated under more than one specialty, display these in reverse chronological order • Ensure the names of the specialties align with specialty codes provided by the Australian Institute of Health and Welfare	• Recommendations align with NEHTA eDS core information components[1]
Senior clinician	• Name the clinician who was responsible for the care given to the patient at the time of discharge	• Recommendations align with NEHTA eDS core information components[1] • Refer to the general presentation guidelines for names in Section 2
Discharge destination	• Indicate the location to which the patient was discharged (e.g. home, aged care facility) • If the patient is deceased, include 'DECEASED' bold capital letters	• Recommendations align with NEHTA eDS core information components[1]

F Problems and diagnoses

This section outlines the guidelines for displaying problems and diagnoses within a discharge summary (labelled F in Figure 3.1).

Figure 3.7 Example discharge summary section: problems and diagnoses

Problems and diagnoses	
Principal diagnosis	Acute appendicitis with peritonitis
Reason for presentation	Abdominal pain following recent travel to South East Asia
Secondary diagnoses	Digoxin toxicity Hyperkalaemia CCF – Congestive cardiac failure
Complications	Nil
Past medical history	Obesity Atrial Fibrillation (AF)

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display problems and diagnoses immediately after presentation details	• Problems and diagnoses is one of the most critical components of a discharge summary. It provides primary healthcare providers with a succinct and easy-to-read overview of the conditions treated at hospital, as well as the reason for admission • By displaying presentation details, and problems and diagnoses one after another, healthcare providers can have a clear and succinct summary of the episode of care in hospital
Headings	• Use the heading 'Problems and diagnoses' for this section • Use the following headings for the table rows – 'Principal diagnosis' – 'Reason for presentation' – 'Secondary diagnoses' – 'Complications' – 'Past medical history'	• The section heading 'Problems and diagnoses' is intuitive and is written in plural to take into account situations where more than one problem or diagnosis is listed • The headings selected for the various types of problems and diagnoses follow the recommendations of healthcare providers during stakeholder consultation

Presentation element	Recommendations	Rationale
Format	• Display problems and diagnoses in a two-column table, with the type of problem or diagnosis on the left and the list of conditions on the right	• Presenting this information in a table facilitates readability • Highlighting the types of problems and diagnoses helps to indicate the critical nature of this information, and draws the healthcare provider's attention to that section of the document
Content	• List all the following types of problems and diagnoses in the following order – principal diagnosis – reason for presentation – secondary diagnoses – complications – past medical history • If no information is available for one of the elements, enter 'Nil'	• Stakeholder consultation identified the need for healthcare providers to obtain a high-level understanding of the episode of care in an efficient manner. These categories of problems and diagnoses address this need

Data fields

Data field	Recommendations	Rationale/reference to standards
Principal diagnosis	• Display the diagnosis that caused a visit to the hospital	• Presenting problems and diagnoses with this level of detail allows primary healthcare providers to build a picture of the episode of care, including all treated conditions and previous relevant conditions
Reason for presentation	• Display the patient's symptoms that caused a visit to the hospital	
Secondary diagnoses	• Display the list of problems and diagnoses (in addition to the principal diagnosis) that were treated at hospital	
Complications	• Display any additional patient conditions or any adverse events that affected the hospital treatment	
Past medical history	• Display any previous patient conditions that are relevant to the treatment provided at the hospital, and are important for the primary healthcare provider to be aware of	

G Procedures

This section outlines the guidelines for displaying procedures or interventions within a discharge summary (labelled G in Figure 3.1).

Following NEHTA specifications and guidelines[1,2], this section should include clinical interventions including operations and procedures.

Figure 3.8 Example discharge summary section: procedures

Procedures
• Laparoscopic appendicectomy

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display procedures immediately after problems and diagnoses	• Procedures can help healthcare providers identify the main elements of the patient's hospital treatment
Heading	• Use the heading 'Procedures'	• The section heading 'Procedures' is intuitive and easily understood by healthcare providers
Format	• Display the list of procedures and interventions performed in hospital as a bullet list in chronological order	• In the NEHTA eDS core information components[1], 'Procedures' is an unstructured element. Presenting information in a bullet list facilitates faster review of the discharge summary • Presenting procedures as a bullet list aligns with the heuristic principle that, when individuals are time-poor (which often is the case for primary healthcare providers), reading entire paragraphs and unstructured information is a difficult task; bullet points are recommended[7]
Content	• List the procedures and interventions in chronological order • If no procedures were performed during the hospital stay, include the statement 'Nil performed'	• Recommendations align with NEHTA eDS core information components[1]

Data fields

This component is unstructured, so no data fields are listed in this section.

H Clinical summary

This section outlines the guidelines for displaying a clinical summary within a discharge summary (labelled H in Figure 3.1).

This is expected to be one of the largest sections in a discharge summary. The unstructured nature of this component creates a challenge for readability.

Figure 3.9 Example discharge summary section: clinical summary

Clinical summary

Returned on 1 Mar 16 from 3 week travel to Indonesia, Singapore and Malaysia.
2/7 history of fever, tachycardia, myalgia, headache, photophobia, generalised abdo pain, constipation, nausea.
Hep A and typhoid immunisations up to date; malarial prophylaxis for travel declined.

Social history
Widowed 2010
2 daughters
Relocated from Queensland 6 months ago to live with 2nd daughter – assists with childcare

Issues and progress
1. Appendicitis
5/10 dull generalised abdo pain worsened and localised to Right Iliac Fossa (RIF)
Examination – rebound tenderness and guarding
Review by surgical team in Short Stay Unit (SSU) – noted elevated White Cell Count (WCC) and Erythrocyte Sedimentation Rate (ESR), abdominal ultrasound scan result indicating appendicitis
3 port laparoscopic appendicectomy performed 5/3/16 (registrar Dr B Smith, surgeon Mr Teo Young – findings: purulent appendix with signs of peritonitis
Transferred to surgical ward post-op
Post-op course unremarkable

2. Digoxin toxicity
Tachyarrhythmia noted on admission – note history of Atrial Fibrillation (AF)
Review by cardiologist Prof D Jones – diagnosed with digoxin toxicity
– commenced on sotalol 80 mg bd

3. Hyperkalaemia
Potassium ceased
Blood pressure post-op consistently elevated
Ramipril dose increased – for review with GP post-discharge

4. Congested Cardiac Failure (CCF)
Managed with careful IV fluid therapy
Frusemide recommenced day 1 post-op
For review as outpatient with cardiologist

3. Specific components

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display the clinical summary after the list of procedures and interventions	• Eye-tracking sessions revealed that most time is spent on the first few sections of a discharge summary. Attention is focused specifically on patient details, diagnoses and information about what happened to the patient in hospital
Heading	• Use the heading 'Clinical summary'	• Other headings such as 'Patient management' were trialled during stakeholder consultation. 'Clinical summary' was preferred because it is currently used in a number of discharge summaries, making it more familiar
Format	• Use line breaks to separate topics • Use bullet points or short sentences where appropriate, rather than full paragraphs • Use bold letters and coloured font to highlight critical information • Avoid abbreviations	• On average, healthcare providers have approximately two minutes to review a discharge summary.[8] Because this section is one of the largest sections in the discharge summary, appropriate formatting should be used to facilitate readability • Heuristic principles highlight that reading full paragraphs is a difficult task for people who are time-poor; bullet points are recommended[7]
Content	• Avoid repeating information that occurs in other sections of the discharge summary, such as medicines and investigations • Ensure this section is succinct but also provides all the relevant information • Describe abnormal investigation results in this section	• This section should give the healthcare provider all the relevant information to continue treating the patient outside the hospital

Data fields

This component is unstructured, so no data fields are listed in this section.

I Allergies/adverse reactions

This section outlines the guidelines for displaying allergies and adverse reactions within a discharge summary (labelled I in Figure 3.1).

Figure 3.10 Example discharge summary section: allergies/adverse reactions

Allergies/Adverse reactions		
Substance/Agent	**Reaction type**	**Clinical manifestation**
ibuprofen	Allergy	Urticaria

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display allergies/adverse reactions after the clinical summary • Ensure this section precedes the 'Medicines on discharge' section	• Allergies and adverse reactions are presented before medicines on discharge because of the relationship between these two sections
Headings	• Use the heading 'Allergies/adverse reactions' for this section • Use the following headings for the table columns – 'Substance/agent' – 'Reaction type' – 'Clinical manifestation'	• The heading 'Allergies/adverse drug reactions' was considered; however, adverse reactions are not only caused by drugs. 'Allergies/adverse reactions' is more appropriate • 'Clinical manifestation' aligns with NEHTA's specifications and guidelines
Format	• Display allergies/adverse reactions as a table	• Presenting this information in a table facilitates readability • A tabular form also aligns with recommendations in the NEHTA implementation guidelines for clinical document presentation[3]
Content	• Name the substance/agent, causing the patient to experience an adverse reaction • Describe the type of reaction (e.g. allergy) • Describe the negative effect (e.g. urticaria)	• Recommendations align with NEHTA eDS core information components[1]

Data fields

Data field	Recommendations	Rationale/reference to standards
Substance/ agent	• Describe the element that caused an adverse reaction • Avoid abbreviations • Display medicines' names as recommended in the Commission's *National Guidelines for On-Screen Display of Clinical Medicines Information*[9]	• Abbreviations can cause confusion and increase clinical safety risks • Refer to the Commission's *National Guidelines for On-Screen Display of Clinical Medicines Information*[9]
Reaction type	• Describe the reaction experienced by the patient (e.g. allergy)	• Aligns with NEHTA eDS core information components[1]
Clinical manifestation	• Describe the negative effect caused by the substance/agent (e.g. urticaria)	• Aligns with NEHTA eDS core information components[1]

J Medicines on discharge

This section outlines the guidelines for displaying medicines on discharge within a discharge summary (labelled J in Figure 3.1).

Figure 3.11 Example discharge summary section: medicines on discharge

Medicines on discharge

Medicine	Directions	Duration/ End date	Status	Change reason/ Clinical indication	Quantity supplied
amoxycillin 875mg + **clavulanic acid** 125mg – *Augmentin Duo Forte* – tablet – oral	**1 tablet** – twice a day – with or after food	10 day course	New	Appendicitis	10 tablets
metronidazole 400mg – *Flagyl* – tablet – oral	**1 tablet** – three times a day – swallow whole – with or after food	10 day course	New	Appendicitis	10 tablets
paracetamol 500mg – tablet – oral	**2 tablets** – up to four times a day – maximum 8 tablets in 24 hours	–	New	As required for pain or fever	–
sotalol 80mg – tablet – oral	**1 tablet** twice a day – on an empty stomach	–	New	Atrial Fibrillation	–
tramadol 50mg – capsule – oral	**1 to 2 capsules** – up to four times a day – maximum 8 tablets in 24 hours	–	New	As required for pain	–
ramipril 2.5mg – capsule – oral	**1 capsule** – twice a day	–	Changed	Dose increased, Hypertension	–
alendronate 70mg – tablet – oral	**1 tablet** – once a week on Sunday – 30 minutes before food and other medicines – remain upright for 30 minutes after taking	–	Unchanged		–
aspirin 300mg – dispersible tablet – oral	**HALF a tablet** – once a day in the morning – with food	–	Unchanged		–
frusemide 40mg – tablet – oral	**1 tablet** – once a day in the morning	–	Unchanged		–
calcium 600mg + **vitamin D** 12.5MICROg *Ostelin* – tablet – oral	**1 tablet** twice a day – with or after food	–	Unchanged		–

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	Display medicines on discharge immediately after allergies/adverse reactions Display information relating to medicines after the clinical summary	• Allergies/adverse reactions are presented before medicines on discharge because of the relationship between these two sections • Eye-tracking sessions confirmed that displaying the medicines before describing the treatment provided to the patient could negatively affect readability, causing healthcare providers to scroll up and down to understand why certain medicines were introduced, ceased or changed
Headings	• Use the heading 'Medicines on discharge' for this section • Use the following subheadings for the table columns – 'Medicine' – 'Directions' – 'Duration/End date' – 'Status' – 'Change reason/Clinical indication' – 'Quantity supplied'	• 'Medicines' aligns with the Commission's *National Guidelines for On-Screen Display of Clinical Medicines Information*[9] • Some discharge summaries display medicines on admission and medicines on discharge. Specifying 'Medicines on discharge' minimises ambiguity and clinical safety risk • Terminology for the table headings follows healthcare provider recommendations during stakeholder consultation
Format	• Display medicines on discharge in a table • Group medicines and display them in the following order – new medicines – changed medicines – unchanged medicines • List medicines in each group alphabetically	• Presenting this information in a table facilitates readability • Grouping medicines by status allows healthcare providers to easily identify what medicines are new, changed and unchanged • Combining the change reason and clinical indication in a single column saves space without compromising the information. This aligns with feedback provided by healthcare professionals

Presentation element	Recommendations	Rationale
Content	• Name the medicine • Give directions for taking State the duration of the medicine (i.e. short term or long term) or the anticipated end date • Classify the medicine's status (i.e. 'new', 'changed' or 'unchanged') • State the change reason for those medicines that were changed in hospital, and clinical indications for those medicines introduced while in hospital • State the quantity of medicines provided to the patient before discharge	• This information gives primary healthcare providers the information they need to fully understand the medicines with which the patient was discharged

Data fields

If the patient for whom the discharge summary was written is deceased, do not list any medicines on discharge, but enter a dash ('–') in each cell of the table.

Data field	Recommendations	Rationale/reference to standards
Medicine	• Display medicine names in alignment with the *National Guidelines for On-Screen Display of Clinical Medicines Information*[9]	• Refer to the Commission's *National Guidelines for On-Screen Display of Clinical Medicines Information*[9]
Directions	• Display directions in alignment with the *National Guidelines for On-Screen Display of Clinical Medicines Information*	• Refer to the Commission's *National Guidelines for On-Screen Display of Clinical Medicines Information*[9]
Duration/ End date	• If an end date is available, display this following the recommendations for dates in Section 2 • If an end date is not available (e.g. a patient is discharged over the weekend and goes to the pharmacy on Monday), highlight whether the medicine is prescribed for short term or long term • If no information is available, add a dash ('–') to avoid the cell being left blank	• It is important for primary healthcare providers to understand the length of time a medicine should be taken by the patient

Data field	Recommendations	Rationale/reference to standards
Status	• Indicate whether a medicine is new, changed or unchanged	• This information is critical for medicine reconciliation against the health record kept by the primary healthcare provider
Change reason/ Clinical indication	• For new medicines, provide the clinical indication • For changed medicines, describe the change reason • For unchanged medicines (or if a clinical Indication is not deemed required), add a dash ('–') to avoid leaving the cell blank	• The rationale for new medicines being prescribed is critical information for primary healthcare providers, especially when a single medicine can be prescribed for various reasons • Similarly, understanding why a medicine was changed allows the healthcare provider to better understand the treatment provided in hospital
Quantity supplied	• State the quantity of medicines provided to the patient before being discharged • If no information is available, add a dash ('–') to avoid the cell being left blank	• This allows primary healthcare providers to determine whether the patient will need a prescription

K Ceased medicines

This section outlines the guidelines for displaying ceased medicines within a discharge summary (labelled K in Figure 3.1).

Figure 3.12 Example discharge summary section: ceased medicines

Ceased medicines	
Medicine	**Reason for ceasing**
digoxin – tablet – oral	Bradycardia
potassium chloride *slow K* – tablet – oral	Hyperkalaemia

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display ceased medicines immediately after 'medicines on discharge' • Display information relating to medicines after the clinical summary	• Displaying medicine-related information before describing the treatment provided to the patient in hospital could negatively affect readability, causing healthcare providers to scroll up and down to understand why certain medicines where introduced, ceased or changed • Displaying ceased medicines after medicines on discharge gives healthcare providers a logical overall picture of new, changed, unchanged and ceased medicines
Headings	• Use the heading 'Ceased medicines' for this section • Use the following headings for the table columns – 'Medicine' – 'Reason for ceasing'	• 'Medicines' aligns with the Commission's *National Guidelines for On-Screen Display of Clinical Medicines Information*[9]
Format	• Display ceased medicines in a table	• Presenting this information in a table facilitates readability • This also aligns with the NEHTA implementation guidance relating to clinical document presentation[3]
Content	• Name the medicine • Provide the reason why the medicine was stopped • Include a comprehensive list of medicines that were ceased while in hospital	• If ceased medicines are not included, healthcare providers may question whether they have been left out due to human error

Data fields

Data field	Recommendations	Rationale/reference to standards
Medicine	• Display medicines' names in alignment with the *National Guidelines for On-Screen Display of Clinical Medicines Information*[9]	• Refer to the Commission's *National Guidelines for On-Screen Display of Clinical Medicines Information*[9]
Reason for ceasing	• Explain the rationale for why a medicine was ceased while in hospital	• This will help healthcare providers understand the treatment provided to the patient

L Alerts

This section outlines the guidelines for displaying patient-related alerts within a discharge summary (labelled L in Figure 3.1).

Figure 3.13 Example discharge summary section: alerts

Alerts
• Nil known

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display alerts after medicines-related information, and before recommendations and follow-up steps	• Alerts may affect recommendations and follow-up actions, so alerts should be presented before these sections
Heading	• Use the heading 'Alerts'	• 'Alerts' is intuitive and appropriate
Format	• Display alerts as a bullet list, using short sentences	• Bullet lists facilitate faster review of the discharge summary • This aligns with the NEHTA implementation guidance relating to clinical document presentation[3]
Content	• Include a list of alerts that may affect the patient's continuity of care • Be aware of the sensitivity of information that could be captured as an alert, and be aware that the information could be made available to the patient or their carers in My Health Record	• Using this section is at the discretion of the author. To minimise the risk of inadvertently making sensitive information available that could negatively affect the patient, it is not automatically populated

Data fields

Presenting data in bullet point format does not require any additional data fields.

M Recommendations

This section outlines the guidelines for displaying recommendations within a discharge summary (labelled M in Figure 3.1).

Figure 3.14 Example discharge summary section: recommendations

Recommendations	
Recommendation	**Person responsible**
BP and medication review	Dr Andrew SMITH
Wound review of laparoscopy sites and removal of 1 suture each site	Dr Andrew SMITH
Review bloods taken on 7 Mar 2016	Dr Andrew SMITH
Follow up fasting glucose of 6.9 with outpatient OGTT	Dr Andrew SMITH
Please organise ECG 1 day prior to appointment with Prof Jones at 2 weeks post-discharge	Dr Andrew SMITH
Discuss with patient re lifestyle management and care planning – obesity, hypertension, Atrial Fibrillation, Congested Cardiac Failure) Body Mass Index 36, waist 88cm)	Dr Andrew SMITH
Follow up pending results of Bloods	Dr Andrew SMITH

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display recommendations immediately after alerts	• Presenting recommendations after a description of the episode of care aligns with the order in which healthcare providers review discharge summaries • Primary healthcare providers initially indicated that instructions for ongoing patient management should be displayed as one of the initial elements in a discharge summary. However, eye-tracking data and stakeholder workshops revealed that these sections gain relatively less attention. Feedback indicated that a clear and logical flow of information that succinctly describes the hospital treatment allows healthcare providers to quickly understand the next steps without much effort

Presentation element	Recommendations	Rationale
Headings	• Use the heading 'Recommendations' for this section • Use the following headings for the table columns – 'Recommendation' – 'Person responsible'	• 'Recommendations' is intuitive and appropriate
Format	• Present recommendations in a table	• Presenting this information in a table facilitates readability and allows receivers of discharge summaries to quickly identify the issues for which they are directly responsible
Content	• Describe the recommended action • Name the person responsible for actioning the recommendation	• Although NEHTA specifications and guidelines also allow this section to display contact details of the person responsible, healthcare providers indicated it is not necessary to display that information in this section. Contact details of all recipients of discharge summaries can be reviewed in the Recipients section

Data fields

If the patient for whom the discharge summary was written is deceased, do not list any recommendations; instead, enter 'n/a' in each column.

Data field	Recommendations	Rationale/reference to standards
Recommendation	• Clearly describe the recommendation, including any relevant timeframes • If investigation results are pending at the time of discharge, include a recommendation for the relevant healthcare provider	• Understanding the level of urgency of each recommendation is important for receivers of discharge summaries. This information will help them prioritise follow-up activities
Person responsible	• Name the person responsible for actioning the recommendation	• This information removes ambiguity, especially when the discharge summary is received by multiple healthcare providers

N Follow-up appointments

This section outlines the guidelines for displaying follow-up appointments within a discharge summary (labelled N in Figure 3.1).

Figure 3.15 Example discharge summary section: follow-up appointments

Follow-up appointments					
Description	**When**	**Booking status**	**Name**	**Location**	**Contact details**
Follow up with cardiologist regarding Atrial Fibrillation (AF) and Congested Cardiac Failure (CCF)	2 weeks post discharge	Booked	Prof. D JONES	Roxboro Hospital, Eastern Health District, private rooms	(03) 9699 3466
Surgical outpatient department – post-appendicectomy review	4 weeks post discharge	Booked	Mr. Teo YOUNG	Roxboro Hospital, Eastern Health District	(03) 9699 3466

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display follow-up appointments immediately after recommendations	• Once the full list of recommended actions has been understood, it is important to know what appointments have already been organised or are in the process of being organised
Headings	• Use the heading 'Follow-up appointments' for this section • Use the following headings for the table columns – 'Description' – 'When' – 'Booking status' – 'Name' – 'Location' – 'Contact details'	• The headings 'Follow-up arrangements' and 'Follow-up services' were tested; however, these were thought to be less clear and less intuitive
Format	• Present follow-up appointments in a table	• Presenting this information in a table facilitates readability and allows healthcare providers to readily identify what appointments have already been booked

Presentation element	Recommendations	Rationale
Content	• Describe the follow-up appointment • Include the date of the appointment if it has already been booked, or the recommended timing • Indicate the booking status • Name the healthcare provider who will provide the services • State the location of the appointment • Include the contact details of the healthcare provider who will provide the follow-up services	• Including the contact details of healthcare providers allows receivers of the discharge summary to contact them if discussion or clarification is required • This aligns with NEHTA eDS core information components[1]

Data fields

If the patient for whom the discharge summary was written is deceased, do not list any follow-up appointments; instead, enter 'n/a' in each column.

Data field	Recommendations	Rationale/reference to standards
Description	• Describe the follow-up appointment recommended upon discharge	• Having this information displayed in a specific section allows the receiver of the discharge summary to clearly identify what appointments have been booked
When	• If an appointment has not been booked already, a date will not be available; in this case, include the recommended timing of the appointment • Timing should be clear and indicate whether the period is upon discharge, upon certain intervention, etc. • When an appointment is booked, include a specific date and time. Refer to the general presentation guidelines for dates and times in Section 2	• This column requires flexibility to cater for both appointments that have been booked and appointments that are in the process of being booked, while providing receivers of discharge summaries with all the information they require • This aligns with NEHTA eDS core information components[1]
Booking status	• Include the booking status of the appointment (e.g. requested, tentative, confirmed, booked)	• This information is critical for receivers of discharge summaries to identify all actions that need to be done to continue treating the patient

Data field	Recommendations	Rationale/reference to standards
Name	• Name the healthcare provider who will provide the services during the follow-up appointment. Refer to the general presentation guidelines for names in Section 2	• This information allows the receiver of a discharge summary to determine who to contact if any information needs to be clarified
Location	• State the location of the follow-up appointment	• This information is necessary for both the patient/carer and the receiver of the discharge summary
Contact details	• Include the telephone number or email address of the healthcare provider responsible for providing the follow-up services. Refer to the general presentation guidelines for telephone numbers and email addresses in Section 2	• This information is necessary for the receiver of the discharge summary in case any information needs to be clarified

O Information provided to the patient

This section outlines the guidelines for displaying information provided to the patient within a discharge summary (labelled O in Figure 3.1).

Figure 3.16 Example discharge summary section: information provided to the patient

Information provided to the patient

- Advised no vigorous exercise or lifting more than 10 kg for 4 weeks, increase exercise slowly and no driving for 6 weeks
- To complete courses of augmentin duo forte and flagyl
- Information provided regarding wound management – keep sites dry and observe for signs of infection until reviewed by GP
- Follow up with GP Dr Andrew SMITH on 16 Mar 2016
- Follow up with cardiologist Prof D JONES in 2 weeks
- Follow up with surgeon Mr Teo YOUNG in 4 weeks

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display this section after follow-up appointments	• Providing a complete list of recommended actions to the patient/carer on the discharge summary tells the healthcare providers what follow-up care the patient/carer has been advised on, and can improve their understanding of what needs to take place on discharge
Heading	• Use the heading 'Information provided to the patient'	• 'Information provided to the patient' is intuitive and appropriate
Format	• Display this section as a bullet list, using short sentences	• Within the NEHTA eDS core information components[1], information provided to the patient is an unstructured element. Presenting information in a bullet list facilitates the review of the discharge summary • This also aligns with the heuristic principle that, when individuals are time-poor (which is often the case for primary healthcare providers), reading entire paragraphs and unstructured information is a difficult task; bullet points are recommended[7]
Content	• List the recommendations or actions that have been provided to the patient • If the patient for whom the discharge summary was written is deceased, do not include any information provided to the patient; instead, enter 'n/a'	• This aligns with NEHTA eDS core information components[1]

Data fields

This component is unstructured, so no data fields are listed in this section.

P Recipients details

This section outlines the guidelines for displaying recipients and nominated primary healthcare provider contact details within a discharge summary (labelled P in Figure 3.1).

Figure 3.17 Example discharge summary section: recipients

Recipients				
Name	**Contact details**	**Address**	**Organisation**	**Department**
Dr Andrew SMITH	(03) 7010 8934	8 Exhibition Street, Melbourne, 3000	Not available	Not available
Joe DOE	(03) 7042 9372	341–345 Bourke St, Melbourne, 3000	My Physio	Not available

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Display recipients after information provided to the patient, as the second-last component of a discharge summary	• The list of recipients and associated contact details was seen by healthcare providers as a low priority compared with other sections of a discharge summary • Recipients are displayed before investigations because investigation results can be several pages long
Headings	• Use the heading 'Recipients' for this section • Use the following headings for the table columns – 'Name' – 'Contact details' – 'Address' – 'Organisation' – 'Department'	• 'Recipients' is intuitive and appropriate
Format	• Display this section in a table	• Presenting this information in a table facilitates readability
Content	• Name the recipient and indicate whether they are the primary recipient or nominated primary healthcare provider • Include the telephone number or email address, address and organisation to which they belong, and department	• This aligns with NEHTA eDS core information components[1]

Data fields

Data field	Recommendations	Rationale/reference to standards
Name	• Name the recipient • If the recipient is the nominated primary healthcare provider (i.e. primary recipient), include the flag 'Primary' next to the name in bold letters • Refer to the general presentation guidelines for names in Section 2	• The nominated primary healthcare provider is also a recipient of a discharge summary. Healthcare providers preferred to have all recipients displayed within a single section of the document
Contact details	• Include either the email address and/or phone number or both of the recipient • Refer to the general presentation guidelines for telephone numbers and email addresses in Section 2	• Refer to the general presentation guidelines in Section 2
Address	• Include the work address of the recipient • Refer to the general presentation guidelines for addresses in Section 2	• Refer to the general presentation guidelines in Section 2
Organisation	• Include the name of the organisation the recipient belongs to • If this is not available, add 'Not available' rather than leaving the cell blank	• NEHTA eDS core information components[1]
Department	• Include the department the recipient belongs to within an organisation • If this is not available, add 'Not available' rather than leaving the cell blank	• NEHTA eDS core information components[1]

Q Selected investigation results

This section outlines the guidelines for displaying selected investigation results within a discharge summary (labelled Q in Figure 3.1).

Figure 3.18 Example discharge summary section: selected investigation results

Selected investigation results		
Test name	**Date**	**Result**
Pathology report	05 Mar 2016	Available
Pathology report	06 Mar 2016	Available
Abdominal ultrasound	05 Mar 2016	Available
Electrocardiogram	05 Mar 2016	Available
Bloods	07 Mar 2016	Pending

Pathology report 05 Mar 2016

Midstream Specimen of urine (MSU0 Microscopy Culture Sensitivities (MCS) – No Appreciable Disease (NAD)
Elevated digoxin level
Elevated White Cell Count (WCC)
Elevated Erythrocyte Sedimentation Rate (ESR)
Blood cultures – no growth
Blood film – negative for malaria and dengue
Elevated creatinine and Blood Urea Nitrogen (BUN), low Glomerular Filtration Rate (eGFR)
Elevated Potassium (K +)
Liver Function Tests (LFT)s No Appreciable Disease (NAD)

Pathology report 06 Mar 2016

fasting glucose 6.9 mmol/L

Abdominal ultrasound 05 Mar 2016

Consistent with acute appendicitis

Electrocardiogram 05 Mar 2016

Tachyarrhythmia, tall peaked T waves with narrow base, shortened QT interval, ST – segment depression

Presentation guidelines

Presentation element	Recommendations	Rationale
Position	• Include selected investigations and associated results as the last element of a discharge summary (just before administrative details)	• Investigation results can be several pages long. Displaying this information last means that all other components are readily available in earlier sections of the document
Headings	• Use the heading 'Selected investigation results' for this section • Use the following headings for the table columns – 'Test name' – 'Date' – 'Result'	• In some cases, all investigation results performed while the patient was in hospital are included as part of a discharge summary; in other cases, only relevant investigations are included. This depends on the condition being treated and the length of stay at hospital, and is determined on a case-by-case basis. 'Selected investigation results' indicates that not all investigation results may have been included in the discharge summary
Format	• Display this section in a table • Group investigations and display them in the following order – pathology – imaging – other • List investigations in each group chronologically • Link the name of the test so that, when it is clicked, the user is directed to the relevant results (if they are available)	• Presenting this information in a table facilitates readability, and allows healthcare providers to easily identify whether there are pending investigations • A succinct table of relevant investigations facilitates the review. Linking to selected investigation results allows healthcare providers to navigate directly to the investigations they need to review in more detail • This also aligns with NEHTA implementation guidance relating to clinical document presentation[3]
Content	• Name the test or investigation • State the date when the test was performed • Indicate whether the results are available or pending	• This aligns with NEHTA eDS core information components[1]

Data fields

Data field	Recommendations	Rationale/reference to standards
Test name	• Name of the investigation performed while in hospital	• This aligns with NEHTA eDS core information components[1]
Date	• State the date when the test or investigation was performed • Refer to the general presentation guidelines for dates in Section 2	• Refer to the general presentation guidelines in Section 2
Result	• Indicate whether the result is available or pending	• Reviewers of discharge summaries need to easily identify pending results
Investigation result	• State the outcome of the investigation; outcomes can be several pages long	• This aligns with NEHTA eDS core information components[1] • Investigation results should follow NEHTA guidelines

4. Cardinality of data fields

Table 4.1 outlines the number of values that are supported for each data field, as per the NEHTA eDS core information components[1]. The table also outlines the value that is expected to be included in the discharge summary where a data field is not mandatory (that is, cardinality is 0 to many), and no value is received.

Table 4.1 Cardinality values for data fields

Component	Data field	Cardinality	Recommended value if no information is received and or rationale/reference to core information components
Patient details	Patient name	1 ... many	NA
	DECEASED statement (if applicable)	0 ... 1	NA
	Date of birth	1	NA
	Age in years	1	NA
	Sex	1	NA
	Residential address	1 ... many	NA
	Telephone (work and home, if available)	0 ... many	If no telephone numbers are available, the label 'Phone' should not be displayed in the patient details section
NA	Patient identification number(s) (e.g. IHI, MRN)	1 ... many	NA
Hospital details	Hospital name and Local Health District (if applicable)	1	
NA	Address	1 ... many	
NA	Contact details	1 ... many	
Recipients	Name of the recipient, including whether they are the primary recipient or nominated primary healthcare provider	1 ... many	The eDS core information components include a nominated primary healthcare provider, which is usually the primary recipient. If a nominated primary healthcare provider is specified, that recipient needs to be identified as a primary
Author	Name of the document's author	1	

4. Cardinality of data fields

Component	Data field	Cardinality	Recommended value if no information is received and or rationale/reference to core information components
NA	Communication details (if different from hospital communication details)	0 ... many	If no communication details are available, no information should be displayed next to the author's name
NA	Author's role in brackets next to the author's name (e.g. Junior Doctor)	0 ... 1	This is not a data field of the eDS core information components. However, given its importance, inclusion is recommended in brackets after the author's name
Presentation details	Presentation date	1	NA
	Discharge date	1	NA
	Length of stay at hospital	1	NA
	Episode type	1 ... many	NA
	Clinical unit	1	NA
	Senior clinician	1	NA
	Discharge destination	1	NA
Problems and diagnoses	Principal diagnosis	1	Although the existing eDS core information components do not specifically include each of these types of problems and diagnoses as individual data fields, the structure of the problem and diagnoses element allows authors to provide each one of the recommended types of problems and diagnoses. If no secondary diagnoses, complication or past medical history are known, the statement 'No secondary diagnoses/ complication/past medical history known' should be included
	Reason for presentation	1	
NA	Secondary diagnoses	0 ... many	
NA	Complications	0 ... many	
NA	Past medical history	0 ... many	
Procedures	List of procedures or interventions	0 ... many	'Nil performed'
Clinical summary	Description	1	
Allergies/adverse reactions	Substance/agent	1 ... many	If no allergies are known, the statement 'No allergies/adverse reactions known' should be included
NA	Reaction type	1	

4. Cardinality of data fields

Component	Data field	Cardinality	Recommended value if no information is received and or rationale/reference to core information components
NA	Clinical manifestation	0 ... many	If clinical manifestation description is not available, the statement 'Unknown' should be displayed
Medicines on discharge	Medicine	0 ... many	If no medicines were prescribed on discharge or during the hospital stay, the statement 'No medicines' should be included in the medicine field
	Directions	1	
NA	Duration/end date	0 ... 1	If no duration/end date is available, a dash ('–') should be included in the relevant cell
NA	Status	1	
NA	Change reason/ clinical indication	0 ... 1	If no change reason/clinical indication is available, a dash ('–') should be included in the relevant cell
NA	Quantity supplied	0 ... 1	If no quantity supplied is available, a dash ('–') should be included in the relevant cell
Ceased medicines	Medicine	1 ... many	If no medicines were ceased during the hospital stay, the statement 'No ceased medicines' should be included in the medicine field
NA	Reason for ceasing	1	NA
Alerts	Description	0 ... many	'Nil known'
Recommendations	Recommendation	1 ... many	NA
Follow-up appointments	Person responsible	1	NA
	Description	0 ... many	'Nil arranged'
	When	0 ... 1	NA
NA	Booking status	1	NA
NA	Name	0 ... 1	'To be determined'
NA	Location	0 ... 1	'To be determined'

4. Cardinality of data fields

Component	Data field	Cardinality	Recommended value if no information is received and or rationale/reference to core information components
NA	Contact details	0 ... 1	'Unknown'
Information provided to the patient	Description	0 ... 1	'Unknown'
Recipients Details	Name of the recipient, including whether they are the primary recipient or nominated primary healthcare provider	1 ... many	The eDS core information components include a nominated primary healthcare provider, which is usually the primary recipient. If a nominated primary healthcare provider is specified, that recipient needs to be identified as a primary
NA	Contact telephone number(s)	0 ... many	Not available
NA	Address	0 ... many	Not available
NA	Organisation to which they belong	0 ... 1	Not available
NA	Department	0 ... 1	Not available
Selected investigation results	Test name	0 ... many	'Nil included'
	Date	1	
	Result	1	

5. Recommended formatting and functionality

This section outlines the formatting and functionality guidelines that are critical to achieve standardisation and facilitate readability of the eDS. The guidelines should be followed when a new eDS template is implemented, or when changes to an eDS template are made.

5.1 Font

- Use standard sans serif font types such as Arial, Verdana or Helvetica because these fonts will display in a consistent way, regardless of the computer used to view the eDS.
- The discharge summary displayed in the guidelines uses Arial font.
- Use the same font type throughout the document to assist with readability.
- Ensure that standard text size is at least 13 point.
- Ensure that section headings are clearly visible and use a font size four points larger than the content.
- When specific information is to be highlighted (for example, admission date, discharge date), use a font size two points larger than standard text.

5.2 Tables

- Use bold font and light grey background colour for column or row headings. The background colour used in the discharge summary presented in the guidelines is RGB 220:220:220.
- Ensure tables have a row for each data entry; no empty rows should be displayed.
- Left align all table content, including headings.

5.3 Document heading, start and end of document, and administrative details

- Display the document heading (that is, 'Discharge Summary') at the top of each page of the document in bold letters, with the first letter of each word in upper case.
- Ensure the font for the document heading is larger than the standard text. The font size used for the heading on the sample discharge summary presented in the guidelines is 10 points larger than the standard text.
- Include indicators for start of document and end of document.
- Display the start and end of document indicators in upper case bold letters with a larger font than standard text.
- Display administrative details (such as the document version, creation date, document name or document identification) as the last component of the discharge summary just before the end of document indicator, to give priority to clinical-related information.

5.4 Formatting and functionality for each component

Table 5.1 outlines specific formatting and functionality guidelines for each of the components of the eDS.

5. Recommended formatting and functionality

Table 5.1 Formatting and functionality for components of electronic discharge summaries

Component	Formatting	Functionality
Patient details	• Display the patient's name using a font size approximately nine points larger than standard text	• The banner that contains the patient details should be in a fixed position and be visible regardless of whether the user scrolls up or down
Hospital details	• Display the hospital's name using a font size approximately nine points larger than standard text, and the same size as that used for the patient details	• The banner that contains the hospital details should be in a fixed position and be visible regardless of whether the user scrolls up or down
Recipient's name	• Present recipients' names in a text box, framed with a light grey colour with sufficient space between the text and the box • The border colour used in the sample discharge summary is RGB 220:220:220, with a border width of one point • The spacing (padding) used in the sample is 10 points	• The name of each recipient should have a hyperlink that directs the healthcare provider to the Recipients section
Author	• Display the author's name in a text box, framed with a light grey colour with sufficient space between the text and the box • The border colour used in the sample discharge summary is RGB 220:220:220, with a border width of one point • The spacing (padding) used in the sample is 10 points • Display the author's name on the same line as the recipients' names	• No functionality is required for this component
Presentation details	• Display presentation details in a table according to recommendations in Section E • Display presentation date and discharge date (both table headings and content) in bold with a slightly larger font than the standard text • The font size used in the sample discharge summary is two points larger than the standard text	• No functionality is required for this component

5. Recommended formatting and functionality

Component	Formatting	Functionality
Problems and diagnoses	• Display problems and diagnoses in a table according to recommendations in Section F • Highlight the type of problems and diagnoses using a light grey background colour, bold letters and a slightly larger font than the standard text • The background colour used in the sample discharge summary is RGB 220:220:220 • The font size used in the sample discharge summary is two points larger than the standard text	• No functionality is required for this component
Procedures	• Display information as a bullet list	• No functionality is required for this component
Clinical summary	• No formatting recommendations are provided beyond those in Section H because this component is unstructured	• No functionality is required for this component
Allergies/adverse reactions	• Display allergies/adverse reactions in a table according to the recommendations in Section I	• No functionality is required for this component
Medicines on discharge	• Display medicines on discharge in a table according to the recommendations in Section J • Ensure the 'Medicine' and 'Direction' columns are slightly wider than the other columns to avoid the medicine description breaking across several lines	• No functionality is required for this component
Ceased medicines	• Display ceased medicines in a table according to the recommendations in Section K • Ensure the 'Medicine' column is wide enough to avoid the medicine name breaking across several lines, but not so wide that there is no space between the medicine name and the reason for ceasing	• No functionality is required for this component
Alerts	• Display alerts as a bullet list	• No functionality is required for this component

5. Recommended formatting and functionality

Component	Formatting	Functionality
Recommendations	• Display recommendations in a table according to the recommendations in Section M • Ensure the 'Recommendation' column is wider than other columns to avoid the description going across several lines	• No functionality is required for this component
Follow-up appointments	• Display follow-up appointments in a table according to the recommendations in Section N	• No functionality is required for this component
Information provided to the patient	• Display information provided to the patient as a bullet list	• No functionality is required for this component
Recipients	• Display recipients in a table according to the recommendations in Section P	• No functionality is required for this component
Selected investigation results	• Display selected investigation results in a table according to the recommendations in Section Q	• The name of the test or investigation should include a hyperlink that directs the healthcare provider to the section where the results are displayed

Appendix A: Sample discharge summary

Discharge Summary

Patient details	Hospital details
Bernice VANK Date of birth: 01 Jan 1951 (65y) Female 276 Flinders Street, Melbourne, Victoria, 3000, Australia Phone: (03) 9288 3467 (home) MRN: 913474 IHI: 1234 7683 9873 2984	**Roxboro Hospital, Eastern Health District** Miltown, Victoria, 3110, Australia Phone: (03) 9699 3466 (workplace), (03) 9895 3461 (fax)

START OF DOCUMENT

Recipients: Dr Andrew SMITH
Joe DOE

Author: Dr Jane MCDONALD, (03) 9699 3498, (Medical Officer)

Presentation details

Presentation date	Discharge date	Length of stay	Episode type	Clinical unit	Senior clinician	Discharge destination
05 Mar 2016 09:00	08 Mar 2016 10:00	3 days	General surgery	Surgical unit	Dr Frank LIN (Consultant)	Home

Problems and diagnoses

Principal diagnosis	Acute appendicitis with peritonitis
Reason for presentation	Abdominal pain following recent travel to South East Asia
Secondary diagnoses	Digoxin toxicity Hyperkalaemia CCF – Congestive cardiac failure
Complications	Nil
Past medical history	Obesity Atrial Fibrillation (AF)

Procedures

- Laparoscopic appendicectomy

Clinical summary

Returned on 1 Mar 16 from 3 week travel to Indonesia, Singapore and Malaysia.
2/7 history of fever, tachycardia, myalgia, headache, photophobia, generalised abdo pain, constipation, nausea.
Hep A and typhoid immunisations up to date; malarial prophylaxis for travel declined.

Social history
Widowed 2010
2 daughters
Relocated from Queensland 6 months ago to live with 2nd daughter – assists with childcare

Issues and progress
1. Appendicitis
5/10 dull generalised abdo pain worsened and localised to Right Iliac Fossa (RIF)
Examination – rebound tenderness and guarding
Review by surgical team in Short Stay Unit (SSU) – noted elevated White Cell Count (WCC) and Erythrocyte Sedimentation Rate (ESR), abdominal ultrasound scan result indicating appendicitis
3 port laparoscopic appendicectomy performed 5/3/16 (registrar Dr B Smith, surgeon Mr Teo Young – findings: purulent appendix with signs of peritonitis
Transferred to surgical ward post-op
Post-op course unremarkable

2. Digoxin toxicity
Tachyarrhythmia noted on admission – note history of Atrial Fibrillation (AF)
Review by cardiologist Prof D Jones – diagnosed with digoxin toxicity
– commenced on sotalol 80 mg bd

Appendix A: Sample discharge summary

Discharge Summary

Patient details	Hospital details
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3. Hyperkalaemia
Potassium ceased
Blood pressure post-op consistently elevated
Ramipril dose increased – for review with GP post-discharge

4. Congested Cardiac Failure (CCF)
Managed with careful IV fluid therapy
Frusemide recommenced day 1 post-op
For review as outpatient with cardiologist

Allergies/Adverse reactions

Substance/Agent	Reaction type	Clinical manifestation
ibuprofen	Allergy	Urticaria

Medicines on discharge

Medicine	Directions	Duration/End date	Status	Change reason/ Clinical indication	Quantity supplied
amoxycillin 875mg + **clavulanic acid** 125mg – *Augmentin Duo Forte* – tablet – oral	**1 tablet** – twice a day – with or after food	10 day course	New	Appendicitis	10 tablets
metronidazole 400mg – *Flagyl* – tablet – oral	**1 tablet** – three times a day – swallow whole – with or after food	10 day course	New	Appendicitis	10 tablets
paracetamol 500mg – tablet – oral	**2 tablets** – up to four times a day – maximum 8 tablets in 24 hours	–	New	As required for pain or fever	–
sotalol 80mg – tablet – oral	**1 tablet** twice a day – on an empty stomach	–	New	Atrial Fibrillation	–
tramadol 50mg – capsule – oral	**1 to 2 capsules** – up to four times a day – maximum 8 tablets in 24 hours	–	New	As required for pain	–
ramipril 2.5mg – capsule – oral	**1 capsule** – twice a day	–	Changed	Dose increased, Hypertension	–
alendronate 70mg – tablet – oral	**1 tablet** – once a week on Sunday – 30 minutes before food and other medicines – remain upright for 30 minutes after taking	–	Unchanged		–
aspirin 300mg – dispersible tablet – oral	**HALF a tablet** – once a day in the morning – with food	–	Unchanged		–
frusemide 40mg – tablet – oral	**1 tablet** – once a day in the morning	–	Unchanged		–
calcium 600mg + **vitamin D** 12.5MICROg *Ostelin* – tablet – oral	**1 tablet** twice a day – with or after food	–	Unchanged		–

Appendix A: Sample discharge summary

Discharge Summary

Patient details	Hospital details
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Ceased medicines

Medicine	Reason for ceasing
digoxin – tablet – oral	Bradycardia
potassium chloride *slow K* – tablet – oral	Hyperkalaemia

Alerts

- Nil known

Recommendations

Recommendation	Person responsible
BP and medication review	Dr Andrew SMITH
Wound review of laparoscopy sites and removal of 1 suture each site	Dr Andrew SMITH
Review bloods taken on 7 Mar 2016	Dr Andrew SMITH
Follow up fasting glucose of 6.9 with outpatient OGTT	Dr Andrew SMITH
Please organise ECG 1 day prior to appointment with Prof Jones at 2 weeks post-discharge	Dr Andrew SMITH
Discuss with patient re lifestyle management and care planning – obesity, hypertension, Atrial Fibrillation, Congested Cardiac Failure) Body Mass Index 36, waist 88cm)	Dr Andrew SMITH
Follow up pending results of bloods	Dr Andrew SMITH

Follow-up appointments

Description	When	Booking status	Name	Location	Contact details
Follow up with cardiologist regarding Atrial Fibrillation (AF) and Congested Cardiac Failure (CCF)	2 weeks post discharge	Booked	Prof. D JONES	Roxboro Hospital, Eastern Health District, private rooms	(03) 9699 3466
Surgical outpatient department – post-appendicectomy review	4 weeks post discharge	Booked	Mr. Teo YOUNG	Roxboro Hospital, Eastern Health District	(03) 9699 3466

Information provided to the patient

- Advised no vigorous exercise or lifting more than 10 kg for 4 weeks, increase exercise slowly and no driving for 6 weeks
- To complete courses of augmentin duo forte and flagyl
- Information provided regarding wound management – keep sites dry and observe for signs of infection until reviewed by GP
- Follow up with GP Dr Andrew SMITH on 16 Mar 2016
- Follow up with cardiologist Prof D JONES in 2 weeks
- Follow up with surgeon Mr Teo YOUNG in 4 weeks

Appendix A: Sample discharge summary

Discharge Summary

Patient details	Hospital details
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Recipients

Name	Contact details	Address	Organisation	Department
Dr Andrew SMITH	(03) 7010 8934	8 Exhibition Street, Melbourne, 3000	Not available	Not available
Joe DOE	(03) 7042 9372	341–345 Bourke St, Melbourne, 3000	My Physio	Not available

Selected investigation results

Test name	Date	Result
Pathology report	05 Mar 2016	Available
Pathology report	06 Mar 2016	Available
Abdominal ultrasound	05 Mar 2016	Available
Electrocardiogram	05 Mar 2016	Available
Bloods	07 Mar 2016	Pending

Pathology report 05 Mar 2016

Midstream Specimen of urine (MSU0 Microscopy Culture Sensitivities (MCS) – No Appreciable Disease (NAD)
Elevated digoxin level
Elevated White Cell Count (WCC)
Elevated Erythrocyte Sedimentation Rate (ESR)
Blood cultures – no growth
Blood film – negative for malaria and dengue
Elevated creatinine and Blood Urea Nitrogen (BUN), low Glomerular Filtration Rate (eGFR)
Elevated Potassium (K +)
Liver Function Tests (LFT)s No Appreciable Disease (NAD)

Pathology report 06 Mar 2016

fasting glucose 6.9 mmoi/L

Abdominal ultrasound 05 Mar 2016

Consistent with acute appendicitis

Electrocardiogram 05 Mar 2016

Tachyarrhythmia, tall peaked T waves with narrow base, shortened QT interval, ST – segment depression

Administrative details

Document type: e-Discharge Summary

Create date/Time: 7 Mar 2016 11:00+1000

Date/Time attested: 7 Mar 2016 13:16+1000

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References

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5. National Institute of Standards and Technology. Technical evaluation, testing, and validation of the usability of electronic health records: empirically based use cases for validating safety – enhanced usability and guidelines for standardisation, NISTIR 7804–1. Gaithersburg, Maryland: US Department of Commerce, 2015.
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Acronyms and abbreviations

Acronym/abbreviation	Term
System Operator	The Australian Digital Health Agency (the Agency) was appointed as the System Operator of the My Health Record system from 1 July 2016
The Agency	Australian Digital Health Agency
eDS	electronic discharge summary
CDA	clinical document architecture
GP	general practitioner
IHI	Individual Healthcare Identifier
MRN	Medical Record Number
NEHTA	National E-Health Transition Authority
The Commission	Australian Commission on Safety and Quality in Health Care

Australian Commission on Safety and Quality in Health Care

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ON SAFETY AND QUALITY IN HEALTH CARE