



Cognitive Impairment Identifier Project

An All of Hospital Education Program to Improve the Awareness of and Communication with People with Dementia - Linked to a Visual Cognitive Impairment Identifier.

Ballarat Health Services

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Appendices

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Abstract

Project Objectives

To determine:

- if people with dementia and their carers find it acceptable that Ballarat Health Services (BHS) uses a bed side identifier for cognitive impairment.
- if a hospital wide education program will improve both the awareness of, and communication with people with dementia.
- if a hospital wide education program with a cognitive impairment identifier will improve the hospital care experienced by patients with dementia and their carers.

Australian hospitals are not well equipped to respond to the particular needs of people with dementia. It is widely accepted both within carer groups (Alzheimer's Australia National Conference 2003) and in recent reviews of dementia care, that acute hospitals are not geared to best meet the needs of people with cognitive impairment and their carers. ⁴

Dementia, delirium and other causes of cognitive impairment are increasingly common in Australian hospitals. Cognitive impairment is common in the acute setting and was estimated to be 30% in recent audit conducted at BHS.

The lack of easy identification of people with cognitive impairment, often results in ineffective targeting of support and a lack of awareness of its prevalence.

An understanding and application of effective verbal and non-verbal communication techniques are fundamental to quality hospital care. Traditionally these communication techniques have been solely the domain of clinical staff; however equally important is non-clinical hospital staff such as, ancillary staff.

An all of hospital education program, linked to a bed side cognitive impairment identifier (CII) was delivered throughout BHS acute site. The aim of the program was to improve the awareness of and communication with people with cognitive impairment.

The CII was offered to patients and families when:

- There was an established history of dementia
- A delirium was identified using the Confusion Assessment Method ¹⁵
- A patient scores 24 or less on a Mini-mental State Examination and/or has an abnormal clockface drawing
- A new dementia is diagnosed (meeting the DSM 4 criteria)

Key conclusions

- The use of the CII is supported by people with cognitive impairment and their carers.
- A bedside CII facilitates the uptake of communication skills and support for people with cognitive impairment by both clinical and non-clinical hospital staff
- The CII assists in the implementation of an all of hospital approach to the care of people with cognitive impairment.
- An all of hospital education program linked to a cognitive impairment identifier improves the hospital experience of people with cognitive impairment as measured by the satisfaction of their carers and family.

Background:

The ageing of Australia's population over the next two decades has been well reported. ¹ The proportion of the population aged 65 years and over is expected to rise to 24 percent by 2051. ²

Along with this demographic change is a parallel change in Australian Hospitals. Patients over the age of 70 years account for 24 percent of all separations from Victorian Hospitals and 40 percent of all patient beddays. ³ With this ageing comes an inpatient increase in prevalence of dementia and delirium. ⁴ Studies have estimated that delirium occurs in 14 to 56 percent of hospitalised older patients. ⁵

Like all hospitals in Australia, BHS is faced with the need to develop strategies to manage the complex needs of the ageing population within health services of the future.

Achieving the best quality care for people with dementia and their families in both residential and the acute setting has been a focus of activity within BHS for over ten years. An internal review of existing components of dementia care mapped against a dementia pathway was completed in 1990. In 1992 Hurley J et al published the Behavioural Assessment Graphical Scale to assist in the better management of behavioural difficulties in the residential and sub-acute settings. In 1994 the first patient was seen in the Queen Elizabeth Centre Memory Clinic and in 1998 this became one of the thirteen states wide Cognitive Dementia and Memory Services forming a satellite service in Horsham in 1999.

Cognitive impairment is best described as the full scope of memory and thinking difficulties that can limit a person's ability to respond according to his or her environment. Cognitive impairment in the hospital setting often leads to increased anxiety for patients and their carers.

Dementia and the risk of delirium increase with age and are associated with a number of adverse outcomes. ⁶ The identification of delirium by health care staff is poor and yet its outcome is modifiable with appropriate management. ⁸

Effective screening, identification and appropriate management of cognitive impairment should reduce the risk of poor outcome and improve hospital care.

Government has recognised that acute hospitals are not well equipped to manage people with dementia, their families and carers. ⁴ Alzheimer's Australia has also noted that acute hospitals are not well equipped to manage the complex care needs of people with cognitive impairment and have outlined the elements of quality communication in an institutional environment. ⁷

Hospitals are complex care systems. To evaluate change to these systems it is necessary to measure both outcome and process change. ⁸ A true systems change must be sustainable, can spread and is sufficiently robust to survive variation. ⁹ Aspects of good hospital processes for the care for people with dementia and delirium have been suggested by Nay & Koch et al and the UK Department of Human Services. ¹⁰ These processes include appropriate environment, care support and discharge planning.

There are few opportunities for staff to learn about dementia or delirium. The role of the Clinical Nurse Consultant Cognition established in 2001 at BHS aided the hospital in identifying deficiencies in care delivery and improved nursing knowledge with the delivery of dementia and delirium specific education to all clinical areas.

Education around the needs of people with dementia given only to nursing staff however does not address the many interactions people with dementia and their families have with the hospital staff such as with porters, menu clerks and social workers. Education as a sole means of system change is limited because of the rapid turnover of staff in all hospital departments and it is only one part of a larger process. System change is more likely to occur when associated with physical change to the environment or procedural change. ⁹

In hospitals patient bedside alerts are common practice, eg nil by mouth. Alerts have become widespread for visual and hearing impairments.

Cognitive impairment, like visual and hearing impairment carry no physical stigmata yet an extensive literature review failed to yield evidence for the previous use of an alert for cognitive impairment or dementia in the hospital setting.

If staff, be they nursing staff or porters, are not alerted to cognitive impairment when present, they cannot use the knowledge they have acquired through education to improve patient care.

Consumer involvement in the development of health services improves the validity of the services offered. Consumers are critical stakeholders in achieving sustainable system

change. The use of focus groups to inform the development and implementation of change are believed to improve consumer satisfaction.

Client satisfaction is of fundamental importance as a measure of the quality of care because it gives information on the provider's success at meeting those client values and expectations which are matters on which the client is the ultimate authority. The measurement of satisfaction is, therefore, an important tool for research, administration and planning. ¹¹

Project objectives:

Considering the above it was felt that both education and the use of an impairment identifier would lead to process and practice change that improved outcomes in the care of people with cognitive impairment in the acute hospital setting. The objectives of the project were therefore:-

- To develop a hospital wide education program to improve both the awareness of and communication with people with dementia.
- To develop a bedbased identifier for cognitive impairment and determine if people with dementia and their carers find it acceptable when used at Ballarat Health Services.
- To determine if a hospital wide education program with a cognitive impairment identifier will improve the hospital care experienced by patients with dementia and their carers.

Methodology:

Project Setting

To understand the project outcomes it is important to note the hospital environment in which the project was conducted.

Prior to initiating this project BHS had undertaken significant steps in the area of risk management for older patients. This existing foundation had a significant impact on BHS's ability to successfully conduct this project.

The development of the CNC Cognition role in 2001, aided the hospital in identifying deficiencies in care delivery, whilst providing nursing staff with hands on modelling of care practices and an awareness of how care can be different. The existence of the CNC

Cognition has also facilitated hospital audits, case presentations and a subsequent willingness at a ward and organisational level to improve identification of risk and care for patients admitted to BHS acute and sub-acute sites with cognitive impairment.

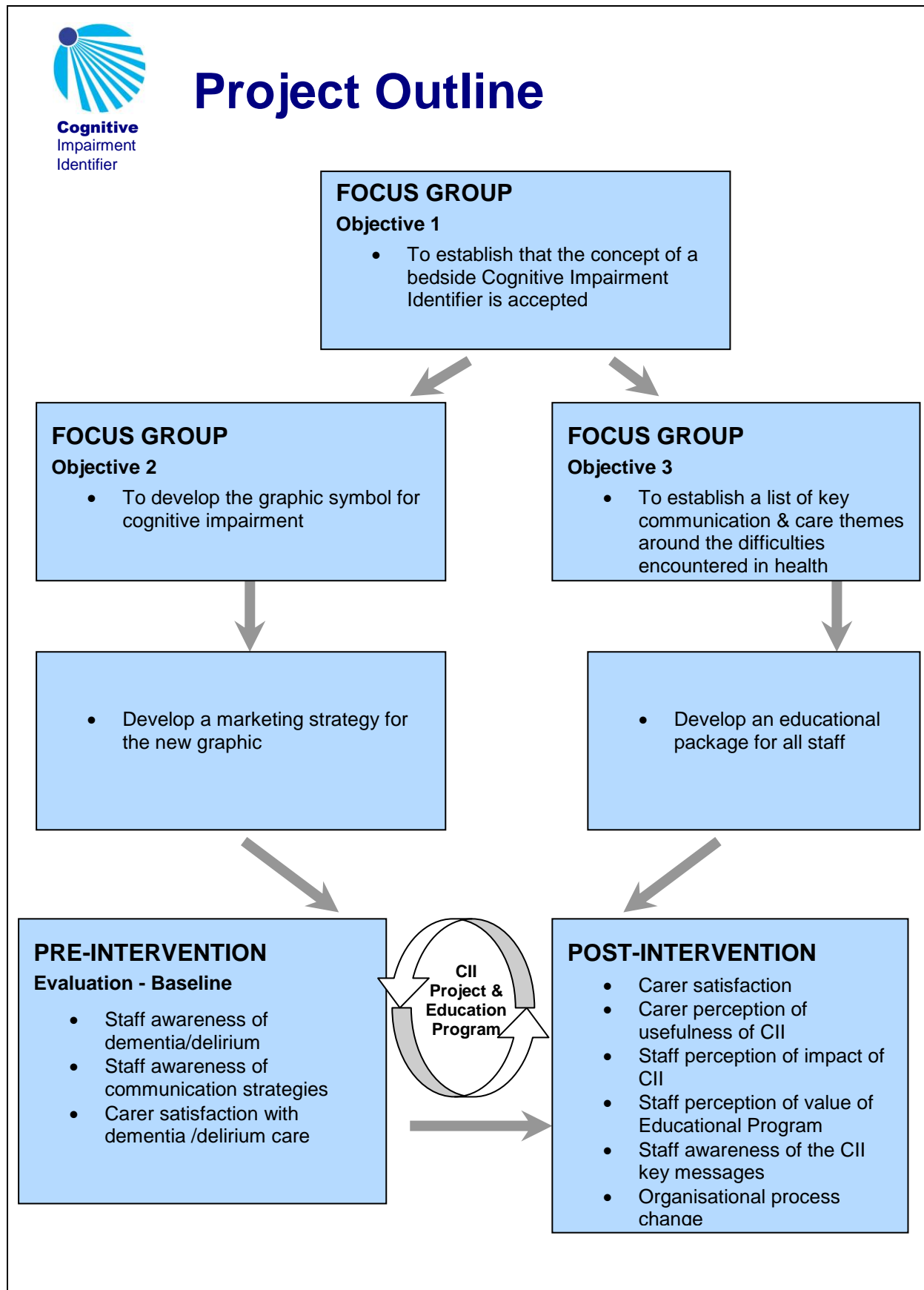
BHS was a lead hospital in the National Demonstration Hospital Program Phase 4. The theme of the BHS model called "One Episode of Care" was that, as the acute hospital environment experiences an increase in older populations, more of the management practices used in sub-acute care would be needed in response to risks identified in the acute setting eg. bowel care, falls and cognition.

As a consequence at BHS the Mini-mental State Examination (MMSE), the Confusion Assessment Method (CAM) and the Delirium Index (DI) screening and assessment tools have been formatted as part of the medical record. Routine cognitive screening for those over 70 years has been extended from an ACHS KPI in Geriatric Medicine to all medical and surgical environments.

Project Outline

This project was developed in two stages. **Stage one**, was the formation of a focus group, which developed the CII and key components of the education package. **Stage two**, was the implementation of the CII in conjunction with an education program across the acute hospital service, with appropriate pre and post implementation evaluation. See table 2 for the project outline.

Table 2



Stage One - Focus Group Process and Results

Focus group participants were selected from the Grampians region dementia support group. The participants were key informants comprising of people with a diagnosed dementia, and/or, carers/family members of people with a diagnosed dementia. Initially, a total of 22 interviews (see Appendix 1) were conducted with 39 participants using questions (see Appendix 2) in a semi-structured interview. The questions allowed for further probing of issues and a greater depth of information and interpretation.¹² Given the limitations of time and resources available for this research, the number of interviews was limited so as to adequately process and analyse the transcripts.¹³ During initial interviews a collection of current identifiers (see Appendix 3) used in acute care settings for vision and hearing impairment were used as examples to help as a demonstration.

A total of 20 follow-up interviews, (2 participants declined) were conducted after the initial data had been processed and identifier prototypes had been prepared from the information provided.

OBJECTIVE ONE

The first objective was to determine whether people with dementia and their carers found it acceptable to use a bed based identifier for cognitive impairment. From the data collected 37 of the 39 interviewees (see Appendix 4) indicated yes to accepting the use of an identifier. Of the 37 positive responses 32 indicated that they preferred a bedside type identifier.

OBJECTIVE TWO

The second objective was to establish a verbal set of descriptors of the identifier to inform the graphic designer. From the initial interviews, participants offered their suggestions as to what characteristics an acceptable identifier should include. Four main themes describing the identifier emerged (see Appendix 4). These were:

- **Style:** All participants indicated that a design depicting the brain (or a variation of) or maze type objects, were too confronting and lacked sensitivity around the issues and stigmas associated with dementia. Some responses included; “...it is too focused on deficiencies”, “We don’t want it to look like someone is losing their mind”, “...it doesn’t need to be more confusing than it already is.” “...it generates negative feelings”. The majority of participants (17) indicated that they were undecided as to what design should be adopted for the identifier. After viewing the examples of current identifiers used in acute care settings for hearing and vision impairments, the

majority of participants (28 including participants who indicated a logo) suggested that an abstract design would be preferred.

- Colour: All participants indicated that they did not want the identifier to be too obvious but would be readily recognised. Some suggestions included; *"...the colours need to be subtle and friendly"*, *"...I would like to think the staff would see it"*, *"...can it match the colours of the rooms?"* *"...there are enough red and yellow signs already, this one needs to be different"* The preferred option indicated by 15 participants was the colour blue, with 12 undecided.
- Shape: From the interviews many participants were undecided (16) regarding the shape. Their responses included *"...it doesn't really matter, as long as it gets the message across"*, *"...it should be similar to the ones already used"*, *"...we would like to see some different ones before making a choice"*. There were 15 participants who requested that the identifier be round, supporting their choice with comments like; *"...it is more comforting that shape"*, *"...it isn't as sharp and looks more soft and gentle"*, *"...it's too much like a box if it is square"*.
- Size: The majority of participants (21) indicated that the preferred size of the identifier to be small. Their comments included; *"I don't want everybody to know ...they aren't the ones with dementia"*, *"...only the staff will know what they are looking at"*, *"...needs to be kept the same size as the others"*, *"...as long as it can be seen, and the staff recognise what it means"*.

The verbal descriptors were then given to the Graphic Designer who developed a number of prototype designs (see Appendix 5) Follow-up interviews were then conducted with 37 of the original 39 participants (2 participants declined due to ill health). All prototype designs were provided to the participants for their feedback and selection of preferences (see Appendix 6). The data collected indicates that the highest scoring preference was the prototype Model 1 with 25. There were 22 who selected the Model 1 prototype that was coloured blue. Of significance 19 of those who selected the blue Model 1 prototype indicated the preference for contrasting blues as opposed to the blue/red configuration. The next highest scoring preference was Model 2 and Model 4, each scoring 6. Of significance was that from the total number of 39 participants 36 had selected blue coloured prototypes. From the information collected the final prototype design, Model 1A (see Appendix 7), has been adopted.

During the follow-up interview process there were many comments made regarding what the symbol represented to the individual. Some of the comments made regarding the preferred

model chosen were; “...over there in the corner, it actually catches your eye”, “...yes, it represents all of us contributing to a common goal”, “...it resembles a sort of lighthouse, a beacon shining out”, “If you turn it a little to the right it looks like an angel”, “...for me it resembles reaching out, very supportive...”, “I feel that there are many things happening for someone with dementia and this looks like many merging to one”

Cognitive Impairment Identifier (CII) design selected by the focus group



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OBJECTIVE THREE

The third objective was to establish a list of targets for the educational program to be used in the hospital. Throughout the interview process participants were asked to reflect on their experiences of acute care or other like environments ie. Medical Specialist and GP practice, Community Health Organisations, Local Governments, and other Health Service providers. The semi-structured interview questions allowed for greater exploration of specific issues that arose for the participants. From the interviews a number of themes emerged. All the themes are directly related to communication and environment interactions between the person with dementia, their carer or family member, and staff/professionals. The dominant themes (see Appendix 8) were identified. Of the 22 dominant themes there were 9 themes that scored 15 or above. This suggests that there is a possible minimum of 30 participants out of a total 39, over 75%, who have experienced some difficulty in the area as identified by the theme.

For the purpose of this project, the 9 highest scoring themes were adopted as the targets for the educational program (see table 3).

Table 3

- | |
|---|
| <ul style="list-style-type: none">• Introduce yourself (identification and orientation)• Make sure you have eye contact at all times (orientation and attention)• Remain calm and talk in a matter of fact way (mood orientation and reduced anxiety)• Involve carers (history, common phrases, other practical strategies)• Keep sentences short and simple (increased understanding and reduced confusion)• Focus on one instruction at a time (reduced confusion)• Give time for responses (increased understanding and reduced anxiety)• Repeat yourself...don't assume you have been understood (attention, orientation and increased understanding)• Do not give too many choices (reduced confusion and increased positive outcomes) |
|---|

There were many quotations that reflected both directly and indirectly the common themes (see table 4).

Table 4

"It sounds a bit silly really but I always felt I was intruding when I asked questions...."

"...I felt her (my wife) become more tense by the way she gripped my arm as I sat by the hospital bed....It would have helped if they asked me as it (the questions) only made it more distressing for her..."

"I'm sure the staff mean well and they're very busy you know...but Mum wasn't eating and drinking well...it would make it easier if we didn't have to explain all the time..."

"I kept forgetting who said what, and there were so many different people...I felt awful that I couldn't even remember what I was there for...it just seemed like a thick fog..."

"Even we felt confused with all the different medical things (procedures), imagine what it must have been like for mum...I mean even the menu was complicated"

"Dad really was struggling with mum being in hospital. I don't think they understood how difficult it was for him coping on his own...it was a difficult time for us all"

"I didn't want them making a fuss of me.... there are people worse off than me.... I may forget some things but I'm not stupid"

"I'm not sure if he remembers anything of being in hospital. Dad kept touching them (the staff)...it really was frustrating for staff... Dad didn't think there was anything wrong with him."

"It was really difficult travelling in every day.... I just wanted to be there all the time so she (my wife) didn't feel alone.... I'm sure she was more settled."

"Mum would answer yes to most questions...I'm not sure if they realised that she had no idea what they were talking about"

"I kept on forgetting to take the...um...you know those round things. Anyway they sometimes got cross with me"

"It's pretty easy to tell when the staff are frustrated....I guess we can't complain, but we felt uncomfortable at times".

Stage Two – CII and Education Program:

Ethics Committee approval was gained from the St. John of God Hospital and BHS ethics committee. This committee is constituted in accordance with the NH and MRC guidelines.

The inclusion of the privacy officer in the steering committee was important considering the sensitivity of the process of physical identification of an impairment around which there are community taboos.

Baseline Evaluations

Baseline data was collected on carer satisfaction, staff awareness and previous exposure to dementia education, the use of other physical impairment identifiers, and the organisational support for people with dementia.

Carer satisfaction was ascertained using a carer's satisfaction survey administered by telephone. This survey was based on 10 questions that investigated the impact of the key communication and carer involvement targets of the educational program. 20 pre-intervention surveys were conducted by asking nursing staff in the Medical Assessment and Planning Unit (MAP), medical units and orthopaedic unit to identify patients with cognitive impairment. Their carers were then invited to complete the satisfaction survey.

The staff awareness and previous levels of education were determined by a survey of staff conducted prior to the educational sessions. These surveys were completed by 169 clinical and non-clinical staff who participated in the hospital wide education. Staff from Pre-admission Clinic, Medical Assessment and Planning Unit (MAP) and the Orthopaedic ward were specifically asked to attend the education sessions.

An audit of the use of hearing and visual impairment identifiers across the hospital was conducted to ascertain baseline use of physical impairment identifiers. This was achieved by a six week prospective review of the nursing admission documents for all new admissions to establish if hearing or visual impairment was noted. Twenty-four to forty-eight hours later patients with a recorded abnormality were followed up on the wards to ascertain identifier usage.

An organisational audit as produced by the Lincoln Institute of Gerontology and based on work by Nay & Koch et al and the UK Department of Human Services was conducted. 10

This audit looked specifically at organisational policy and process that supported people with dementia. (see Appendix 10)

Delivery of Education Package

Key themes for the education package were developed as outlined in Stage One. The education format was a 30-40 minute Power Point lecture style training session, including quotes derived from the focus group work. Each education session was commenced with a 7-minute video of a "Carers Experience of the Acute Hospital System". (See attached education package).

The image of the Cognitive Impairment Identifier and 9 key communication points learnt throughout the sessions were reinforced by the distribution of printed bookmarks for all participants.

The subject matter of the education sessions was such that it could be easily understood by all disciplines, both clinical and non-clinical across the acute hospital site.

The total number of education sessions delivered to all hospital staff was 16, including 2 multidisciplinary team open forums held at lunch time. The total number of attendees who received education was 200.(see table 5 for details of participant numbers) As the project evolved additional education was delivered on a clinical needs basis.

Table 5

Education Session Attendees by Department.		
Participants	Sessions	Number of Attendees
Engineering	1	25
Environmental Services	1	25
Doctors	2	9
Open Forum	2	
(numbers broken down through list)		
Security	1	11
Night duty	1	27
2 North	3	12
3 North/MAP	3	8
4 North	3	11
3 South	2	8
4 South	3	18
ACAS/CDAMS	1	6
PDU	1	6
Radiology	2	20
Allied Health		7
Additional education/training		
Project Champions	5 individual 2 group meetings	

Education was delivered by:-

Dr. Mark Yates F.R.A.C.P

Clinical Director Sub-acute Medicine.
BHS

Ms. Meredith Theobald

Clinical Nurse Consultant Cognition
BHS

An 8-point education evaluation questionnaire was sent out to 7 clinical and non-clinical managers who attended project education with their staff. The aim of the survey was to determine if the education was delivered at a level understood by all participants both clinical and non-clinical.

Patient Selection

The use of a CII was offered to all patients with a known diagnosis of dementia, delirium as determined by the Confusion Assessment Method (CAM) ¹⁴ or a Mini-mental State Examination (MMSE) of 24< and/ or an abnormal clockface drawing. ¹⁴ These assessments are routinely done for all patients over the age of 70 years admitted to the Medical Assessment and Planning Unit (MAP), Pre-admission Clinic and the Orthopaedic Unit.

The Cognitive Impairment Identifier Project Resource Folders were developed for each participating ward to provide an immediate resource to project information and key project members.

Contained in the resource folders was the project pathway "Working with the Cognitive Impairment Identifier" giving staff stepwise guidance for identifying which patients should be recruited into the project through to point of discharge. It was emphasised to the patient and carers that participation in the project was voluntary and at any stage they could remove the identifier.

Clinical Nurse Specialists from each ward were selected to oversee the uptake of the project, and to act as the ward's liaison directly to the project team.

Each project champion was given objectives to aid in the recruitment of participants and the gaining of assent to use the CII. Project champions had a number of roles including:

1. To monitor admission of new patients to the ward and under the guidelines of the project and in partnership with fellow nursing staff determine if a patient is appropriate for recruitment into project.
2. Patients flagged as appropriate for inclusion into the project will be communicated directly to the project manager.
3. In the event of MAP patients being transferred to another ward within the hospital it is the project champion's responsibility to ensure the other ward is made aware the patient is enrolled in the project and thus should have an identifier displayed.
4. The project champion should inform the project manager of ward transfers.
5. The project champion will nominate a second person to cover for them on rostered days off and in the event of annual leave.

Results

As required by the DHS to ensure the integrity of the results the pre and post education and staff perception surveys were sent directly to Lincoln Institute of Gerontology La Trobe University for analysis.

Carer Satisfaction Surveys

The carers perception of the care delivery both prior to and after the introduction of the cognitive impairment identifier and education process was achieved via carer satisfaction surveys with 20 collected prior to the education program and implementation of the identifier.

35 carer satisfaction surveys were collected post implementation of the educational program and CII.

Post intervention surveys represented approximately 36% of all patients who had an identifier used.

Prior to the introduction of the education program and the CII, the average satisfaction across all ten communication and support questions was 73%. The average dissatisfaction across the same questions was 18%. Post the introduction of the CII and the education, satisfaction has improved on average across all ten domains to 84.2%, with dissatisfaction dropping to 6.4%. an overall positive shift of 23.6% in carer perception was achieved.

Within the carer satisfaction surveys there were a number of free text comments supporting satisfaction. These included:-

“Excellent communication, particularly the willingness of nursing staff looking after mum to talk to me and update me”.

“Bed based identifier is a useful tool for staff to immediately recognise a particular patient’s limits/deficits”.

“Congratulations on this project. As I work with people with dementia it was good to see that others are being made aware of these problems in some patients”.

Table

Question to Carer	Satisfied(% of response)		Dissatisfied(% of response)	
	Pre(n=25)	Post (n=30)	Pre(n=25)	Post(n=30)
That the staff knew the patient has Cog. Impairm.	80	87	20	6
Staff introduced themselves	70	81	25	0
Staff did not expect more than patient capable of	75	84	20	6
Staff explained things simply	65	90	15	6
Carer invited to provide information	80	78	15	9
Notice taken of volunteered information by carer	80	84	20	6
Staff understanding of challenging behaviour	55	87	10	3
Carer given information about the treatment given	70	78	25	19
Carer given option to receive discharge information	70	81	15	3
The hospital is dementia friendly	85	92	15	6
Percent satisfied or dissatisfied	73	84.2	18	6.4

Pre and Post-Education Surveys

Pre-education surveys were completed by 169 of the 200 clinical and non-clinical staff who participated in the hospital wide education program (see Appendix 11). At a minimum of 6 weeks post education the same survey was sent out to all staff who had participated in project education. From 200 participants 122 staff completed post education surveys.

There was a 3% improvement in self rated confidence and comfort when dealing with a patient with cognitive impairment. There was also a 3% improvement in the perception of organisational support and a 4% shift in job satisfaction. There was no change in the perceived degree of contact with patients with cognitive impairment, with the majority of both clinical and non-clinical staff recording 30% as the population of patients with cognitive impairment that they come across. Knowledge of one or more key communication or support strategies improved from 65.5% to 89.6% with direct care staff improving by 15% and non direct staff by 42%.

Free text comments supporting staff practice change:-

“Made me realise that the patients needed a little more time with explanations etc. – saves nursing time when this is identified early in hospital stay”.

“Explained in a lot more detail, what I was doing for them and why, that I would for someone who was not cognitively impaired”.

Table

Self-rated measures:		Means (1)		
		Direct care staff	Non-direct care staff	Total
How would you rate your confidence in dealing with patients with dementia, delirium or memory and thinking difficulties?	Pre	3.06	2.90	3.00
	Post	3.24*	3.03*	3.15*
How would you rate your level of comfort in dealing with patients with dementia, delirium or memory and thinking difficulties?	Pre	3.12	3.00	3.07
	Post	3.32*	3.10*	3.22*
How would you rate your level of job satisfaction in dealing with patients with dementia, delirium or memory and thinking difficulties?	Pre	2.71	2.82	2.75
	Post	2.97*	2.93*	2.95*
How would you rate the level of organisational support you receive in dealing with patients with dementia, delirium or memory and thinking difficulties?	Pre	2.79	2.56	2.71
	Post	3.00*	2.68*	2.86*
In your experience how well equipped is the hospital environment to meet the needs of patients with dementia, delirium or memory and thinking difficulties?	Pre	2.21	3.24	2.57
	Post	2.17	2.96	2.52

Notes:

(1) 1 = Very low, 2= Low, 3= Satisfactory, 4= High, 5= Very high.

* Change in “desired” direction.

Staff Practice

122 staff surveys were completed three months to six months after the educational program and CII implementation. 35% of staff reported daily contact with a patient with cognitive impairment. Overall 76% of staff reported the CII and education had changed the way they interacted with patients with cognitive impairment. 40% of staff also reported the CII and education had changed their response to carers.

Staff comments about changed perceptions about carers included:-

“Made me involve the carer a lot more, ask them questions about the patient”.

“More aware of the carer’s input into care and how much benefit this can provide for the patient and staff”.

Table

Change in practice	Direct-care staff (% yes)	Non-direct care staff (% yes)	Total (% yes)
Did seeing the Cognitive Identifier change the way you interact with the patient?	79	61	76
Did seeing the Cognitive Identifier change the way you interact with carers?	43	29	40

Organisational Change

Identifying changes at an organisational level was assisted by an organisational audit adapted from Nay & Koch and the UK Department of Health. ^{10 + 14} Organisational change occurred in two key areas:

1. *The Environment*

- Orientation boards have now been placed where practicable by beds in the medical and surgical wards.
- Laminated graphics have been trailed in the orthopaedic unit.

2. *Process Change*

As the project progressed there was evidence of spread and variation. “Post-operative confusion” and “known dementia” are now included on the pre-admission health questionnaire in the pre-admission unit. The project has by its internal processes required

nursing staff to identify and confirm the primary carer early. Staff groups are also driving their own process change, with requests for miniature, magnetic CII's to go on the patient white boards in the nurses office. There has also been a request for stickers to be developed for the theatre notes for the recovery area and this same sticker be utilised on request slips for radiology to alert staff to the patients care needs.

Discussion

By using a bedside cognitive impairment alert and an associated education package, targeted at both clinical and non-clinical staff we have shown that staff practice changes positively, carer satisfaction improves and hospital processes change to build sustainable improvement. The results of this project would suggest that the use of a cognitive impairment alert is acceptable to patients, family and staff.

A number of facilitators were fundamental to the success of the uptake of the project. These included:

Marketing of the Cognitive Impairment Identifier throughout the hospital. The engagement of nursing staff, as nursing staff were responsible for the screening and recruitment of patients and carers into the project.

The Clinical Nurse Specialists from each ward selected to oversee the uptake of the project, aided in keeping the momentum of the project, by serving as among other things a prompt to nursing staff to engage carers and recruit project participants.

The visible support for this project at an executive level which aided in accessing project staff, nursing engagement and management of the budget.

The key project staff all of whom had active clinical roles that took them into the project clinical setting on a daily basis. This allowed them to promote the project with staff, provide timely advice about the project procedures and reinforce times when practice had changed.

While there is no evidence comparing the education without the alert versus the education with the alert, it is difficult to see how staff can deliver improved care without being aware that a patient has cognitive impairment. It should be noted that the project did not actively change handover techniques used by nursing staff.

A bed based alert has allowed all staff to be aware of the presence of cognitive impairment and has served as a driver for system change. It is also hard to imagine the same degree of clinical, non-clinical and stakeholder engagement without the CII.

The improvements in care driven by the cognitive impairment alert and education have the hallmarks of sustainability including stakeholder involvement, embeddedness in practice, and policy and procedure change. From the project's inception these changes involved the whole acute hospital which supported this change to spread. This process has yet to be implemented in the rehabilitation and restorative care environment. Due to the near universal presence of cognitive impairment in the residential setting, this program would be unlikely to be useful.

The CII and educational package has now been operationalised across the acute hospital. This required support of management and the appropriate changes to policy and procedure.

Overall there was a small and positive change to self-rated outcomes. The domain this project had least ability to change was the hospital's physical environment. No change in the hospital's physical environment suggests the small positive shifts on self rating of care for people with cognitive impairment were real. There was also no change in the estimated contact with people with cognitive impairment. We had hypothesised that the project may lead to a sense that many more than the true proportion of people with cognitive impairment existed. The relatively small change in self-rated outcomes needs to be considered in the context of a near 80% acknowledgment that the cognitive impairment identifier and educational package changed nursing practice. These two findings would suggest that while practice changed with this project positively ongoing education and support will be required to maintain the improvements in self-rated capabilities.

This project of hospital wide education supported by the use of a CII should be readily transferable to other hospitals who are ready for change. However, it should be noted that screening for cognitive impairment using the MMSE and clockface drawing was BHS hospital policy prior to the project and a Clinical Nurse Consultant Cognition was present throughout the project.

Potential Project Blocks

The collecting of preliminary data proved to be more arduous than first anticipated. The initial goal of obtaining 50 consecutive carer satisfaction surveys was unrealistic. Telephone interviews proved to be time consuming, with locating a primary carer often impossible.

BHS is a regional centre holding 535 residential aged care beds. Patients admitted to BHS from a residential setting, in many cases do not have a next of kin or carer visit them. Although these patients were recruited into the project, the lack of ready identification of a carer resulted in a barrier to data collection of carer satisfaction surveys.

Based on the difficulties encountered with collecting the Carer Satisfaction Surveys pre-implementation a new strategy was implemented for post-implementation data collection. Once a carer had been identified nursing staff on the ward would give the carer information outlining the project (see Appendix 11), gain assent to use the Identifier and give the carer the satisfaction survey with a self addressed envelope to the Project Manager. Carers were asked to complete the survey once the patient had been discharged from hospital.

It was made clear to the carers, at no stage would they be identified. Unfortunately in hindsight anonymity of carers made it impossible to follow up surveys that were not returned. This proved to be a barrier to data collection.

The co-ordination of an all of hospital education program proved difficult on various levels. Some departments within the hospital rarely if ever meet as a group which made scheduling education a challenge.

The nature of shift work made it difficult to bring large numbers of staff together at once. Change in patient demand on the wards often resulted in cancellation of arranged nursing education sessions or a reduction in the numbers of attendees.

Delivering multiple education sessions to nightstaff was unachievable given the already established 12 month education roster. Night staff receives formal education once a month, at which time day staff come in earlier to compensate for time off the ward. Given need by all clinical areas to access the night duty forum, securing more than one session was unfeasible. This resulted in only 27 night duty staff receiving education.

At one point, through the duration of the project, BHS was participating in 4 other projects or collaboratives most of which impacted on nursing work schedules. Competing for access to clinical staff on some occasions proved to be a barrier. It was important for the project team to acknowledge competing projects and at times it was appropriate to delay temporarily.

Adhering to the processes set out in the Project Pathway proved difficult for short stay patients.

Limited inpatient time, often resulted in failure to identify and establish contact with the patients primary carer. This may have resulted in reduction in the number of patients recruited into the project.

Key Project outcomes

This project has resulted in the development of:-

1. an educational package that:
 - a) Targets the change in practice that is most important to people with CI and their families.
 - b) Can be modified to meet the needs of both clinical and non-clinical staff.
2. The production of a bedside identifier for CI that is acceptable to people with CI and recognisable to a majority of staff within 4 months of use.
3. A change in staff practice towards patients with CI and their carers, which has resulted in a 23% improvement in carer satisfaction.

Sustainability and Follow-up

The project has inherent sustainability because:

1. CII is a physical change to hospital policy.
2. The nursing perceptions about the impact of the project education suggest a "cultural change".
3. The resource folder provides a framework for procedural change in admission through to discharge for people with CI "the flow diagram".

The presences of the CII alone will not guarantee the maintenance of the knowledge base across all hospital staff that results in improved care. This will be supported by the continuing position of the CNC cognition and ensuring all staff has the opportunity to meet for education.

The results of this project were presented to the hospital staff at a Grand Round (an open meeting). At that meeting it was requested that the CII use be continued after the project completion. The operationalisation of the CII use and on-going education was supported by the hospitals Clinical Operations Group on the 15th July and its use will continue according to a modified project guideline, until a new clinical guideline is developed.

It is known that CI is associated with increased risk of falls, increased LOS and risk of readmission and that delirium emerging in hospital can be ameliorated if precipitants are identified and cognitive impairment is recognised as a precipitant. We will be seeking funding to conduct a parallel or sequential trial in association with other health services on a local or national level to establish if a hospital education program facilitated by the CII can impact on adverse events.

Appendix 1

INTERVIEW 1 - THEMES FOCUS GROUPS

Interview number (participants)	Q1 Y/N	Q2 Y/N	Q3 Y/N m=medication, f=fluids, t=toileting, e=eating, d=dressing, p=medical procedures	Q4 Y/N	Q5 Y/N	Q6 Y/N d=dismissive, r=rude response, c=condescending, b=blaming,, i=inpatient	Q7 Y/N N/A s=sitting, f=familiar items	Q8 +(ve) -(ve)
1(2)	Y	N	Y m,f,e,p	N	N	N d,c	N	-
2(2)	N	N	N	N	Y	Y	Y s,f	+
3(2)	N	N	Y f,e,p	N	Y	Y	Y s	+
4(1)	N	N	Y f,e,p	N	N	N d,i,r,	N	-
5(2)	N	N	Y f,e	N	Y	Y	Y s,f	+
6(2)	N	N	Y m,f,e,p	N	N	N d	N	-
7(2)	N	N	Y f,e	N	N	N d,c	N/A	-
8(1)	N	N	N	N	Y	Y	Y s	+
9(2)	N	N	N	N	Y	Y	Y s,f	+
10(2)	N	N	Y f,t,e	N	N	N d,r	N	-
11(2)	Y	N	Y e,p	N	N	N d,r	N/A	-
12(1)	Y	N	Y f,e,p,t	N	N	N d,r	N	-
13(2)	N	N	Y m,p	N	Y	N d,r	N	-
14(2)	N	N	Y f,d,p,t	N	Y	Y	Y s	+
15(2)	N	N	Y f,e,d	N	N	N d	N	-
16(2)	N	N	Y f,e,d,t	N	N	N d	N	-
17(2)	Y	N	Y f,e,p	N	Y	Y	Y s	+
18(2)	Y	N	N	N	Y	Y	N/A	+
19(1)	N	N	N	N	Y	Y	Y s	-
20(2)	Y	N	Y f,e,p,t	N	N	N d,i	N	-
21(1)	Y	N	Y f,e,p,t	N	Y	Y	N/A	+
22(2)	N	N	Y m,f,e,p,t	N	N	N d,r	N	-

INTERVIEW 1 - THEMES FOCUS GROUPS

Interview number (participants)	Q9 Ya (adequate) Yb (not adequate) N	Q10 Y/N		
1(2)	Ya	N		
2(2)	Yb	N		
3(2)	Ya	N		
4(1)	Ya	N		
5(2)	N	N		
6(2)	Yb	N		
7(2)	Yb	N		
8(1)	Yb	N		
9(2)	Yb	N		
10(2)	Yb	N		
11(2)	Ya	N		
12(1)	Yb	N		
13(2)	Yb	N		
14(2)	N	N		
15(2)	N	N		
16(2)	Yb	N		
17(2)	Yb	N		
18(2)	N	N		
19(1)	Ya	N		
20(2)	Ya	N		
21(1)	Yb	N		
22(2)	Yb	N		

Appendix 2

SEMI-STRUCTURED INTERVIEW QUESTIONS

1. Do you think the hospital staff knew the person you care for had problems with memory and thinking?

Yes/No

2. Did the staff introduce themselves to the person you care for on a regular basis?

Yes/No

3. In your opinion was the person you care for expected to do more than they were capable of? e.g. remembering to keep to a fluid restriction, attending to toileting needs etc.

Yes/No

If yes please expand.

4. Did the staff explain things to the person you care for in a simple way and check if they were understood?

Yes/No

5. Whilst in hospital, did you feel welcome to provide information about the person you care for? e.g. were you asked about their likes and dislikes, or difficulties they have with communication Yes/No?

6. When you voluntarily offered information regarding the person you care for, did you feel staff listened to or took notice of you?

Yes/No?

If no please expand

7. Whilst in hospital were staff understanding of any challenging behaviours that may have been exhibited by the person you care for?

Yes/No?

N/A

If yes were you invited to participate in the care? e.g. sitting with the person you care for, bringing in familiar items from home e.g. photos etc

Please comment

8. Have you and /or the person you care for had positive experiences within a hospital setting?

Yes/No?

If yes what made it positive?

If no what made it negative?

9. Were you given the option of receiving discharge information for the person you care for? e.g. information about follow-up appointments, medication changes

Yes/No?

If yes was it adequate?

10. Overall do you feel this hospital is friendly for people with memory and thinking difficulties and their carers?

Yes/No?

Hearing and Vision Impaired Identifiers



Appendix 4

INTERVIEW 1 - THEMES FOCUS GROUPS - IDENTIFIER

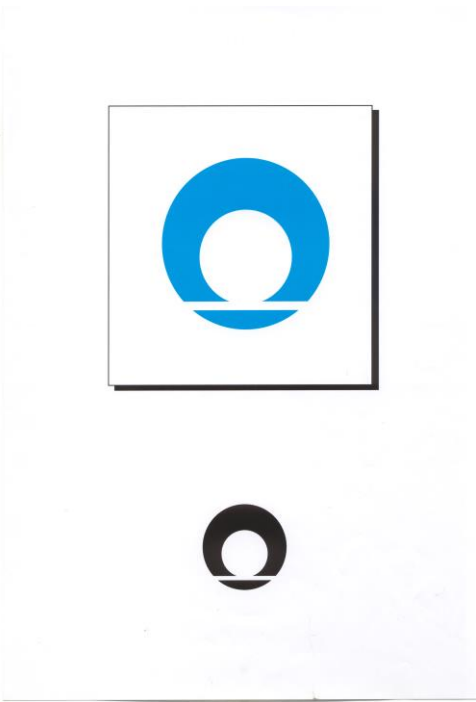
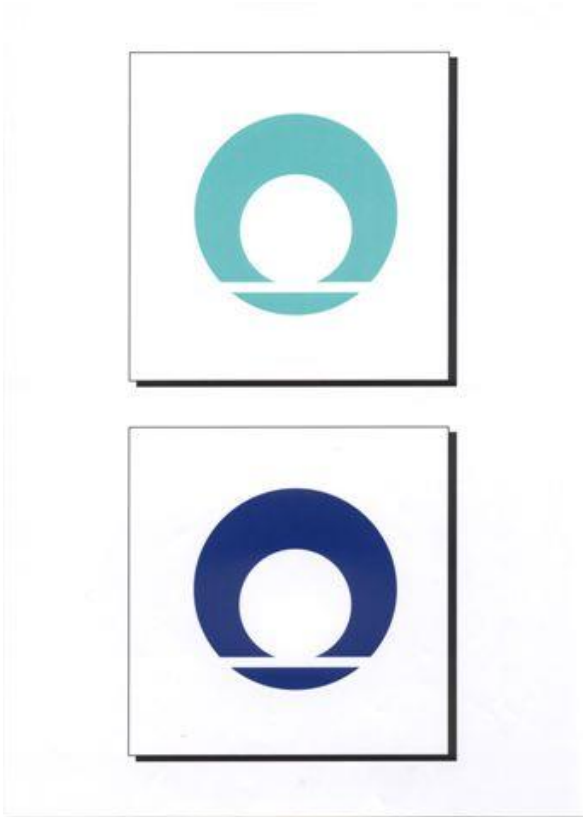
Interview number (participants)	IDENTIFIER Y/N	TYPE OF IDENTIFIER B=bedside, O=other	STYLE OF IDENTIFIER	COLOUR	SHAPE	SIZE
1(2)	Y	B	Flower/Rose	Red/gold	Round	Small
2(2)	Y	B	Undecided	Blue	Undecided	Small
3(2)	Y	B	Undecided	Pastels	Soft	Medium
4(1)	N	-	-			
5(2)	Y	O	Logo	Blue	Round	Medium
6(2)	Y	B	Flower	Pastels	Soft	Small
7(2)	Y	B	Undecided	Undecided	Undecided	Small
8(1)	Y	B	Undecided	Undecided	Undecided	Small
9(2)	Y	B	Logo	Blue	Round	Medium
10(2)	Y	B	Flower	Undecided	Square	Small
11(2)	Y	B	Flower	Undecided	Undecided	Medium
12(1)	Y	O	Flower	Undecided	Round	Medium
13(2)	Y	B	Logo	Blue	Undecided	Small
14(2)	Y	B	Undecided	Blue	Undecided	Medium
15(2)	Y	B	Undecided	Pastels	Round	Medium
16(2)	Y	B	Undecided	Autumn colours	Round	Small
17(2)	Y	B	Undecided	Green	Undecided	Small
18(2)	Y	B	Logo	Blue	Undecided	Small
19(1)	N	-				
20(2)	Y	O	Logo	Blue	Round	Medium
21(1)	Y	B	Logo	Blue	Undecided	Medium
22(2)	Y	B	undecided	undecided	Round	Small

Prototype Designs

Model 1



Model 2



Model 3



Model 4



Appendix 6 – Prototype Selection

INTERVIEW 2 – PROTOTYPE SELECTION

Interview number (participants)	Model 1 G(green) P(purple) B(blue) B/C(blue contrast) B2(brown)	Model 2 G(green) P(purple) B2(blue) K(black)	Model 3 P(purple) B(blue) Y(yellow) P2(pink)	Model 4 P(purple) B(blue) M(mauve) G(green)
1(2)				B
2(2)	B/C			
3(2)	B			
4(1)				B
5(2)	N/A	N/A	N/A	N/A
6(2)	B/C			
7(2)	B/C			
8(1)				B
9(2)		B2		
10(2)	B/C			
11(2)	B/C			
12(1)	B/C			
13(2)	B/C			
14(2)	B/C			
15(2)		B2		
16(2)	P			
17(2)	B/C			
18(2)	B/C			
19(1)	B			
20(2)				B
21(1)	P			
22(2)		B2		

Appendix 7

Model 1A - Final Prototype



Appendix 8

THEMES FOR STAFF EDUCATION

	Record	Total
1. Establish direct eye contact	XXXXXXXXXX	11
2. Place self on same eye level	XXXXXXXX	8
3. Approach from front	XXXXXXXXXXXX	12
4. Identify yourself	XXXXXXXXXXXXXXXX	15
5. Remain calm and talk in a gentle, matter of fact way	XXXXXXXXXXXXXXXXXXXXXXXXXXXX	22
6. Eliminate distractions	XXXXXXXXXX	10
7. Avoid ambiguities	XXXXXXXXXXXX	11
8. Keep sentences short and simple	XXXXXXXXXXXXXXXXXXXX	18
9. Give time for response/reply, just listen	XXXXXXXXXXXX	12
10. Focus on one instruction at a time, step by step instructions	XXXXXXXXXXXXXXXXXXXX	18
11. Use orienting names	XXXXXXXX	8
12. Don't ask a lot of direct questions	XXXXXXXXXXXXXXXXXXXX	17
13. Don't order the person around, or in a condescending tone.	XXXXXXXXXXXX	13
14. Eliminate options	XXXXXXXXXXXX	14
15. Do not assume understanding	XXXXXXXXXXXXXXXXXXXX	18
16. Develop and maintain routines	XXXXXXXX	8
17. Involve carer/family members	XXXXXXXXXXXXXXXXXXXX	22
18. Use visual cues	XXXXXXXXXXXX	14
19. Use body language for reassurance ie slight touch of hand	XXXXXXXXXXXXXXXXXXXX	17
20. Give time to be understood	XXXXXXXXXXXXXXXXXXXX	16
21. Use residual skills	XXXXXXXXXXXX	13
22. Reduce chance of failure	XXXXXX	5

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