

clinical practice support (CPS) supporting Nurses & Midwives

Livio Ciacciarelli RN, BN DGMA¹, Bryan Macdonald, RN, BN²

¹ Health System Performance - Operations Division, SA Health, Adelaide, South Australia, Australia; ² Health System Performance - Operations Division, SA Health, Adelaide, South Australia, Australia

Abstract

careconnect.sa clinical practice support (CPS), a product from Emerging Systems¹, is an enterprise wide clinical information system implemented in two pilot hospital sites within SA Health. South Australian Nursing and Midwifery Leads identified the need for a standardised language & framework to be integrated into CPS. The Clinical Care Classification (CCC) System³ was identified as the most suitable for SA Health. The integration of the CCC Framework in CPS supports patients, nurses and midwives in their decision-making using the six steps of the nursing process.

Discussion

South Australia is the fourth largest state in Australia with an area of over 983,482 square kilometres⁴ and has a total population of 1.65 million⁵.

CPS is currently implemented at two lead hospitals, Lyell McEwin Hospital (Metropolitan) and Port Augusta Hospital (Country) with a distance of over 300 kilometres (186.4 miles). It is envisaged that the system will be implemented at the remaining 14 in-scope hospitals across South Australia. CPS is an enterprise wide system where patient information can be accessed seamlessly between both health sites, assisting nurses/midwives with the planning and coordination of patient care and clinical decisions to support nurses and midwives practice.

Nursing and Midwifery clinical experts developed the content for use in CPS across all clinical specialties. It was developed utilising Best Practice and the latest evidence and encompasses the six steps of the nursing process outlined in the CCC system.

Step 1 - The Nursing / Midwifery Assessment assists in identifying and managing the patients needs and risks. From this data, CPS begins to formulate and identify the care planning requirements based upon pre determined and enterprise wide evidenced based clinical pathways. (Exhibit A)

Step 2 - The Nursing Diagnosis are automatically formulated and CPS begins to also summarize and formulate Assessment Scores (eg Braden Score, Falls Risk Score, BMI) and Clinical Flags/Alerts (eg Pressure Ulcer Risk, Fall & Fall Injury Risk) based upon the assessment data entered. (Exhibit B)

Step 3 - The Outcome Identification of Improved, Stabilised or Deteriorated is required to be entered for each Nursing Diagnosis generated from the assessment data entered. The Expected outcome is entered prior to completing the assessment. (Exhibit B)

Step 4 - The Planning of care is provided by the clinical pathway, which contains standardised Nursing and Midwifery interventions phrased in common terminology and categorised under the 21 Care Components. All interventions are coded accordingly to the CCC System Intervention categories and the 4 Action types: (e.g. Skin inspection assessed is mapped to R54.0.1 = Assess Skin Care). The CCC system of classification is incorporated into the Systematized Nomenclature of Medicine-Clinical Terms (SNOMED CT)⁶. This allows for more appropriate coding of patient admissions and reporting of clinical care and ability to cross reference outcomes and diagnosis with alternative classification systems. (Exhibit C)

Step 5 - Implementation of the clinical pathway is based on state-wide review of practice with a strong link to best practice and evidence-based guidelines. The nurse or midwife is able to adjust the clinical pathway accordingly to the patients' requirements, adding or removing interventions as needed. Where a deviation from best practice care exists, the nurse or midwife is required to document a reason and/or variance. They are then required to follow this up and identify any outcomes following this variation. (Exhibit C)

Step 6 - The Evaluation of Improved, Stabilised or Deteriorated is required to be entered for each Nursing Diagnosis prior to the patients' discharge. (Exhibit D)

Exhibit A – CPS Assessment – Braden⁷

careconnect.sa
Improving Health Care in South Australia

Bk No: 819564 | UR No: 858585-1 | Fund: | Bed: AC05A | Sex: F
DOB: 01 Jan 1980 (31) | Adm: 18 Jul 2011 | AMO: THOMAS, D
SABA, MS VIRGINIA

Summary Braden Skin Integrity

SENSORY PERCEPTION - ability to respond meaningfully to pressure related discomfort
Slightly Limited

MOISTURE - degree to which the skin is exposed to moisture
Occasionally Moist

ACTIVITY - degree of physical activity
Walks Occasionally

MOBILITY - ability to change and control body position
Slightly Limited

NUTRITION - usual food intake pattern
Adequate

FRICION AND SHEAR
No Apparent Problem

Save Exit

Exhibit A

Exhibit B – CPS Assessment Summary

careconnect.sa
Improving Health Care in South Australia

Bk No: 819564 | UR No: 858585-1 | Fund: | Bed: AC05A | Sex: F
DOB: 01 Jan 1980 (31) | Adm: 18 Jul 2011 | AMO: THOMAS, D
SABA, MS VIRGINIA

Summary Braden Skin Integrity

Patient Visit Status AD - Admitted

Assessment Details
Assessment Name Braden
Last Updated 18 Jul 2011, Livio Ciaccarelli
Status InComplete

Outcome Details

Type	Value	Name
Score	18	BRADEN RISK SCORE

Events (2 records)

Type	Trigger Name	Trig
Care Guide	Braden Score, Mid Risk (15-18)	18 Jul 2011 1
Clinical Flags	Pressure Ulcer Risk: Pressure Ulcer Risk	18 Jul 2011 1

1. Assessment Score is automatically calculated.

2. Clinical pathway for Braden is loaded
3. Clinical Flag for Pressure Ulcer is activated

Nursing & Midwifery Diagnosis (4 records)

Care Component	Nursing & Midwifery Diagnosis	Exp. Outcome
Activity	Activity Intolerance Risk	Improve(d)
Sensory	Tactile Alteration	Stabilise(d)
Skin Integrity	Skin Integrity Impairment Risk	Improve(d)
Tissue Perfusion	Tissue Perfusion Alteration	Improve(d)

4. Nursing & Midwifery Diagnosis is presented based upon the assessment data entered.

5. Expected Outcome entered for each Nursing & Midwifery Diagnosis.

Exhibit B

Exhibit C – CPS Clinical Pathway

careconnect.sa | Improving Health Care in South Australia | Patient Care Guides - Clinical Pathway | SABA, MS VIRGINIA

Future Events | Clinical Pathway | Treatment | Add Intervention | Browse | Care Guide Assignment | Variances | Prev Admit CG History

Tick checkbox if all interventions have been completed.
 Y = completed N = not completed (select reason) L = Later (select reason) R = Remove (select reason) Save

Care Component	Intervention	Done	P.Occ	R.Occ	A.Occ	Reason for N, L, or R	Comments
Medication	Analgesia effect assessed & documented	Y					
Safety	Escort Client to Medical Imaging completed	Y					
Activity	High density foam mattress or static air filled overlay provided	Y					
	Mobility & activity encouraged	Y					
Nutritional	Fasted as per protocol	Y					
Respiratory	SpO2 assessed 4 hrly	Y					
Physical Regulation	Education to client provided	Y					
	Vital signs: TPR & BP assessed 4 hrly	Y					
Skin Integrity	Education provided on pressure risk and preventative strategies	Y					
	Pressure risk & preventative strategies implemented as per protocol	Y					
	Skin inspection assessed	Y					
Bowel/Gastric	Nausea/Vomiting assessed	Y					
	Bowel sounds & function assessed	Y					

Interventions categorised & appear under the 21 Care Components

Nurse / midwife indicates if the intervention was performed
 Y= Yes; N= No; R = Remove; V = Variance

Interventions are expressed using the 4 Action types and are coded accordingly to the CCC Intervention Categories (198)
 (eg Skin inspection assessed = R54.0.1
 R54.0.1 = Assess Skin Care

Exhibit D – CPS Diagnosis & Outcomes

careconnect.sa | Improving Health Care in South Australia | Nursing & Midwifery Diagnosis and Outcome | SABA, MS VIRGINIA

Search | Clear | Save | Exit

Episodes | 819563-PAG, 18 Jul 2011 to 01 Jan 1910 [ADMISSION TO HOSPITAL]

Nursing & Midwifery Diagnosis | Outcomes

Care Component	Nursing & Midwifery Diagnosis	Exp.Outcome	Act.Outcome	Last Updated
Self-Care	Toileting Deficit	Stabilise(d)	Stabilise(d)	18 Jul 2011 16:31:15
Activity	Physical Mobility Impairment	Stabilise(d)	Stabilise(d)	18 Jul 2011 16:31:15
Self-Care	Bathing/Hygiene Deficit	Improve(d)	Stabilise(d)	18 Jul 2011 16:31:15
Tissue Perfusion	Tissue Perfusion Alteration	Improve(d)	Stabilise(d)	18 Jul 2011 16:37:18
Activity	Activity Intolerance Risk	Improve(d)	Stabilise(d)	18 Jul 2011 16:37:18
Sensory	Tactile Alteration	Stabilise(d)	Improve(d)	18 Jul 2011 16:37:18
Self-Care	Dressing/Grooming Deficit	Stabilise(d)	Improve(d)	18 Jul 2011 16:31:15
Activity	Musculoskeletal Alteration	Stabilise(d)	Improve(d)	18 Jul 2011 16:31:15
Skin Integrity	Skin Integrity Impairment Risk	Improve(d)	Stabilise(d)	18 Jul 2011 16:37:18
Self-Care	Activities of Daily Living (ADLs) Alteration	Improve(d)	Stabilise(d)	18 Jul 2011 16:40:14

Actual Outcomes entered for each Nursing & Midwifery Diagnosis, which is auto generated from data entered from Assessments

References

1. Emerging Systems, viewed Monday 5th September 2011. <www.emerginghealthsolutions.com.au>
2. careconnect.sa Strategic Directions (2009–10 to 2016–17), Viewed Monday 5th September. <<http://www.careconnect.sa.gov.au/>>
3. Virginia K Saba (2007), Clinical Care Classification (CCC) System Manual, A Guide to Nursing Documentation, Springer Publishing Company
4. Atlas of South Australia, viewed Monday 5th September 2011. < <http://www.atlas.sa.gov.au/go/about-south-australia/facts-and-figures>>
5. Australian Bureau of Statistics, Viewed Monday 5th September 2011. < <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3101.0>>
6. Health Terminology for the Health Care Sector Launched, viewed Monday 5th September 2011. < <http://www.nehta.gov.au/media-centre/nehta-news/571-snomed-ct>>
7. Copyright Barbara Braden & Nancy Bergstrom, 1998