Introduction

The contents of the following supplement should be read in conjunction with the National Stroke Foundation's *National Stroke Audit - Rehabilitation Services Report 2020*. This report can be accessed from the Stroke Foundation's website: https://informme.org.au/stroke-data

Appendix 1: Participating Hospitals

We would like to thank everyone involved at all participating hospitals for their time and diligence on the National Stroke Audit - Rehabilitation Services 2020.

NSW

Armidale Hospital
Jaclyn Birnie

Ballina District Hospital
Gloria Vann, Bridgette Rouesnel, Megan Childs, and team

Balmain Hospital
Indu Nair, Pip Taylor, and team

Bankstown Lidcombe Hospital
Angela Firko, Carol Castillejo, and team

Bathurst Hospital
Fiona Ryan

Belmont Hospital
Kerry Boyle, and team

Braeside Hospital
Caitlin Anderson, Carol Connolly, and team

Camden Hospital
Angela Firko, Carol Castillejo, and team

Coledale District Hospital
Helen Brooks, Suzanne Lide, and team

Concord Hospital
Renai Pillay and team

David Berry Hospital
Jacqui Cornell

Goulburn Base Hospital
Leanne Rayner

Greenwich Hospital
Fey-Ching Un and team

Griffith Base Hospital
Lorraine Maxwell

Hunter Valley Private Hospital
Jessica Baker and team

John Hunter Hospital – Rankin Park
Judith Dunne and team

Lady Davidson Private Hospital
Suellen Fulton and team

Lourdes Hospital
Kaylene Green and team

Maclean District Hospital
Suzanne Boon and team

Metro Rehabilitation Hospital
Lara Fernandez

Mt Wilga Rehabilitation Hospital
Annemieke Clark and team

Murwillumbah Hospital
Debbie Huxstep and team

Nepean Hospital
Roslynne Raynard

Orange Hospital
Fiona Ryan

Prince of Wales Hospital
Greg Bowring, Clare Griffin, and team

Royal Rehab Private
Karen Chestney and team

Ryde Hospital
Sandra Lever and team

Sacred Heart Health Service
Olivia Misa and team

Shoalhaven District Memorial Hospital
Jacqui Cornell and Donna Jay

St George Hospital
Julie Morrison and team

St Joseph's Hospital
Javnika Chauhan and team

Sutherland Hospital
Victoria Byiers and team

Tamworth Base Hospital
Sue Simpson and team

Wagga Wagga Rural Referral Hospital
Pamela Dendy and team

War Memorial Hospital
Fiona Russell, Keerthana Salprakash and team

Waratah Hospital
Jen Angus and team

Wingham Community Hospital
Fiona Minett and team

NT

Alice Spring Hospital
Anna Holwell and team

Royal Darwin Hospital
Howard Flavell and team

QLD

Brighton Health Campus and Services
Jessica Riggall, Renee Hammond, and team

Bundaberg Base Hospital
Simone Rogers and Helen Eaves

Cairns Base Hospital
Wei Qu, Damiane Clifford, and team

Canossa Private Hospital
Kylie Lodge and Gerry Wong

Gold Coast University Hospital
Christie Woodman and Haylee Berrill

Gympie Hospital
Karen Hudson

Ipswich Hospital
Linda Edwards and team

Logan Hospital
Lisa Newbury

Mackay Base Hospital
Anne Hooper

Maryborough Base Hospital
Pauline Blaney

Mt Isa Hospital
Liana Bryant

Prince Charles Hospital
Catlin Kearney

Princess Alexandra Hospital
Phil Aitken, Maria Draper and team

Redcliffe Hospital
Kerrie Garrad and team

Robina Hospital
Diane Greenwood and Haylee Berrill

Rockhampton Hospital
Sandra Greensill and team

Royal Brisbane and Women's Hospital
Kana Appadurai, Scott Parkinson and team

Sunshine Coast University Hospital
Julie Harding

St Stephen’s Hervey Bay
Natasha Holland

Toowoomba General Hospital
Carolann Huet

Townsville Hospital
Leezah Castorina, Shannon Woods, and team

SA

Calvary Rehabilitation Hospital
Judy Matthews, Julie Eastway and team

Flinders Medical Centre
Petra Bierer and team

Griffith Rehabilitation Hospital
Lauri Wild and team

Hampstead Rehabilitation Centre
Fern McKinnel, Rachel Harling, and team

Modbury Hospital
Meredith Jolly and team

Mount Gambier Hospital
Sue Hayward and team

Riverland Regional Health Service – Berri Campus
Bridgette McKenzie and team

Whyalla Hospital
Natalie Hale and team

TAS

Calvary Healthcare Tasmania - St Johns Campus
Sandra Hniat

Launceston General Hospital
Polly Showell and team

Mersey Community Hospital
Jacqueline Roberts-Thomson and team

Royal Hobart Hospital
Carol Harding, Brendan Bakes and team

VIC

Albury Wodonga Health - Wodonga Campus
Vanessa Crosby

Angliss Hospital
Shae Cooke and team

Bairnsdale Hospital
Suzanne McArthur

Bendigo Hospital
Leanne Muns and team

Cabrini Health
Suzy Goodman

Casey Hospital
Nicole Barna

Caulfield General Hospital
Catherine Brooks, Johnathon Hurst, and team

Central Gippsland Health Service
Sue Rowley and team

Echuca Hospital
Lauren Arthurson and team

Epworth Rehabilitation - Brighton
Debra Perlow

Golf Links Rd Rehabilitation Unit
Carol Casson and team

Goulburn Valley Health - Shepparton
Melanie Brown and team

Hamilton Base Hospital
Louise Starkie and team

Heidelberg Repatriation Hospital
Tavia Rudd and team

Kingston Centre
Ellen Goh and team

Latrobe Regional Hospital
Janet May and team

McKellar Centre - Barwon Health -
Natasha Selenitsch and Sharon Anderson

Peter James Centre
Shae Cooke and team

Rosebud Hospital
Janice Lovett and team

Royal Talbot Rehabilitation Centre
Tavia Rudd and team

St John of God Bendigo
Debbie Kesper

St Vincent's Hospital Victoria
Meaghan Mackenzie

St Vincent's St George's Health Service
Anne Ashman

The Mornington Centre
Siobhan Barber and team

Wangaratta - Northeast Health
Lyn Malone and team

Warrnambool Base Hospital
Patrick Groot

Wimmera Base Hospital - Horsham
Deidre Rennick and team

WA

Albany Hospital
Michelle Backhouse

Armadale/Kelmscott Memorial Hospital
Alexandra Dray

Bentley Health Service - Bentley Hospital
Kieran English and team

Bunbury Hospital
Michaela Eaton, Renee Dehring, and team

Fiona Stanley Hospital
Jayne Martin and team

Fremantle Hospital
Alicia Massarotto and team

Geraldton Regional Hospital
Megan Grazziadelli and team

Joondalup Health Campus
Michelle Young and team

Osborne Park Hospital
Kien Chan, Donna Wheeldon and team

Rockingham General Hospital
Katrina Taylforth, Joanne Hughes and team

St John of God Midland Public Hospital
Lynda Southwell

Appendix 2: Organisational Survey Questions

ORGANISATIONAL SURVEY

9.00 Which of the following best describes the rehabilitation service at your site:
Free standing rehabilitation hospital / Rehabilitation ward within acute hospital in same building of same health campus / Rehabilitation ward within acute hospital in separate buildings of same health campus / Rehabilitation service within acute hospital (no designated beds) / Comprehensive Stroke Unit

9.01 How many beds are dedicated for inpatient rehabilitation at your site?

9.02 Does your site have a dedicated stroke rehabilitation unit with co-located stroke beds within a geographically defined unit? *Yes / No* If yes, how many designated stroke beds?

9.03 How many stroke rehabilitation patients:

a. Are currently in all your inpatient rehabilitation beds today?
b. Were admitted to your site last year?
c. Are currently in your dedicated stroke rehabilitation unit today?
d. Were admitted to your dedicated stroke rehabilitation unit last year?

9.04 Regarding assessing suitability for inpatient rehabilitation, who is responsible for making the decision to refer for rehabilitation at your hospital?

a. Acute physician
b. Post-acute physician (rehabilitation physician, geriatrician)
c. Nurse
d. Multidisciplinary team (acute)
e. joint acute / rehabilitation team member/s
e. Other team member – specify

9.05 Is there a standardised process regarding assessing suitability for inpatient rehabilitation at your hospital? *Yes / No*

9.06 Routinely when does the assessment for inpatient rehabilitation occur? *Early (within first 3-4 days) of acute admission / Within the first week of acute admission / After the first week of acute admission / Varies*

9.07 Do you have regular multidisciplinary team meetings for the interchange of information about individual stroke patients? *Yes / No* How often are these meetings held per month?

9.08 Does your site have a formal process for developing and documenting goals with patients? *Yes / No*

9.09 How does your hospital usually establish patient-directed goals? *Patient interviewed by each discipline only / Goals discussed and reviewed at team meeting after patient meets with each discipline separately / Patient and full multidisciplinary team set goals together / Ad hoc -no consistent process used / Goals not patient-directed at this hospital / Other*

9.10 Does your site provide group circuit classes? *Yes / No*

9.101 How many days a week does your site provide active therapy (PT and/or OT)?

a. 7 days per week
b. 6 days per week
c. 5 days per week
d. 3-4 days per week
e. >3 days per week

9.102 What is the average number of minutes of active physical therapy provided per patient per week? This should include total therapy delivered via any mechanism – 1:1, group/circuit classes, allied health assistants.

9.11 How long on average do patients with motor impairments undertake active physical therapy (PT and/or OT) per day? This should not include time spent watching others.

a. <1hr
b. 1hr
c. 2hr
d. 3hr
e. >3 hrs

9.11-9.115 Providing the right amount of physical activity can be limited by a number of factors. Which of the following are factors are limitations at your site:
Staff factors (time/skill, etc.) / Patient factors (capacity, dependence, etc.) / Service factors (equipment, environment, timetabling, etc.) / Time spent on non-patient contact activity, including time spent in information exchange with other clinicians / Not applicable (we provide recommended level to all patients)

9.116 Does your site include individually tailored exercise interventions to improve cardiorespiratory fitness?

9.12 Does your site routinely provide patient information prior to discharge *Yes / No*
If yes, which of the following are included:

a. Stroke care, implications and recovery
b. Secondary prevention
c. Local community care arrangements
d. Community stroke support groups
e. Is aphasia friendly communication available for all of the above

9.13 Are there documented processes and systems to support routine use of evidence-based guidelines to inform clinical care? *Yes / No*

9.14 Are there documented processes and systems to monitor the routine use of evidence-based guidelines to inform clinical care? *Yes / No*

9.15 Are there documented processes and systems to ensure patients receive evidence-based intensity of therapy related to their goals? *Yes / No*

9.16 Is there a dedicated person liaising between acute and rehabilitation services? *Yes / No*

9.161 Is there regular meetings between acute and rehabilitation services? *Yes / No*
(if yes) How often are these meetings held per month?

a) *< once per month*
b) *1*
c) *2*
d) *3*
e) *4 or more*

9.17 Is there onsite telehealth facility which has been utilised for clinical decision making within the last six months? *Yes / No*

9.18 Please identify which of the following health professionals are actively involved in the rehabilitation management of stroke patients at your hospital?
Rehabilitation physician *Yes / No*
Geriatrician *Yes / No*
General medical physician *Yes / No*
Neurologist *Yes / No*

General practitioner/visiting medical officers *Yes / No*
Rehabilitation nurse *Yes / No*
Clinical nurse consultant *Yes / No*
Clinical nurse specialist *Yes / No*
Physiotherapist *Yes / No* *If yes, how many days per week*
Speech pathologist *Yes / No* *If yes, how many days per week*
Dietitian *Yes / No*
Social worker *Yes / No*
Occupational therapist *Yes / No* *If yes, how many days per week*
Clinical psychology *Yes / No*
Neuropsychologist *Yes / No*
Recreational therapist *Yes / No*
Diversional therapist *Yes / No*
Allied health assistant/therapy assistant *Yes / No* *If yes, how many days per week*
Medical resident *Yes / No*
Stroke liaison officer/stroke care coordinator *Yes / No*
Other *[Specify]*

9.191 Which of the following is the medical leader responsible for the management of your stroke rehabilitation patients? Please indicate whether this is a formal recognition (a defined process exists), or whether this person usually assumes the responsibility.
Rehabilitation physician
Geriatrician
General medical physician
Neurologist
General practitioner/visiting medical officers

9.20 Is there a program for the continuing education of staff relating to the management of stroke? *Yes / No*

9.21 Does your site provide the following community rehabilitation services:
Centre-based rehabilitation (e.g. Outpatient rehabilitation or day hospital) / Community-based rehabilitation provided in the home / Stroke specific Early Supported Discharge

9.22 Does your site have protocols guiding discharge planning for your stroke rehabilitation patients *Yes / No*

9.23 Are patients routinely given a discharge care (personal recovery) plan on discharge from hospital *Yes / No*

9.24 Does your site routinely provide carer training to carers requiring it? *Yes / No*

9.25 Are patients/carers given details of a hospital contact on transfer from hospital to community? *Yes / No*

9.26 Does your site routinely follow up stroke patients to assess their post stroke needs? *Yes / No*

9.27 Over the last 2 years has the stroke team been involved in quality improvement activities that have included collecting and reviewing local stroke data and agreeing on strategies to improve care? *Yes / No*

Appendix 3: Calculations from the Organisational Survey for the *Rehabilitation Stroke Services Framework (2013)*

Element of service	Indicator(s)
Effective links with acute stroke service providers	*9.16 Is there a dedicated person liaising between acute and rehabilitation services?* *9.05 Is there a standardised process for assessing suitability for inpatient rehabilitation at your hospital?*
Specialised interdisciplinary stroke (or neurorehabilitation) team with access to staff education and professional development specific to stroke	*9.18 Please identify which of the following health professionals are actively involved in the rehabilitation management of stroke patients at your hospital?* *9.20 Is there a program for the continuing education of staff relating to the management of stroke?*
Co-located stroke beds within a geographically defined unit	*9.02 Does your site have a dedicated stroke rehabilitation unit with co-located stroke beds within a geographically defined unit?*
Standardised and early assessment for neurorehabilitation	*9.05 Is there a standardised process regarding assessing suitability for inpatient rehabilitation at your hospital?* *9.06 Routinely when does the assessment for inpatient rehabilitation occur?*
Written rehabilitation goal setting processes with patients	*9.08 Does your site have a formal process for developing and documenting goals with patients?* *9.09 How does your hospital usually establish patient-directed goals?*
Routine use of clinical guidelines to inform evidence-based therapy for clinicians	*9.13 Are there documented processes and systems to support routine use of evidence-based guidelines to inform clinical care?* *9.14 Are there documented processes and systems to monitor the routine use of evidence-based guidelines to inform clinical care?*
Best practice and evidence-based intensity of therapy for goal related activity with patients	*9.15 Are there documented processes and systems to ensure patients receive evidence-based intensity of therapy related to their goals?*
Systems for transfer of care, follow-up and re-entry for patients	*9.25 Are patients/carers given details of a hospital contact on transfer from hospital to community?* *9.22 Does your site have protocols guiding discharge planning for your stroke rehabilitation patients?* *9.6 Does your site routinely follow up stroke patients to assess their post stroke needs?*
Support for the person with stroke and carer (e.g. carer training, provision of information/education, provision of care plan) to maximise community participation and long-term recovery	*9.12 Does your hospital routinely provide patient information prior to discharge?* *9.23 Are patients routinely given a discharge care (personal recovery) plan on discharge from hospital?* *9.24 Does your site routinely provide carer training to carers requiring it?*
Systems that support quality improvement, i.e. regular (at least every two years) review of local audit data by the stroke team to prioritise and drive stroke care improvement	*9.27 Over the last 2 years has the stroke team been involved in quality improvement activities that have included collecting and reviewing local stroke data and agreeing on strategies to improve care?*

Appendix 4: Clinical Audit Questions

CLINICAL AUDIT

AUDITOR INFORMATION
1.000 Hospital name (auto-populated)
1.020 Auditor name (auto-populated)
1.030 Auditor Email (auto-populated)
1.050 Auditor discipline (auto-populated)

PATIENT DEMOGRAPHICS
Patient details
2.000 Patient record ID (auto-created)
2.090 Date of birth
2.100 Age
2.130 Gender
2.170 Interpreter needed *Yes / No*
2.180 Is the patient of Aboriginal/Torres Strait Islander origin?

ADMISSION AND TRANSFER INFORMATION
Admission details
4.000 Onset date
4.340 What date was the patient admitted to the inpatient rehabilitation facility?

Intra hospital transfers
4.660 Prior to rehabilitation, where has the patient come from? (*Stroke unit/ Acute inpatient ward / Other rehabilitation ward / General practitioner referral / Other / Unknown*)
4.670 Where was this patient treated during inpatient rehabilitation? (*Dedicated stroke rehabilitation unit / Neurorehabilitation unit / Combined acute and rehabilitation unit / Mixed rehabilitation ward)*

OTHER CLINICAL INFORMATION
Impairments on admission to rehabilitation
On admission were any of the following impairments present?
9.000 Sensory deficit *Yes / No*
9.010 Cognitive deficit *Yes / No*
9.020 Visual deficit *Yes / No*
9.030 Perceptual deficit *Yes / No*
9.040 Speech and communication deficit *Yes / No*
9.050 Hydration problems *Yes / No*
9.060 Nutrition problems *Yes / No*
9.061 Arm deficit *Yes / No*

Hydration and nutrition
9.270 Was the patient at risk of malnutrition? *Yes / No*
Management included:
9.330 Ongoing monitoring by a dietitian *Yes / No*
9.340 Nutritional supplementation for nutritional status poor or deteriorating *Yes / No*
9.350 Alternative feeding *Yes / No*
9.355 Type (*NG feeding / PEG)*

Mobilisation
9.360 Was the patient able to walk independently on admission? *Yes / No*
Management included

9.410 Tailored, repetitive practice of walking (or components of walking) *Yes / No*
9.420 Cueing of cadence *Yes / No*
9.430 Mechanically assisted gait (via treadmill or other) *Yes / No*
9.440 Joint position biofeedback *Yes / No*
9.450 Other therapy *Yes / No*

Arm deficit
Management included:
9.510 Constraint-induced movement therapy (in selected patients) *Yes / No*
9.520 Repetitive task-specific training *Yes / No*
9.530 Mechanically assisted training *Yes / No*
9.540 Other therapy *Yes / No*

Continence
9.550 Was patient assessed for urinary incontinence within 72hrs of admission? *Yes / No*
9.611 Was the patient incontinent of urine during their rehabilitation care? *Yes / No*
9.620 Did the patient have urge incontinence? *Yes / No*
9.630 Was a prompted scheduled voiding regime documented? *Yes / No*
9.640 Did the patient have urinary retention? *Yes / No*
9.650 Was intermittent catheterisation documented? *Yes / No*
9.660 Was a urinary incontinence management plan documented? *Yes / No*

Mood
9.740 Was the patient's mood assessed? *Yes / No*
9.780 Did the patient have a mood impairment? *Yes / No*
Management included:
9.790 Antidepressants *Yes / No*
9.800 Psychological (e.g. Cognitive-behavioural) interventions *Yes / No*
9.810 Other therapy *Yes / No*
9.820 No therapy provided *Yes / No*

ADL
9.830 Did the patient have difficulty with Activities of Daily Living? *Yes / No*
Management included:
9.840 Task specific practice *Yes / No*
9.850 Trained use of appropriate aids *Yes / No*
9.860 Other *Yes / No*

Aphasia
9.870 Did the patient have aphasia *Yes / No*
Management included:
9.880 Alternative means of communication (e.g. gestures, drawing, writing) *Yes / No*
9.890 Phonological & semantic interventions *Yes / No*
9.900 Constraint-induced language therapy *Yes / No*
9.910 Supported conversation techniques *Yes / No*
9.920 Delivery of therapy programs via computer *Yes / No*
9.930 Group therapy (e.g. conversation groups) *Yes / No*
9.940 Other therapy *Yes / No*

Neglect
9.950 Did the patient have neglect/inattention *Yes / No*
Management included:
9.960 Visual scanning training with sensory stimulation *Yes / No*
9.970 Prism adaptation *Yes / No*
9.980 Eye patching *Yes / No*

9.990 Simple cues to draw attention to the affected side *Yes / No*
10.000 Mental imagery training or structured feedback *Yes / No*
10.010 Other therapy *Yes / No*

Dependency within 72 hours of admission
10.310 First known modified Rankin Scale (*within 72 hours of admission to rehabilitation*) *Scores of 0 through to 6*
10.320 Unknown/derive
10.330 Is the patient alive? *Yes / No*
10.340 Can the patient walk on their own (i.e. without the assistance of another person, but may include walking aid)? *Yes / No*
10.350 If the patient can't walk on their own can they walk if someone is helping them? *Yes / No*
10.360 If the patient can walk on their own (includes walking aids) do they need help with simple usual personal activities (toilet, bathing, dressing, cooking, household tasks, simple finances)? *Yes / No*
10.370 If the patient can perform simple personal activities, do they need help with more complex usual activities (driving, finances, household bills, work tasks)? *Yes / No*
10.380 If the patient has no disability, do they have any symptoms? *Yes / No*

10.390 Total Motor FIM score on admission
10.410 Total Cognitive FIM score on admission

Allied health assessments
10.450 Was the patient seen by a physiotherapist
Yes / No / Not required / Patient declined / Therapist not on staff
10.460 Date
10.500 Was the patient seen by an occupational therapist
Yes / No / Not required / Patient declined / Therapist not on staff
10.510 Date
10.550 Was the patient seen by a speech pathologist
Yes / No / Not required / Patient declined / Therapist not on staff
10.560 Date
10.600 Was the patient seen by a social worker
Yes / No / Not required / Patient declined / Therapist not on staff
10.610 Date
10.650 Was the patient seen by a dietitian
Yes / No / Not required / Patient declined / Therapist not on staff
10.660 Date
10.700 Was the patient seen by a psychologist
Yes / No / Not required / Patient declined / Therapist not on staff
10.710 Date

Communication and support for patient and family/carer
10.750 Did the team meet with the patient to discuss management? *Yes / No / No but met with family*
10.760 Were goals set with input from the team and patient? *Yes / No / No but met with family*
10.790 Did the patient and/or family receive information covering stroke, hospital management, secondary prevention and recovery (e.g. 'My Stroke Journey' booklet)? *Yes / No / Not documented*
10.830 Does the patient have a carer? *Yes / No / Not required*
10.840 Did the carer receive relevant carer training? *Yes / No*
10.850 Did the carer receive a support needs assessment (e.g. physical, emotional, and social)? *Yes / No*

Reason (If, no): Patient transferred to inpatient rehab or other rehab / Carer declined / Other
10.860 Was the carer provided with information about peer support resources prior to patient's discharge? *Yes / No / Not documented*
Reason (If, no): Patient transferred to inpatient rehab or other rehab / Carer declined / Other

COMPLICATION DURING HOSPITAL ADMISSIONS
Did the patient have any of the following complications on admission to rehabilitation:
11.010 Aspiration pneumonia *Yes / No*
11.020 Deep Vein Thrombosis (DVT) *Yes / No*
11.030 Falls *Yes / No*
11.040 Fever *Yes / No*
11.050 Pressure sores e.g. decubitus ulcer *Yes / No*
11.070 Shoulder subluxation *Yes / No*
11.080 Shoulder pain *Yes / No*
11.090 Urinary tract infection *Yes / No*
11.100 Contracture *Yes / No*
11.110 Malnutrition *Yes / No*

Did the patient have any of the following complications during their admission to rehabilitation:
11.160 Aspiration pneumonia *Yes / No*
11.170 Deep Vein Thrombosis (DVT) *Yes / No*
11.180 Falls *Yes / No*
11.190 Fever *Yes / No*
11.200 Pressure sores e.g. decubitus ulcer *Yes / No*
11.230 Shoulder pain *Yes / No*
11.240 Shoulder subluxation *Yes / No*
11.280 Malnutrition *Yes / No*
11.290 New onset atrial fibrillation *Yes / No*
11.320 Urinary tract infection *Yes / No*
11.350 Contracture *Yes / No*

FURTHER REHABILITATION AND COMMUNITY RE-INTEGRATION
12.040 Was a referral made to rehabilitation? *[Note: this is a generic question; for the purposes of the Rehabilitation Audit, please treat as referral to further rehabilitation on discharge] Yes / No / Unknown*
12.051 If yes, Type *Inpatient rehabilitation / Inpatient rehabilitation ASU / Outpatient rehabilitation / Community rehabilitation home based / Community rehabilitation day hospital / Early supported discharge service / GEM Rehabilitation / Transition care – residential / Transition care – community / Individual therapist (home based) / Individual therapist (centre based) / Other*
12.180 Was the patient made aware of the availability of generic self- management programs before discharge from hospital? *Yes / No*
12.190 Was the patient asked if they wanted to return to driving? *Yes / No / Not documented*
12.191 Reason (if ' no') Did not drive prior to stroke / Patient too ill to participate / Severe cognitive impairment / Other
12.200 Did the patient want to return to driving? *Yes / No*
12.220 Was the patient provided with information about the process to return to driving? *Yes / No / Not documented*
12.230 Was the patient referred for driving assessment *Yes / No / Not documented*
12.231 Was the patient employed before the stroke onset? *Yes / No*
12.240 Was the patient asked if they wanted to return to work? *Yes / No / Not documented*
12.250 Did the patient want to return to work? *Yes / No*
12.260 Was the patient informed of services to assist with return to work? *Yes / No / Not documented*

With regard to sexuality, was the patient offered:
12.270 The opportunity to discuss issues relating to sexuality *Yes / No*
12.280 Written information addressing issues relating to sexuality post stroke *Yes / No*
12.290 Was the patient provided with information about peer support (e.g. availability and benefits of local stroke support groups or other sources of online peer support i.e. EnableMe)? *Yes / No / Not documented*

SECONDARY PREVENTION
13.000 Is there evidence of patient education about behaviour change for modifiable risk factors prior to discharge? *Yes / No*

Medication prescribed on discharge
13.020 On discharge was the patient prescribed antithrombotics
Yes / No / Unknown / Contraindicated
If yes, please specify
13.030 Aspirin *Yes / No*
13.040 Clopidogrel *Yes / No*
13.050 Dipyridamole MR *Yes / No*
13.055 Other antiplatelet drug *Yes / No*
13.060 Warfarin *Yes / No*
13.070 Dabigatran *Yes / No*
13.080 Rivaroxaban *Yes / No*
13.090 Apixaban *Yes / No*
13.100 Other anticoagulant *Yes / No*
13.110 If no, select reason *Patient refused / Under review / Treatment was futile (i.e. advance care directive is enacted or the patient is on a palliative care pathway) / No reason given*
13.120 On discharge was the patient prescribed antihypertensives *Yes / No / Unknown / Contraindicated*
13.200 If no, select reason *Patient refused / Under review / Treatment was futile (i.e. advance care directive is enacted or the patient is on a palliative care pathway) / No reason given*
13.210 On discharge was the patient prescribed lipid-lowering treatment *Yes / No*
13.240 If no, select reason *Patient refused / Under review / Treatment was futile (i.e. advance care directive is enacted, or the patient is on a palliative care pathway) / No reason given*

DISCHARGE INFORMATION
14.080 Date of discharge *DD/MM/YYY*
14.150 What is the discharge ICD 10 Classification Code?
14.160 What is the discharge destination/mode? *Discharge or transfer to another hospital / Discharge or transfer to a residential aged care service, unless this is the usual place of residence / Statistical discharge – type change / Left against medical advice or discharged at own risk / Died / Other / Usual residence (e.g. home) with supports / Usual residence (e.g. home) without supports / Inpatient rehabilitation / Transitional care service*
14.170 What is the level of support if discharged to private residence? *Lives alone (no formal supports) / Lives alone (formal supports) / Lives with others (no formal supports) / Lives with others (formal supports)*
14.180 Indicate if this is the same level of support as before the stroke *No change from previous / Change from previous / Unknown*
14.190 Is there evidence that a care plan outlining post discharge care in the community was developed with the team and the patient (or family alone if patient has severe aphasia or cognitive impairments)? *Yes / No / Unknown / Not applicable (remains in hospital e.g. inpatient rehabilitation or other acute care)*
L14.20 If yes, did this include:

14.200 Patient *Yes / No*
14.201 Family/carer *Yes / No*
14.210 Is there evidence that the general practitioner and or community providers were provided with a copy of the discharge summary? *Yes / No / Not applicable (e.g. inpatient rehab)*
14.220 Was a home assessment carried out? *Yes / No / Not required*
14.240 Did the patient receive the contact details of someone in the hospital for any post-discharge questions? *Yes / No / No but provided to family*
14.250 Functional status on discharge? (mRS)
Scores of 0 through to 6
14.260 Unknown/Derive
14.265 Is the patient alive? *Yes / No*
14.270 Can the patient walk on their own (i.e. without the assistance of another person, but may include walking aid)? *Yes / No*
14.280 If the patient can't walk on their own can they walk if someone is helping? *Yes / No*
14.290 If the patient can walk on their own (includes walking aids) do they need help with simple personal activities (toilet, dressing, household tasks, simple finances)? *Yes / No*
14.300 If the patient can perform simple personal activities do, they need help with more complex usual activities (driving, finances, household bills, work tasks)? *Yes / No*
14.310 If the patient has no disability do, they have any symptoms? *Yes / No*

14.340 Total Motor FIM score on discharge
14.360 Total Cognitive FIM score on discharge

Appendix 5: Key Indicator Analysis from the Clinical Audit Data

Variable	Numerator	Denominator
Goals set with input from the team and patient	Total number of patients with stroke who were involved in the process of setting their rehabilitation goals with input from the full multidisciplinary team.	**N** = All patients with stroke admitted to hospital. *Exclusions:* Patients with severe cognitive and/or communication difficulties.
Patient's mood assessed during admission	Total number of patients with stroke who received a documented assessment for a mood impairment during their rehabilitation admission.	**N** = All patients with stroke admitted to hospital
Patient and/or family received information covering stroke, hospital management, secondary prevention and recovery (e.g. My Stroke Journey booklet)	Total number of patients with stroke and/or their families who received relevant information during their rehabilitation admission.	**N** = All patients with stroke admitted to hospital.
Patient received education about behaviour change for modifiable risk factors prior to discharge	Total number of patients who received risk factor modification education during their rehabilitation admission.	**N** = All patients with stroke admitted to hospital. *Exclusions:* Those patients that died during the inpatient admission.
Patient prescribed antihypertensive medication on discharge	Total number of patients who were discharged from inpatient rehabilitation with antihypertensive medication.	**N** = All patients with stroke who were discharged from hospital. *Exclusions:* Patients who were deemed contraindicated for treatment and those patients that died during the inpatient admission.
Carer received relevant training	Total number of patients with stroke whose carer(s) have received relevant training during their rehabilitation admission.	**N** = All patients with stroke who have a documented carer upon their discharge from hospital. *Exclusions*: Carers of patients with stroke who left against medical advice, were transferred for further inpatient rehabilitation or acute care, or who were discharged to residential care.
Evidence that care plan was developed with the team and patient (or family alone if patient has severe communication or cognitive impairments)	Total number of patients with stroke and/or their families who received a care plan prior to discharge from hospital.	**N** = All patients with stroke who were discharged from hospital. *Exclusions:* Those patients where a care plan was deemed not applicable and those patients that died during the inpatient admission.

Appendix 6: Clinical Data Analysis – Numerator & Denominator

General Rulings:
- Only valid (yes/no) responses included in the denominator for impairments
- For processes of care, not documented/unknown responses included in denominator

Question	Numerator	Denominator
Impairments on admission (sensory, cognitive, visual, perceptual, speech & communication, hydration, nutrition, arm deficit)	Yes	Yes + No Not documented excluded (Total cohort)
Patient at risk of malnutrition	Yes	Yes + No Not documented excluded (Total cohort)
Ongoing monitoring by a dietitian	Yes	Yes + No Only if have **nutrition impairment**
Nutritional supplementation	Yes	Yes + No Only if have **nutrition impairment**
Alternative feeding	Yes	Yes + No Only if have **nutrition impairment**
NG Feeding/PEG	Yes	Only those **YES to alternative feeding**
Patient able to walk independently on admission	Yes	Yes + No Unknown excluded (Total cohort)
Management options for mobilisation	Yes	Yes + No Only includes those **not independent on admission**
Management options for arm deficit	Yes	Yes + No Includes only those with **arm deficit**
Patient assessed for urinary incontinence within 72 hours	Yes	Yes + No + ND (Total cohort)
Was the patient incontinent of urine during their rehab care	Yes	Yes + No Not documented excluded (Total cohort)
Did the patient have urge incontinence	Yes	Yes + No Not documented excluded If **incontinent of urine** during rehab
Was a prompted scheduled voiding regime documented	Yes	Yes + No + ND If **incontinent of urine** during rehab
Did the patient have urinary retention	Yes	Yes + No Not documented excluded If **incontinent of urine** during rehab
Was intermittent catheterisation documented	Yes	Yes + No + ND If **incontinent of urine** during rehab

Was a urinary incontinence management plan documented	Yes	Yes + No + ND If **incontinent of urine** during rehab
Was mood assessed	Yes	Yes + No + ND (Total cohort)
Did the patient have a mood impairment	Yes	Yes + No Not documented excluded Only if had **mood assessed**
Management of mood impairments	Yes	Yes + No Only if had **mood impairment**
Difficulty with Activities of Daily Living	Yes	Yes + No Not documented excluded (Total cohort)
Management options for difficulty with ADLs	Yes	Yes + No Only if **difficulty with ADLs**
Did the patient have aphasia	Yes	Yes + No Not documented excluded (Total cohort)
Management options for aphasia	Yes	Yes + No Only **if aphasic**
Did patient have neglect/inattention	Yes	Yes + No Not documented excluded (Total cohort)
Management options for neglect/inattention	Yes	Yes + No Only if have **inattention/neglect**
Assessed by allied health	Yes	Yes + No + No therapist on staff Excludes Not required or Patient declined
Assessed by dietitian	Yes	Yes + No + No therapist on staff Only include those with nutrition problem on admission Excludes Not required or Patient declined
Assessed by psychologist	Yes	Yes + No + No therapist on staff Only include those with mood impairment if assessed Excludes Not required or Patient declined
Team met with patient to discuss management	Yes	Yes + No Excludes No but met with family
Team met with family to discuss management	No but met with family	No + No but met with family (Total cohort)
Goals set with input from team and patient	Yes	Yes + No (Total cohort)
Goals set with input from team and family	No but met with family	No + No but met with family (Total cohort)
Patient/family received info covering stroke, recovery, etc.	Yes	Yes + No + ND (Total cohort)
Does the patient have a carer	Yes	Yes + No Excludes Not required (Total cohort)

Carer received carer training	Yes	Yes + No If **had carer** & if did not decline & discharged to private residence - usual residence +/- support or other
Carer received supported needs assessment	Yes	Yes + No If **had carer** & if did not decline & discharged to private residence - usual residence +/- support or other
Carer provided with info about peer support resources	Yes	Yes + No + ND If **had carer** & if did not decline & discharged to private residence - usual residence +/- support or other
Complications – on admission & during admission	Yes	Yes + No (Total cohort)
Referral made for further rehab	Yes	Yes + No + Unknown (Total cohort)
Unknown if referral made for further rehab	Unknown	Yes + No + Unknown (Total cohort)
Type of further rehab	Yes	Yes + No If **referral made**
Patient made aware of self-management programs	Yes	Yes + No Only includes those alive at discharge
Patient asked if they wanted to return to driving	Yes	Yes + No + ND If discharged to private residence - usual residence +/- support or other
Reasons patient not asked if they wanted to return to driving	Yes	Yes + No If No to asked If discharged to private residence - usual residence +/- support or other
Patient wanted to return to driving	Yes	Yes + No If **asked** if wanted to return to driving & discharged to private residence - usual residence +/- support or other
Patient provided with info about the process to return to driving	Yes	Yes + No + ND If **wanted to return to driving** & discharged to private residence - usual residence +/- support or other
Patient referred for driving assessment	Yes	Yes + No + ND If **wanted to return to driving** & discharged to private residence - usual residence +/- support or other

Was the patient employed before stroke onset	Yes	Yes + No If discharged to private residence - usual residence +/- support or other
Was patient asked if they wanted to return to work	Yes	Yes + No + ND If **employed before stroke onset** & discharged to private residence - usual residence +/- support or other
Patient wanted to return to work	Yes	Yes + No If **employed before stroke onset** & discharged to private residence - usual residence +/- support or other
Patient informed of services to assist to return to work	Yes	Yes + No +ND If **employed before stroke onset**, wanted to return to work & discharged to private residence - usual residence +/- support or other
Patient offered opportunity to discuss issues relating to sexuality	Yes	Yes + No Only includes those alive at discharge
Patient offered written info addressing issues relating to sexuality	Yes	Yes + No Only includes those alive at discharge
Patient offered info about peer support	Yes	Yes + No + ND Only includes those alive at discharge
Education about behaviour change	Yes	Yes + No Only includes those alive at discharge
Reasons for no evidence of patient education re behaviour change	Yes	Yes + No If **No to education** about behaviour change & discharged alive
Prescribed antithrombotic	Yes	Yes + No + Unknown Excludes contraindicated Includes only **ischaemic stroke** & those alive at discharge
Not prescribed antithrombotic - contraindication	Contraindication	Yes + No + Unknown + Contraindication Includes only **ischaemic stroke** & those alive at discharge
Prescribed antihypertensive	Yes	Yes + No + Unknown Excludes contraindicated Only includes those alive at discharge
Not prescribed antihypertensive - contraindication	Contraindication	Yes + No + Unknown + Contraindication Only includes those alive at discharge

Patient prescribed lipid-lowering treatment	Yes	Yes + No Includes only **ischaemic stroke** & those alive at discharge
Inpatient mortality	Died	All other discharge destinations (Total cohort)
Other discharge destinations	Yes	Exclude deaths from denominator
Level of support if discharged to private residence	Yes	Yes + No Only includes those with discharge destination as 'other', 'usual residence + support', 'usual residence – support'
Is level of support same/changed if discharged to private residence	Yes	Yes + No Unknown excluded Only includes those with discharge destination as 'other', 'usual residence + support', 'usual residence – support'
Discharge care plan provided to patient or family	Yes	Yes + No + Unknown Excludes Not applicable Only includes those alive at discharge
GP provided with copy of discharge summary	Yes	Yes + No Excludes Not applicable Only includes those alive at discharge
Home assessment carried out	Yes	Yes + No Excludes Not required Only includes those with discharge destination as 'other', 'usual residence + support', 'usual residence – support'
Patient received contact of someone in hospital for post-discharge	Yes + No but provided to family	Yes + No + No but provided to family Only includes those alive at discharge