

Capturing accurate and useful information on medication-related telenursing triage calls



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I work for....



Which is one of three centres which form...



And we are based at....



On this project we worked with....



Telenursing Triage and Advice Services

DEMANDS ON HEALTHCARE SERVICE ARE INCREASING

NEW CARE DELIVERY METHODS EXPANDING



Recent developments...

Resurgence of after hours
house calls

Advertising to encourage
people to only use Emergency
Departments in emergencies

Telephone triage and advice lines



Telephone triage and advice services

Public can call and speak to a nurse or doctor

Free call

Can not diagnose, only give advice and information, or referral



THE SOFTWARE

SPECIALISED SOFTWARE

DECISION SUPPORT

DATA COLLECTION

PROVIDES A STANDARDISED APPROACH TO
HANDLING CALLS

STRUCTURED SEQUENCE OF QUESTIONS

CARE GUIDELINES



THE LITERATURE

POSITIVES:

- *Felt supported by the software
- *Felt it simplifies their work
- *Felt it provided professional security
- *Felt that the software enhanced their credibility.
- *Believe the software strongly aided quality improvement by providing faster and more uniform advice to callers.

NEGATIVES:

- *The software can be inadequate and incomplete at times
- *It is useful for assessment but not decision making
- *The software is not intuitively designed
- *Completing all aspects of the data entry in the software can inhibit communication with the caller.

Healthdirect Australia

Services Provided:

- Health information online-
 - Symptom checker, life stages, conditions, medication information
- Health services information, contact information
- Toll free advice line staffed by registered nurses



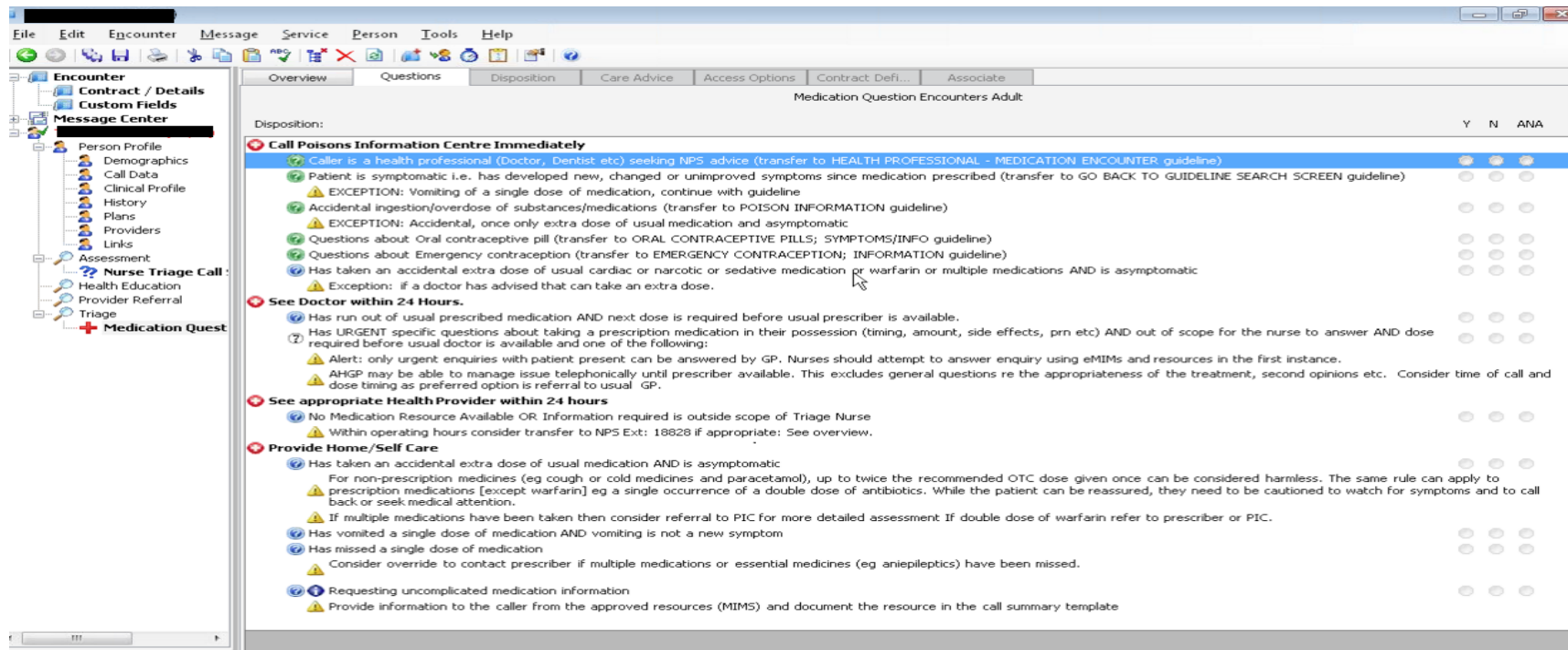


The Healthdirect Software

The Healthdirect software collects:

- A caller's unique ID number
- Caller's location
- Caller's relationship to the patient
- the query type, from a list
- Free text 'presenting problem'
- Guideline or protocol used
- The call disposition, the advice given

The Healthdirect Software

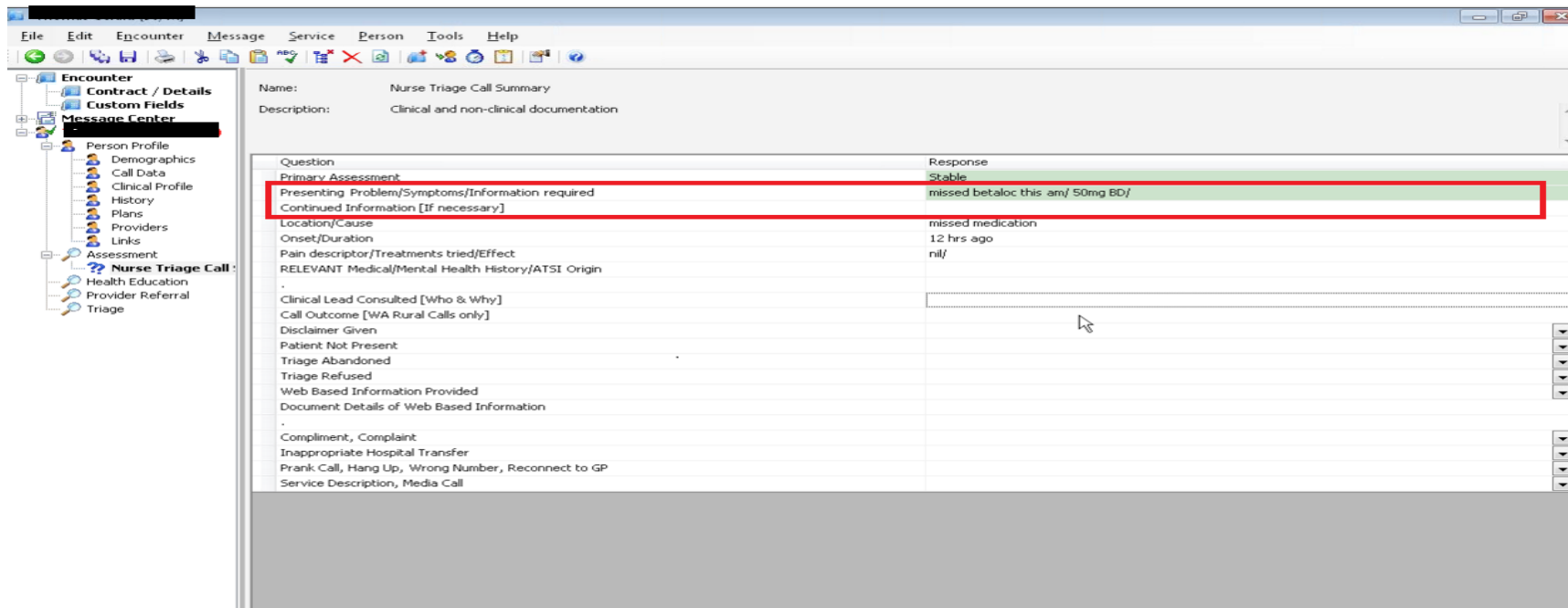


The screenshot displays the Healthdirect Software interface. On the left is a navigation pane with a tree structure containing: Encounter, Contract / Details, Custom Fields, Message Center, Person Profile, Demographics, Call Data, Clinical Profile, History, Plans, Providers, Links, Assessment, Nurse Triage Call, Health Education, Provider Referral, Triage, and Medication Quest. The main window has a menu bar (File, Edit, Encounter, Message, Service, Person, Tools, Help) and a toolbar. Below the menu bar are tabs: Overview, Questions, Disposition, Care Advice, Access Options, Contract Defi..., and Associate. The title bar of the main window reads "Medication Question Encounters Adult".

The "Disposition" tab is active, showing a table with columns for "Disposition:", "Y", "N", and "ANA". The table contains several rows of medication-related questions and guidelines, each with a status icon (green checkmark, yellow warning triangle, or red exclamation mark) and a corresponding action. The rows are:

- Call Poisons Information Centre Immediately**
 - Caller is a health professional (Doctor, Dentist etc) seeking NPS advice (transfer to HEALTH PROFESSIONAL - MEDICATION ENCOUNTER guideline)
 - Patient is symptomatic i.e. has developed new, changed or unimproved symptoms since medication prescribed (transfer to GO BACK TO GUIDELINE SEARCH SCREEN guideline)
 - EXCEPTION: Vomiting of a single dose of medication, continue with guideline
 - Accidental ingestion/overdose of substances/medications (transfer to POISON INFORMATION guideline)
 - EXCEPTION: Accidental, once only extra dose of usual medication and asymptomatic
 - Questions about Oral contraceptive pill (transfer to ORAL CONTRACEPTIVE PILLS; SYMPTOMS/INFO guideline)
 - Questions about Emergency contraception (transfer to EMERGENCY CONTRACEPTION; INFORMATION guideline)
 - Has taken an accidental extra dose of usual cardiac or narcotic or sedative medication or warfarin or multiple medications AND is asymptomatic
 - Exception: If a doctor has advised that can take an extra dose.
- See Doctor within 24 Hours.**
 - Has run out of usual prescribed medication AND next dose is required before usual prescriber is available.
 - Has URGENT specific questions about taking a prescription medication in their possession (timing, amount, side effects, prn etc) AND out of scope for the nurse to answer AND dose required before usual doctor is available and one of the following:
 - Alert: only urgent enquiries with patient present can be answered by GP. Nurses should attempt to answer enquiry using eMIMs and resources in the first instance.
 - AHGP may be able to manage issue telephonically until prescriber available. This excludes general questions re the appropriateness of the treatment, second opinions etc. Consider time of call and dose timing as preferred option is referral to usual GP.
- See appropriate Health Provider within 24 hours**
 - No Medication Resource Available OR Information required is outside scope of Triage Nurse
 - Within operating hours consider transfer to NPS Ext: 18828 if appropriate: See overview.
- Provide Home/Self Care**
 - Has taken an accidental extra dose of usual medication AND is asymptomatic
 - For non-prescription medicines (eg cough or cold medicines and paracetamol), up to twice the recommended OTC dose given once can be considered harmless. The same rule can apply to prescription medications [except warfarin] eg a single occurrence of a double dose of antibiotics. While the patient can be reassured, they need to be cautioned to watch for symptoms and to call back or seek medical attention.
 - If multiple medications have been taken then consider referral to PIC for more detailed assessment. If double dose of warfarin refer to prescriber or PIC.
 - Has vomited a single dose of medication AND vomiting is not a new symptom
 - Has missed a single dose of medication
 - Consider override to contact prescriber if multiple medications or essential medicines (eg aniepileptics) have been missed.
 - Requesting uncomplicated medication information
 - Provide information to the caller from the approved resources (MIMS) and document the resource in the call summary template

The Healthdirect Software



The screenshot displays the Healthdirect software interface. The top menu bar includes File, Edit, Encounter, Message, Service, Person, Tools, and Help. The left sidebar shows a tree view with categories like Encounter, Contract / Details, Custom Fields, Message Center, Person Profile, Demographics, Call Data, Clinical Profile, History, Plans, Providers, Links, Assessment, and Nurse Triage Call. The main window shows a form for a Nurse Triage Call Summary. The form has a header section with Name and Description, followed by a table with columns for Question and Response. The table contains several rows of data, with the first two rows highlighted in green and the next two rows highlighted in red. The last row of the table is highlighted in grey.

Question	Response
Primary Assessment	Stable
Presenting Problem/Symptoms/Information required	missed betaloc this am/ 50mg BD/
Continued Information [If necessary]	
Location/Cause	missed medication
Onset/Duration	12 hrs ago
Pain descriptor/Treatments tried/Effect	nil/
RELEVANT Medical/Mental Health History/ATSI Origin	
Clinical Lead Consulted [Who & Why]	
Call Outcome [WA Rural Calls only]	
Disclaimer Given	
Patient Not Present	
Triage Abandoned	
Triage Refused	
Web Based Information Provided	
Document Details of Web Based Information	
Compliment, Complaint	
Inappropriate Hospital Transfer	
Prank Call, Hang Up, Wrong Number, Reconnect to GP	
Service Description, Media Call	



Our Study Aim

This was part of a larger study

Retrospective cohort study

For this component we isolated for examination medication related calls only

We assessed the basic characteristics of these calls and data quality

The influence of the data entry capacities on the data quality was assessed



DATA EXTRACTION

De-identified data, November 2014

Narrowed to medication related calls using the query category

Manually extracted the medication names from the free text field

Used MIMS database to identify and classify the medications

Presenting problem as described in free text field was categorised to a query category for a data consistency check

Also, call duration and number of medications mentioned.

THE RESULTS

MEDICATION RELATED CALLS
CONSTITUTED 3.8% (1835)
OF ALL NOVEMBER CALLS
CALLS



Medications identified

Category	Percentage of medication calls	Number of calls
Medication identified	73.8%	1323
No medication name entered	11.2%	204
Medication name not identifiable	15%	308



Number of medications in calls

Number of medications mentioned	Percentage of medication calls	Number of calls
One medication recorded	55.3%	1015
Two medications recorded	24.9%	456
Three-twelve medications recorded	8.7%	158



Call Duration

The median call duration was 9 minutes.

The call duration was similar regardless of the number of medications recorded in the call data.



Medications involved in calls

Medication	Percentage of calls	Number of calls
Paracetamol	8.2%	207
Ibuprofen	4.4%	112
Paracetamol with codeine	2.3%	59



Medications by therapeutic class

Therapeutic class	Percentage of medications	Number of medications
Simple analgesics and antipyretics	9.1%	230
Non-steroidal anti-inflammatory agents	6.7%	170
Antidepressants	6.2%	157



TOP MEDICATION QUESTIONS

Question categories	Percentage of calls	Number of calls
Requesting uncomplicated medication information	42.0%	770
No medication resource available OR information required is beyond the scope of the triage nurse	32.8%	602
Has missed a single dose of medication	7.6%	139
Has taken an accidental extra dose of medication AND is asymptomatic	3.7%	68

Data consistency check

Query category assessment	Percentage of calls	Number of calls
Query category assessed as consistent	63.3%	1161
Query category assessed as inconsistent	35.7%	655
Not enough information to assess	1.0%	19

Data consistency check

91.0% of the re-categorised calls were originally categorised as
“No medication resource available OR information required is outside
the scope of the triage nurse”

72.8% of the re-categorised calls were re-labeled as
“Requesting uncomplicated medication information”



Possible reasons for inconsistent query category:

The category may be correct but telenurse did not enter enough information

Lack of time to fill out completely and accurately

Question did not fit in to any category

DISCUSSION

Assistance was provided to callers in a timely manner –
median time of 9 minutes

The data collected can provide useful insights into the public's
health information needs and wants.

DISCUSSION

Software developers must balance the needs of the telenurses, the callers, and the need to collect relevant and adequate data.

Our results prompted Healthdirect to adopt a structured data entry field for entering medication names – a drop down list



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Thank you!

