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What do stakeholders consider the key issues affecting the quality of foodservice provision for long-stay patients

Abstract

This study aimed to elicit concerns of key stakeholders regarding food service provision to long stay hospital patients. Seventeen focus groups and four individual interviews were conducted involving six stakeholder groups: dietitians, nutrition assistants, patients, nurses, food service assistants and food service managers. Ninety-eight participants (20 male; 78 female) were recruited from public and private hospitals in New South Wales, Australia. Each of the focus groups and individual interviews was conducted in the hospital setting where free and open discussions could be digitally recorded. Transcripts were prepared from the digital recordings and QSR Nvivo 2.0™ qualitative analysis software was used to code the transcripts prior to content and thematic analysis. Themes were identified by relative frequency in the discussion, number of issues raised within each theme and the importance placed on the issues raised. Five major themes emerged from thirty seven discussion topics: the food service system, menu variety, preparation to eat/feeding assistance, packaging and portion size. Participants were particularly concerned about the increased packaging of food products, perceived lack of meal set up and feeding assistance, limited menu variety especially when considering longer stay hospital inpatients, and the increased use of cook-chill operations. These findings lend themselves well to testing in a wider sphere via quantitative means in a proposed national survey. The results of this survey may produce a position on the main barriers to effective food service provision to long stay patients in the Australian context, and enable identification of practical solutions.

Keywords

focus groups, qualitative research, consumer satisfaction, hospitals, food service, menus

Disciplines

Arts and Humanities | Life Sciences | Medicine and Health Sciences | Social and Behavioral Sciences

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1 **Title:** **What do stakeholders consider the key issues affecting**
2 **the quality of food service provision for long stay**
3 **patients?**
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1 **Abstract**

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3 long stay hospital patients. Seventeen focus groups and four individual interviews were
4 conducted involving six stakeholder groups: dietitians, nutrition assistants, patients, nurses,
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15 products, perceived lack of meal set up and feeding assistance, limited menu variety
16 especially when considering longer stay hospital inpatients, and the increased use of cook-
17 chill operations. These findings lend themselves well to testing in a wider sphere via
18 quantitative means in a proposed national survey. The results of this survey may produce a
19 position on the main barriers to effective food service provision to long stay patients in the
20 Australian context, and enable identification of practical solutions.

1 **Introduction**

2 The ageing Australian population and the increased need for health care services have
3 influenced many changes to food service systems in an attempt to make them cost effective.
4 These changes have included the increasing use of cook-chill systems in health services
5 (Mibey & Williams 2002). Many other factors have influenced the variety of, and access to
6 food and beverages available on hospital menus today, including: financial considerations,
7 food safety initiatives, a shortage of nurses (Kowanko et al 1999; Chang et al 2003), changes
8 to food service delivery systems (Mibey & Williams 2002; McClelland & Williams 2003)
9 and the changing roles of nurses regarding food service and patient care at meal times (Carr
10 & Mitchell 1991; Kowanko 1997; Kelly 1999).

11

12 These challenges to food service delivery have occurred when patients' expectations about
13 quality and service are increasing (DeLuco & Cremer 1990; Lau & Gregoire 1998; Chang et
14 al 2003) while at the same time the risk of patient malnutrition remains a key issue, especially
15 for long-stay rehabilitation patients (Beck et al 2001). Patients are often admitted with
16 multiple medical problems and may already be malnourished, or at an increased risk for
17 malnutrition prior to admission (Zador & Truswell 1987; Green, 1999).

18

19 Information about the nutritional status of older, rehabilitation patients is limited but several
20 studies estimate the rate of malnutrition to be between 29-63% in such patients (Finestone et
21 al 1996; Thomas et al 2002; Neumann et al 2005). The figures vary due to the assessment
22 method used and the type of patients studied. A recent Australian study compared the
23 nutritional status of patients in acute and rehabilitation settings using subjective global
24 assessment (SGA) and found much higher levels of malnutrition amongst the older longer

1 stay patients: 7-14% of acute care patients versus 49% of rehabilitation patients, $P < 0.01$
2 (Beck et al 2001).

3

4 There is evidence that changes in food and dietary practices can have a positive influence on
5 the nutritional status of inpatients. A recent UK study found that rates of malnutrition
6 appeared to have reduced from 23.5% in 1998, to 19.1% in 2003, while rates of referral
7 increased from 56.5% in 1998, to 71.2% in 2003, as a result of changes in hospital nutrition
8 care strategies (O'Flynn et al 2005).

9

10 Research has also indicated that many food service managers are not satisfied with recent
11 food service changes (Mibey & Williams 2002). Another study reported that the change to
12 plated food service systems and the reduced availability of food items being available in ward
13 kitchens meant that much nursing control had been removed from main meal and snack times
14 (Wilson & Lecko 2005). Nurses have also been found to refer to competing agendas,
15 difficulty in prioritising nutrition above other demands, lack of staff, time issues, budget cuts,
16 and inadequate training on nutrition as potential issues that can also influence the feeding
17 assistance and monitoring of intakes by nurses (Kowanko 1997; Chang et al 2003). Less
18 qualified staff are often assigned to feed and assist patients, which may further devalue the
19 importance of meal times and patient feeding (Dickinson et al 2005).

20

21 In 2004, people 65 years and over made up 13% of the general Australian population (ABS
22 2005), but accounted for 32% of hospital separations and 51% of total bed days. The average
23 LOS for inpatients (excluding day-only) was 7.5 days, but 24% stay longer than seven days
24 and 10% have a LOS of more than 14 days. The nutritional status of older people can
25 deteriorate as their hospital stay extends (McWhirter & Pennington 1994; Thorsdottir et al

1 2005; Neumann et al 2005) and in New South Wales (NSW), Australia, they have a much
2 longer average length of stay (LOS) as inpatients: 11.5 days for those over 65 years versus
3 5.2 days for younger patients (NSW Department of Health 2005).

4

5 Approaches to research about the views and perceptions of health service provision can vary,
6 and may include focus groups, surveys and interviews. Used alone or in combination with a
7 quantitative survey, focus groups have started to become a more popular approach to
8 customer service review (Alspach 1997; Wensing & Elwyn 2002; Abusabha & Woelfel 2003;
9 Merkouris et al 2003). “The focus group interview works because it taps into human
10 tendencies. Attitudes and perceptions relating to concepts, products, services, or programs are
11 developed in part by interaction with other people” (Krueger 1994). Restricting to one
12 paradigm can result in limited understanding of participants’ views (Fossey et al 2002). Fade
13 (2003) suggests “Quantitative and qualitative approaches are both required if we are able to
14 get a full understanding of the issues”. The combined method provides a clearer picture and
15 deeper understanding of people’s experiences and view (Conning et al 1997).

16

17 The aim of this study, therefore, was to elicit concerns of key stakeholders regarding food
18 service provision to long stay hospital patients using focus groups methodology. Long stay
19 patients will refer to those who stay in hospital longer than 14 days. Specifically the research
20 sought to examine opinions and attitudes of a sample of dietitians, nutrition assistants,
21 patients, nurses, food service assistants and food service managers regarding the current
22 provision of food service in a sample of New South Wales hospitals in order to identify key
23 issues that could be examined in a nationwide survey quantifying barriers to effective food
24 service provision for long stay patients and identifying practical solutions.

1 **Methods**

2 **Study participants**

3 The study employed focus group methodology to obtain views from six different stakeholder
4 groups in the practice setting. While it may have been ideal to conduct separate groups for
5 each stakeholder type (Wallace 2005), the nature of many existing hospital networks meant
6 that some of the groups contained a mix of stakeholders. Generally groups consisted of one
7 type of stakeholder only, but for logistical reasons a few mixed groups were included (e.g.
8 Group 13: 3 dietitians and 1 nutrition assistant; Group 15: 7 food service assistants, 1 nutrition
9 assistant and 1 food service manager).

10

11 Several different recruitment methods were used to invite people to participate in a study
12 about their opinions and attitudes regarding food service provision to long stay hospital
13 patients. Hospital staff were contacted via presentations at established meetings of dietitians,
14 food service staff, nurses and nutrition assistants, as well as key contacts with dietitians and
15 food service managers, flyers at food service conferences and the “snowballing technique”
16 (Patton 2002). Invitations for patients to participate were extended by nursing staff. Some
17 participants preferred to be individually interviewed for reasons of convenience or privacy.
18 Participants received no reward for their involvement. Funding for the study was provided by
19 the Smart Foods Centre, University of Wollongong, Australia. The research was approved by
20 the University of Wollongong/Illawarra Area Health Service Human Research Ethics
21 Committee in early 2003.

22

23 **Participant profile**

24 Seventeen focus groups and four individual interviews were conducted between September
25 2003 and December 2004, which included 19 nurses, 14 patients, 20 dietitians, 11 nutrition

1 assistants, 13 food service managers, 18 food service assistants and three other health care
2 staff (quality managers and patient representatives). The ninety-eight participants included 20
3 males and 78 females, with the propensity of women considered appropriate since they make
4 up the majority of the stakeholder groups involved.

5

6 **Conduct of focus groups and individual interviews**

7 The focus groups were conducted by the same moderator, who was also the chief investigator,
8 at fifteen locations within metropolitan and regional areas of eastern NSW. The chief
9 investigator was present at all sessions to obtain written consent, moderate and record the
10 discussions. All sessions began with the key question, “What do you think about the meal
11 service in hospitals today?” In most cases this led to a lengthy open ended discussion about a
12 range of food service topics. Where required, a set of standard questions (Figure 1) was
13 referred to so as to encourage discussion and the consideration of a range of topics. Questions
14 were introduced utilising an open question format to invite discussion without providing an
15 opinion from the moderator (Krueger & Casey 2000). The moderator invited any further
16 discussion about topics, reflected key points and invited less vocal participants to comment
17 at various times. When it was evident that a point had been exhausted the moderator would
18 ask about another topic. On several occasions the moderator needed to clarify a point, or ask
19 for some additional information when the group discussion progressed without further
20 questioning and covered a range of topics. At the completion of each session, participants
21 were asked if they had any further comments and were thanked for their participation. They
22 were offered the option of receiving the transcript and a summary of findings at a later time
23 so they could review and clarify any points. Each session ran for approximately forty-five
24 minutes.

25

1 **Data analysis**

2 All focus groups and individual interviews were digitally recorded on two portable minidisk
3 recorders. All sessions were typed verbatim by the one independent, experienced transcriber,
4 with any details identifying individual participants or workplaces removed. Codes were used
5 to identify the individuals and sites involved in each transcript. The chief investigator
6 moderated all the discussions and did the primary coding. She is an accredited practising
7 dietitian and PhD candidate who had previously conducted focus groups while working as a
8 quality manager and food service dietitian in the Illawarra Area Health Service. The
9 supervising author and secondary coder is an accredited practising dietitian and former
10 hospital food service manager.

11
12 The accuracy of the transcriptions was checked by reviewing several digital recordings
13 against the typed transcripts. QSR Nvivo 2.0™ qualitative analysis software (1999-2002) was
14 used to categorise all of the quotes from each of the transcripts. Each individual transcript
15 was coded in turn and a combination of content and thematic analysis was used to look for
16 patterns in the data and match each quotation to the most relevant topic (Rice & Ezzy 1999;
17 Patton 2002). Qualitative analysis was initially carried out by the primary author. The initial
18 coding framework was based around previous experience in the study area, the literature
19 review and standard questions format. The coding framework increased up to 43 topics
20 during the coding process so as not to limit the generation of ideas (Pope et al 2000). The
21 assigned quotations and topics were then reviewed by the secondary coder. Any discrepancy
22 in a topic or quotation allocation was discussed and a consensus reached before any changes
23 were made. This process refined the topic number to thirty-seven, as six topics were able to
24 be grouped or deleted. These thirty seven topics were collectively grouped under five broad
25 themes. Both positive and negative aspects of each topic were considered (e.g. some

1 participants viewed portion sizes as too small, while others thought them adequate).
2 Exemplar quotes for each topic were independently selected by the primary coder and the
3 secondary coder to illustrate the key study findings. A copy of the session transcript and
4 summary of themes was forwarded to those participants who could be contacted after the
5 study so they had the opportunity to review and add any further comments. No significant
6 changes were recommended by the few participants who provided feedback.

7

8 **Quality assurance**

9 The rigour of the research was reviewed using an evaluative framework taking account of
10 credibility, criticality, authenticity, integrity (Whittemore et al 2001; Fade 2003);
11 triangulation (Patton 2002); respondent validation, methods of data collection and analysis,
12 reflexivity, attention to negative cases and fair dealing (Mays & Pope 2000). The *credibility*
13 of the research findings was enhanced by the use of a varied sampling strategy that involved
14 purposive, convenience recruitment and ‘snowballing’ (Bowling 2002), utilising an
15 independent and experienced transcriber (Ereaut 2002), providing a clear and transparent
16 description of the data analysis and coding framework (Mays & Pope 2000), and involving a
17 second coder and the review of transcripts and summaries by many participants afterwards
18 (Bowling 2002; Fossey et al 2002). The review by actual stakeholder participants - referred to
19 as ‘*respondent validation*’ - was also used as a way of reducing potential errors in
20 interpretation (Mays & Pope 2000). Previous experience and backgrounds of the researchers
21 were clearly stated to satisfy any issues related to *reflexivity* (Mays & Pope 2000; Fossey et al
22 2002). *Criticality* was addressed by having both a primary and a secondary coder involved in
23 the data analysis to independently review the quotations before further discussion and
24 consensus. This was enhanced by the fact that many stakeholders also had the opportunity to
25 review the findings and make any additional comments. *Triangulation* was built in to the

1 study design through the use of different data sources (six different stakeholder groups) and
2 the use of different methods (focus groups and individual interviews) to enhance the
3 comprehensiveness of the study (Patton 2002). This assists in the discovery of patterns that
4 generate an overall impression of the research area (Mays & Pope 2000). Digital recordings
5 of all discussions and the use of exemplar quotes to illustrate the key points of each topic
6 supported the *authenticity* of the research. The *integrity* was assured by obtaining human
7 research ethics approval. The participant information sheet and consent form clearly
8 explained the study and its aims, in addition to highlighting that participants were free to
9 refuse participation, or withdraw their consent at any time. Six different key stakeholder
10 groups were involved and the summaries primarily represent the broad views of the sessions
11 to ensure fair dealing. However, consideration of ‘deviant’, or differing cases was necessary
12 to allow consideration of all the data collected, no matter how often some topics were
13 mentioned (Mays & Pope 2000; Pope et al 2000).

14

1 **Results**

2

3 **Key themes**

4 Five key themes and the 37 topics were identified, with those scoring more than ten separate
5 mentions noted in the illustrative quotes (Table1). The most frequently discussed topics (in
6 descending order) were: portion size, preparation to eat and feeding assistance, menu variety,
7 packaging and food service system, with the first two topics being referred to in every
8 discussion session. Saturation was reached after eight sessions, with no new topics identified
9 in sessions nine to twenty-one (Figure 2). However, additional details and quotations about
10 previously identified issues were obtained in these later sessions.

11

12 **The food service system**

13 The food service system determines the types and amounts of menu choices offered to
14 patients. Decisions on menu choices may be influenced by what retherms well in a cook-chill
15 or cook-freeze system, and how much time there is to prepare food in a cook-fresh system.
16 While more options may be available with cook-chill and cook-freeze systems, some types of
17 dishes may be limited (e.g. grills, fried dishes and boiled eggs) due to their poorer quality
18 after reheating (Light & Walker 1990).

19

20 Participants generally reported a better perception of the cook-fresh system and identified
21 better levels of flexibility, or customization, with a working kitchen still available to prepare
22 items at short notice for special diet or very ill patients. Many staff lamented the loss of their
23 production facilities when they became receival kitchens, as they perceived a decline in the
24 level of customer service. Conversely, cook-fresh operations were sometimes viewed as more
25 staggered in their daily activities, such that meal times were a rush. It would appear that this

1 system sometimes limits the evening meal options to mainly ‘light meals’ (perhaps one hot
2 main, soup, sandwiches and desserts) because cooks were not always retained for the
3 afternoon shift. This finding is supported by other research that reported 81% of NSW
4 hospitals using a cook-chill system, compared with 47.5% using a cook-fresh system
5 ($P<0.01$), offered more than one hot choice at the evening meal (McClelland & Williams
6 2003).

7

8 Bulk trolleys are rarely used to serve meals in Australian hospitals (Mibey & Williams 2002)
9 but several groups discussed the advantages and disadvantages of bulk hot service and
10 selection, versus plated systems. For example, one dietitian noted:

11 *I’ve seen the bulk in action at the maternity ward and it means that you get a greater variety*
12 *of choice. You can sort of more or less choose what you feel like on the day rather than*
13 *having to decide the day before what you want to eat. That’s a good option’.*

14

15 Some stakeholders identified the lack of hot, bulk food services as a potential influence on
16 actual intakes and wastage, which is supported by other research (Shatenstein & Ferland
17 2000; Wilson et al 2001). The type of food service system used was also linked to many of
18 the other topics identified, including the texture, presentation and smell of the food, as one
19 nurse indicated:

20 *I think we can also present it a lot better. Cook-chill is definitely no inspirational food’.*

21

22 **Portion sizes delivered through the system**

23 The portion size of meals was discussed by participants in every session. The comments
24 varied depending on the size and the type of food service system, the options currently
25 available and the main types of patients in their hospitals. Some commented that there was

1 sometimes not a choice of size, and that there should be; others thought the standard portion
2 was too large, while some thought they were too small at times. One dietitian noted:
3 *‘There is not enough flexibility. We’ve got the cook-chill service system so our trays are very*
4 *limited and our plates are one standard size so there’s no flexibility. We can’t have large size*
5 *servings or small size servings so and it’s limited on what we can fit on the trays so, yeah, they’re*
6 *sort of good for some people but not for others’.*

7

8 Many referred to the need for a small option, particularly for elderly patients who can be
9 overwhelmed by well meaning staff providing larger portions. It was regularly noted that
10 older patients don’t like waste. However others referred to the needs of young patients and
11 maternity patients who often have large appetites and may not be satisfied by a standard
12 portion. It was commonly agreed that a choice of portion size, the availability of extras, and
13 the fortification of normal meal items was required to meet patient needs.

14

15 **Packaging within the food service system**

16 Many menu items are now in a pre-packaged format for numerous reasons, including quality
17 improvement, portion control, budget and food safety. Previous research has indicated that
18 the average meal tray may contain between 5 and 19 items at each meal depending on what
19 the patient selects (Wilton et al 2004). This certainly adds to the challenge of food access,
20 particularly for elderly and disabled patients. One food service assistant noted:

21 *‘I consider myself fairly dexterous and able bodied and some of those straws in the packets,*
22 *they’re not easy to get out at all. So when you have aged people with compromised vision and*
23 *dexterity and coordination, it’s shocking’.*

24

1 It also increases the time that may be required by staff to open packages before assisting
2 patients with setting up and feeding. The level of packaging may also impact on the
3 presentation of the tray and amount of waste generated.

4

5 **The menu**

6 A key issue for many was the nutritional adequacy and number of choices available on the
7 menu, particularly for long stay patients and patients requiring therapeutic diets. The trend
8 within Australian hospitals has been to offer a combined menu that has options that cater to
9 most therapeutic diets (Mibey & Williams 2002).

10

11 Many dietitian participants were concerned that patients on a combination of therapeutic diets
12 may have minimal choice offered to them, as one stated:

13 *'I think the general menu and the way it's structured at the moment meets the needs of, you*
14 *know, those short stay people fine. I don't think there's any issues with how they manage but*
15 *it's these more complicated, more complex people with major nutritional issues that I always*
16 *find it very difficult'.*

17

18 Many food service managers, dietitians, food service, nursing and nutrition assistant staff felt
19 that menus do not cater in the same way that they used to, even for patients on full diets. The
20 limited options for condiments, between meal snacks and hot breakfasts were highlighted,
21 such as this comment by a dietitian:

22 *'I guess the longer cycle you have the more costly it is with different ingredients that you*
23 *have to store and then training people to cook the different dishes and then having the diet*
24 *variations on the menu. So I think also menu cycle length has been reduced. So there's not*
25 *the variety there used to be'.*

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Some felt variety was reduced mainly due to budgetary constraints and the fact that food service is treated as a hotel service, rather than being acknowledged as part of holistic medical care, issues which has previously been highlighted by numerous researchers (Kowanko 1997; Council of Europe 2002). More than twenty years ago Wood et al (1985) discussed the perceived low priority of nutrition in medical care and highlighted the need to improve attitudes and managerial support so as to improve the nutrition intakes of patients.

As one nurse put it:

'We seem to have an attitude that this food service is basically not core business therefore we should not be putting money into it if it's not making money, and I think that's a tragedy. It's a change since I started nursing in the ethos of running a hospital'.

This issue also links with the consideration of menu selection methods which forms a component of the broad menu theme. There has been a significant change to shorter menu cycles (less than 14 days) and an increased use of bedside computerized menu entry systems, although most menus are still paper based (Mibey & Williams 2002; McClelland & Williams 2003; Patch et al 2003).

The patient's medical condition

Consideration of individual nutrition requirements is closely related to the discussion about screening and assessment of high risk patients to ensure that their nutritional needs are met. Monitoring is a related topic that was also identified by the stakeholders. Only when it is identified that patients aren't eating adequately can individual strategies be put in place to enhance their intakes (Sydner & Fjellström 2005; Gibbs-Ward & Keller 2005).

1 **Nutrition requirements**

2 Patients on therapeutic diets need careful consideration to ensure that menu variety is
3 adequate to meet their requirements. Issues of customization, menu variety, monitoring and
4 fortification are all closely related to the aim of meeting nutrition requirements. One food
5 service manager commented that she was concerned about intakes of patients consuming
6 special diets..... *'Particularly the speech pathology patients because that comes into*
7 *your elderly. Regularly, nothing is touched, nothing at all. Which is a huge cost to all these*
8 *tetra packs and goodness knows what else. So we've got to address it and try and do it better*
9 *by whatever means it takes'.*

10 Wright et al. (2005) recently reported significantly smaller intakes of energy and protein by
11 older patients requiring texture modified diets, compared to those on normal textured diets.

12

13 **Preparation to eat and feeding assistance**

14 Older patients often need more assistance and encouragement with meals, particularly as
15 more items are pre-packaged. This is happening at a time when registered nurses are busier
16 than ever and the role of feeding is sometimes delegated to other staff (Kowanko, 1999;
17 Chang et al 2003), as can be seen from the comments of dietitians and nutrition assistants:
18 *'The bottom line is that it is an assistant nursing function rather than a nursing function.*
19 *That's how they do it in nursing homes. Because the trained nurse is basically glued to the*
20 *drug trolley' (Dietitian)*

21

22 *'I think it's a fairly universal problem. When working as a nutrition assistant I didn't feel that*
23 *my morning was complete until I had gone around and buttered several toasts and you know*
24 *open sugar and made cups of tea for patients and you just follow the meal trolley around and*
25 *assist the nursing staff in that regard' (Nutrition Assistant).*

1

2 *'Making foods easier for people to eat is a major thing, whether it's from actually sitting a*
3 *person close enough for them to reach it, whether it's opened for them, with the patient*
4 *sitting upright, if they need feeding assistance'* (Dietitian).

5

6 This issue was raised during every session and all stakeholder types viewed it as an issue of
7 key importance to improve the dietary intakes of patients. Some participants, including some
8 of the patients felt this service was adequately offered, while many felt it was an area of
9 priority for ongoing improvement, which ideally would be partnered with efficient
10 monitoring procedures.

11

12 Some stakeholders, such as this dietitian, talked of the possibility of patients eating in dining
13 rooms and the value of greater socialisation and a more usual eating environment:

14 *'It's a very social event. A lot of people actually seem to eat quite well when they're sitting*
15 *there talking and picking, rather than sitting in a hospital environment. It's not like sitting in*
16 *a bed'.*

17 This area is complex to research, but there is some evidence suggesting a dining room
18 environment and the consequent social interaction can improve dietary intakes (Edwards &
19 Hartwell 2004).

20

21 **Obtaining Patient and staff feedback**

22 Obtaining regular patient and staff feedback is imperative to understanding how the food
23 service unit is performing. Stakeholders talked of conducting surveys, speaking with patients
24 about their perceptions about different food service types, as well as possible influences on

1 quality; however there was recognition of a need to improve quality improvement processes,
2 as can be seen in this comment from a dietitian:

3 *'I think the frustration from a diet tech perspective is that the wards ring us when it's really*
4 *an issue of likes and dislikes, or you know the patient's not happy with the quality of his food.*
5 *I can't change it, I can't fix it and I certainly offer the facility to pass on their complaints.*
6 *Most patients don't take that up which is frustrating because I don't think from a food service*
7 *perspective you can improve it unless you know'.*

8

9 **Key stakeholder differences**

10 The differing opinions of some stakeholders about topics were found to be related to the
11 differences in their experience and backgrounds, such as: whether they had experienced
12 cook-fresh or cook-chill food service systems, if their hospitals had fortified food options,
13 and how good patient and staff communication networks were at their workplaces.
14 Many common themes ran throughout the sessions, however some of the topics were
15 particularly an issue for certain stakeholder groups.

16

17 *Patients*

18 The patients were generally happy with most aspects of the food service. Their main negative
19 comments were regarding the level of packaging and the texture of some meats and
20 vegetables within some facilities. They did not have as many complaints as other
21 stakeholders. On average they were also older than the other stakeholders, and it may be that
22 older patients are less likely to complain than younger staff working in the facilities.

23

24

25

1 *Nurses*

2 Key issues for nurses related to the perceived lack of menu variety in some settings, negative
3 opinions about the cook-chill system, the amount of packaging, and the taste, texture and lack
4 of aroma with some food service systems.

5

6 *Food service managers and food service assistants*

7 These staff were especially worried about the wastage of nutritional supplements and the
8 influence of their tightened budgets on actual patient intakes. This was related to their
9 genuine concern for the inadequate feeding assistance available, lack of monitoring of actual
10 patient intakes and limited menu options available.

11

12 *Dietitians and nutrition assistants*

13 Issues of special concern for these nutrition staff related to the inability to meet some special
14 dietary needs, a lack of customisation, inadequate variety, lack of feeding assistance, and the
15 increased use of packaged products. They were keen for food fortification to be routinely
16 utilised and extra menu choices to be available for long stay patients and those with complex
17 dietary needs.

18

1 **Discussion**

2 The findings of this study are consistent with those of other researchers who have explored
3 satisfaction with hospital food services, particularly regarding the quality and technical
4 aspects for patients. However the issues regarding packaging appear to have been only
5 reported recently (Watters et al. 2003). Most studies primarily relate to the perceptions of
6 inpatients and nurses. The current study represents the views and attitudes of six key
7 stakeholder groups, thus many of the current findings consider many broader topics and are
8 not always as complimentary as some of the studies reporting only patients' views.

9

10 DeLuco & Cremer (1990) reviewed the perceptions of dietary services and hospital food via
11 telephone interviews with a sample of 223 adult patients in Ohio. The majority of participants
12 reported the hospital meals as nutritious (94%), appearing and tasting fresh, the cold foods
13 were a suitable temperature, and there were enough menu options to choose a healthy and
14 fulfilling meal (82%). Fewer participants (61%) thought the meals tasted good, were
15 appropriately hot, looked and smelt good and were suitably tender, while seasoning of meals
16 was viewed as adequate by only 32% of participants.

17

18 Dubé et al (1994) and Lau & Gregoire (1998) reported on questionnaires with inpatients
19 regarding ratings of food service quality in Canadian and US hospitals. Food quality was the
20 best predictor of the overall satisfaction of inpatients but other issues such as interpersonal
21 care aspects of meal delivery (e.g. courtesy and assistance with meal tray), customization and
22 the attitude of the staff who deliver the meals were also important.

23

24 Watters et al (2003) reviewed the perceptions of an American hospital foodservice via focus
25 groups with post discharge patients and nurses, and individual interviews at meal rounds with

1 inpatients. The findings indicated that patients were more satisfied with the food services than
2 the nurses. While food quality was identified as the priority issue, service was also important.
3 Satisfaction with portion size varied, as did choices available and appropriateness of foods
4 offered. The nurses highlighted issues relating to the tray layout, waiting times for
5 replacement meals, containers that were often difficult to open and the lack of extra food
6 items available at all times in ward areas.

7
8 The barriers to nutrient intakes by long stay hospital patients are many and varied. However
9 key issues for further consideration regarding interventions relate to portion size, preparation
10 to eat and feeding assistance, menu variety, packaging and food service system. Several of
11 these issues are inter-related (e.g. food service system, portion size and packaging) as
12 outlined in Table 1.

13
14 Given the general level of agreement on key issues uncovered in this qualitative study and
15 those in the published literature, it seems likely that the key findings are relevant and able to
16 be generalised to other parts of Australia, and perhaps internationally, particularly as the
17 population ages. However, it should also be highlighted that the size, budget and the structure
18 of food, nutrition and nursing services can also impact on the dietary intakes of patients. Thus
19 while some sites identified practices that are successful, it is important that hospital size and
20 organizational factors are always considered when considering interventions to address
21 barriers.

22
23 Patient satisfaction or dissatisfaction is a complicated phenomenon that is linked to
24 expectations, state of health, personal characteristics, in addition to health system
25 characteristics (Ford et al 1997). Measuring the quality of an intangible product or service,

1 such as the quality of the food service or medical care provided, is always challenging (Lim
2 & Tang 2000; Ford et al 1997; Ramirez-Valdivia & Crowe 1997; Torres & Guo 2004).

3
4 This research applied focus group methodology to a sample of stakeholders in the hospital
5 system of New South Wales, Australia. The quantitative approach, using surveys or
6 questionnaires, appears to have historically been the most common method used, probably
7 due to its familiarity, ease of administration, reach, distance from the interviewee and low
8 time costs (Conning et al 1997). However surveys or questionnaires are sometimes criticised
9 for their concentration on “hotel” style aspects of care, their “blandness” and “tendency to
10 produce undifferentiated positive responses” (Evason & Whittington 1997). Most surveys do
11 not allow an exploration of complex issues or a discussion about opportunities for further
12 improvements.

13
14 In contrast, focus group methodology, applied in the research reported here, has the
15 advantages of allowing open-ended questions and deeper investigation of participants’
16 responses (Dreachslin et al 1999). They elicit more complete and honest responses (Evason &
17 Whittington 1997) and are “rich in data” (Grbich 1999). Other benefits include: the ability to
18 probe and seek further clarification of a point, the possible use of interpreters with a group of
19 non English speaking people and the ability to discuss a topic with specific groups. They can
20 also be used to test topics for questions in an accompanying survey or to further expand and
21 explore the categorised findings from a completed survey and literature review (Ford et al
22 1997; Bolch 1999).

23
24 The disadvantages of focus groups may include: small numbers that will not show statistical
25 significance and the sample of participants may not be representative (Evason & Whittington

1 1997). The participants may not be independent of each other, and have been described as,
2 “Complex, often complicated mosaics of history, experience, motivation, and interests”. It is
3 suggested that focus groups, like other methods, “Provide one window on these mosaics”
4 (Hollander 2004).

5

6 The range of participants involved in this study allowed for a comprehensive understanding
7 of the current food services provided to patients, and a full discussion on priority
8 interventions. These findings lend themselves well to testing in a wider sphere via
9 quantitative means in a proposed national survey. The results of this survey may produce a
10 position on the main barriers to effective food service provision to long stay patients in the
11 Australian context, and enable identification of practical solutions.

12

13 **Conclusion**

14 The use of 17 focus groups and 4 individual interviews has enabled the identification of
15 thirty-seven topics and five broad themes regarding food service provision in NSW hospitals.
16 While there was much agreement about the topics and key themes, some stakeholders had
17 specific concerns and some topics had both positive and negative perspectives. The
18 perspective often depended on the food service system used and the size of the facility. It is
19 evident that there are many possible barriers to dietary intakes and some possible solutions
20 can be identified. These views will be used to plan a national questionnaire that will attempt
21 to quantify these barriers and prioritise practical solutions.

22

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25 transcriber, Ms Lyn Politis.

References

- Abusabha R & Woefel, ML (2003). Qualitative vs quantitative methods: Two opposites that make a perfect match. *Journal of the American Dietetic Association* 103, 566-569.
- Alspach G (1997). Patient satisfaction with healthcare services: time to listen up. *Critical Care Nurse* 17, 10-11.
- ABS (2005). Population projections, Australia, 2004-2101 (ABS Catalogue 3222.0). Australian Bureau of Statistics: Canberra.
- Beck E, Patch C, Milosavljevic M, Mason S, White C, Carrie M, Lambert K (2001). Implementation of malnutrition screening and assessment by dietitians: malnutrition exists in acute and rehabilitation settings. *Australian Journal of Nutrition and Dietetics* 58, 92-97.
- Bolch R (1999). Foodservice patient satisfaction: Do we really know what counts? A literature review. *Journal of the New Zealand Dietetic Association* 53, 34-37.
- Bowling A (2002). *Research methods in health. Investigating health and health services.* Open University Press: Buckingham.
- Carr EK & Mitchell JRA (1991). A comparison of the mealtime care given to patients by nurses using two different meal delivery systems. *International Journal of Nursing Studies* 28, 19-25.
- Chang E, Chenoweth I, Hancock K (2003). Nursing needs of hospitalized older adults. Consumer and nurse perceptions. *Journal of Gerontological Nursing* 29(9), 32-41.
- Conning S, Fellowes D, Sheldon H (1997). Users' views in theory and in practice. *Journal of Clinical Effect* 2, 31-34.
- Council of Europe (2002). Committee of Experts on Nutrition, Food Safety, Consumer, and Protection, Food and nutritional care in hospitals: How to prevent undernutrition. 2002: Council of Europe Publishing: Strasbourg.
- DeLuco D & Cremer M (1990). Consumers' perceptions of hospital food and dietary services. *Journal of the American Dietetic Association* 90, 1711-1715.
- Dickinson A, Welch C, Ager L, Costar A (2005). Hospital mealtimes: action research for change? *Proceedings of the Nutrition Society* 64, 269-275.
- Dreachslin JL, Hunt PL, Sprainer E (1999). Communication patterns and group composition: Implications for patient -centered care team effectiveness. *Journal of Healthcare Management* 44, 252- 268.
- Dubé L, Trudeau E, Belanger MC (1994). Determining the complexity of patient satisfaction with foodservices. *Journal of the American Dietetic Association* 94, 394-401.
- Edwards J & Hartwell, HJ (2004). A comparison of energy intake between eating positions in a NHS hospital - a pilot study. *Appetite* 43, 323-325.
- Ereaut G (2002). *Analysis and Interpretation in Qualitative Market Research.* Sage Publications: London.
- Evason E & Whittington D (1997). Patients' perceptions of quality in a Northern Ireland hospital trust: a focus group study. *International Journal of Health Care Quality Assurance* 10, 7-19.

- Fade SA (2003). Communicating and judging the quality of qualitative research: the need for a new language. *Journal of Human Nutrition and Dietetics* 16, 139-149.
- Finestone HM, Geene-Finestone LS, Wilson ES, Teasell RW (1996). Prolonged length of stay and reduced functional improvement rate in malnourished stroke rehabilitation patients. *Archives of Physical Medicine and Rehabilitation* 77: 340-345.
- Ford R, Bach SA, Fottler MD (1997). Methods of measuring patient satisfaction in health care organizations. *Health Care Management Review* 22, 74-89.
- Fossey E, Harvey C, McDermott F, Davidson L (2002). Understanding and evaluating qualitative research. *Australian and New Zealand Journal of Psychiatry* 36, 717-732.
- Gibbs-Ward AJ & Keller HH (2005). Mealtimes as active processes in long-term care facilities. *Canadian Journal of Dietetic Practice and Research* 66, 5-11.
- Grbich C (1999). *Qualitative Research in Health. An Introduction*. Allen & Unwin: St Leonards.
- Green CJ (1999). Existence, causes and consequences of disease related malnutrition in the hospital and the community, and clinical and financial benefits of nutritional intervention. *Clinical Nutrition* 18(Suppl2), 3-28.
- Hollander J (2004). The social context of focus groups. *Journal of Contemporary Ethnography* 33, 602-637.
- Kelly L (1999). Audit of food wastage: differences between a plated and bulk system of meal provision. *Journal of Human Nutrition and Dietetics* 12, 415- 424.
- Kowanko I (1997). The role of the nurse in food service: A literature review and recommendations. *International Journal of Nursing Practice* 3, 73-78.
- Kowanko I, Simon S, Wood J (1999). Nutritional care of the patient: nurses' knowledge and attitudes in an acute care setting. *Journal of Clinical Nursing* 8, 217-224.
- Krueger RA (1994). *Focus Groups: a practical guide for applied research*. Sage Publications: Thousand Oaks, CA.
- Krueger RA & Casey MA (2000). *Focus groups: a practical guide for applied research*. Sage Publications: Thousand Oaks, CA.
- Lau C & Gregoire MB (1998). Quality ratings of a hospital foodservice department by inpatients and post discharge patients. *Journal of the American Dietetic Association* 98, 1303- 1307.
- Light N & Walker A (1990). *Cook-Chill Catering Technology and Management*. Elsevier Applied Science: Barking.
- Lim PC & Tang NKH (2000). A study of patients' expectations and satisfaction in Singapore hospitals. *International Journal of Health Care Quality Assurance* 13, 290-299.
- Mays N & Pope C (2000). Qualitative research in health care. Assessing quality in qualitative research. *British Medical Journal* 320, 50-52.
- McClelland A & Williams P (2003). Trend to better nutrition on Australian hospital menus 1986-2001 and the impact of cook chill food service systems. *Journal of Human Nutrition and Dietetics* 16, 245-256.
- McWhirter J & Pennington C, (1994). Incidence and recognition of malnutrition in hospital. *British Medical Journal* 308, 945-950.

- Merkouris A, Papathanassoglou EDE, Lemonidou C (2003). Evaluation of patient satisfaction with nursing care: quantitative or qualitative approach? *International Journal of Nursing Studies* 41, 355-367.
- Mibey R & Williams P (2002). Food service trends in New South Wales hospitals, 1993-2001. *Food Service Technology* 2, 95-103.
- Neumann SA, Miller MD, Daniels L, Crotty M (2005). Nutritional status and clinical outcomes of older patients in rehabilitation. *Journal of Human Nutrition and Dietetics* 18, 129-136.
- New South Wales Department of Health (2005). Annual Report 2004/5. NSW Health: North Sydney.
- O'Flynn J, Peake H, Hickson M, Foster D, Frost G (2005). The prevalence of malnutrition in hospitals can be reduced: Results from three consecutive cross-sectional studies. *Clinical Nutrition* 24, 1078-1088.
- Patch CS, Maunder KA, Fleming VH (2003). Evaluation of a multisite food service information system. *Food Service Technology* 3, 17- 22.
- Patton M (2002). *Qualitative research and evaluation methods*. Sage Publications: Thousand Oaks, CA.
- Pope C, Ziebland S, Mays N (2000). Analysing qualitative data. *British Medical Journal* 320, 114-116.
- Ramirez Valdivia MT & Crowe TJ (1997). Achieving hospital operating objectives in the light of patient preferences. *International Journal of Health Care Quality Assurance* 10, 208-212.
- Rice PL & Ezzy D (1999). *Qualitative Research Methods: a health focus*. Oxford University Press: South Melbourne.
- Shatenstein B & Ferland G (2000). Absence of nutritional or clinical consequences of decentralized bulk food portioning in elderly nursing home residents with dementia in Montreal. *Journal of the American Dietetic Association* 100, 1354-1360.
- Sydner YM & Fjellström C (2005). Food provision and the meal situation in elderly care-outcomes in different social contexts. *Journal of Human Nutrition and Dietetics* 18, 45-52.
- Thomas D, Zdrowski C, Wilson M, Conright KC, Lewis C, Tariq S, Morley JE (2002). Malnutrition in subacute care. *American Journal of Clinical Nutrition* 75, 308-313.
- Thorsdottir I, Jonsson PV, Asgeirsdottir AE, Hjaltadottir I, Bjornsson S, Ramel A (2005). Fast and simple screening for nutritional status in hospitalized, elderly people. *Journal of Human Nutrition and Dietetics* 18, 53-60.
- Torres E & Guo K (2004). Quality improvement techniques to improve patient satisfaction. *International Journal of Health Care Quality Assurance* 17, 334-338.
- Wallace S (2005). Observing method: recognizing the significant of belief, discipline, position and documentation in observational studies. In: *Qualitative Research in Health Care*. (Ed I Holloway). pp71-84. Open University Press: Maidenhead.
- Watters CA, Sorensen J, Fiala A, Wismer W (2003). Exploring patient satisfaction with foodservice through focus groups and meal rounds. *Journal of the American Dietetic Association* 103, 1347-1349.

- Wensing M & Elwyn G (2002). Research on patients' views in the evaluation and improvement of quality of care. *Quality and Safety in Health Care* 11, 153-157.
- Whittemore R, Chase SK, Mandle CL (2001). Validity in qualitative research. *Qualitative Health Research* 11, 522-537.
- Wilson A, Evans S, Frost G, Dore C (2001). The effect of changes in meal service systems on macronutrient intake in acute hospitalised patients. *Food Service Technology* 1, 121-122.
- Wilson R & Lecko C (2005). Improving the nutritional care of patients in hospital. *Nursing Times* 100(32), 28-30.
- Wilton A, Burton L, Cavanagh R, Higgins T, McDougall K, Appleton J (2004). Assessing the ability of patients to access their meal trays. *Proceedings of the 22nd National Conference of the Dietitians Association of Australia*. p195. DAA: Canberra.
- Wood B, Lo L, Cleary J, Bontoft J, Kelleher D, Burns E, Thien C (1985). Nutritional status in hospitals inpatients: implications for nutritional support services. *Australian New Zealand Journal of Medicine* 15, 435-441.
- Wright L, Cotter D, Hickson M, Frost G (2005). Comparison of energy and protein intakes of older people consuming a texture modified diet with a normal hospital diet. *Journal of Human Nutrition and Dietetics* 18, 213-219.
- Zador DA, Truswell AS (1987). Nutritional status on admission to a general surgical ward in a Sydney hospital. *Australian New Zealand Journal of Medicine* 17, 234-240.

What do you think about the meal service in hospitals?

What do you think about the menu choices? (e.g.: variety, choices, range of culturally specific dishes)

What about the accuracy of meal orders?

What do you think about the way choices are offered and selected?
(e.g.: bulk versus plated, time ahead of meal)

What about the serving sizes?

What about packaging and patient access?

What about assistance with feeding?

What about meal service times?

Location of eating meals? (e.g.: dining room versus bedside)

What about meal quality?
(e.g.: taste, temperature and appearance)

What sort of meals would you expect in hospital? What sort of meals would you like in hospital?

What about special diet requirements?

What about food safety initiatives?

What about monitoring?
(e.g.: intake and wastage)

Any communication issues?

How are any problems resolved?

What are the top 3 priorities?

Figure 1: Standard questions available to the moderator

Table 1- Key themes, topics and exemplar quotes

Key theme	Topics (Number of sessions topic was discussed)	Exemplar quote for topics discussed in more than ten sessions (Key stakeholder type)
1. Food service	1.1 Portion size (n=21)	<i>‘Yes. Some of the oldies are put off by having large plates of food put in front of them. If they have something small they’ll tend to eat it’</i> (Food Service Assistant)
	1.2 Packaging (n=19)	<i>‘I cannot for the life of me open, I’m alright with the butter, but when it comes to the jams and the honey and all that, the juices they have to open that for me. It’s ridiculous that you can’t open them because mostly this hospital is full of old people’</i> (Patient)
	1.3 Food service system (n=18)	<i>‘Obviously a menu is planned according to what retherms most effectively and that limits your variety and that you do have a lot of wet dishes’</i> (Dietitian)
		<i>‘With cook-fresh we always felt we were rushing every meal time to get things done but with cold plating you can plate whatever time of the day you want and we’ve got more choice on’</i> (Food Service Manager)
	1.4 Meal times (n=17)	<i>‘I think it should [the evening meal] be later but at the same time maybe you should be looking at a more substantial snack if it’s going to be later or you have something more substantial after your meal’</i> (Dietitian)
	1.5 Meal accuracy (n=15)	<i>‘Patients are disappointed if they don’t get what they ordered. Sometimes they order other items just in case they don’t get what they really want’</i> (Dietitian)
	1.6 Temperature (n=14)	<i>‘I think technologically we really come a long way and it’s better’</i> (Food Service Manager)
	1.7 Mid meals (n=14)	<i>‘And having high energy snacks for mid meals. I think that’s another thing that’s cut with budgets. Tea and coffee with biscuits isn’t really terribly nutritious’</i> (Dietitian)
	1.8 Wastage (n=12)	<i>‘With elderly clients we do see in hospitals, is they get very upset with the wastage and if you do give them the ward size meals instead of an appropriate size for them, they do get very upset that they’re wasting food and they’re wasting money’</i> (Food Service Assistant)

	1.9 Customisation (n=11)	<i>'And it's not about food quality, its about the flexibility that we don't have in it' (Dietitian)</i> <i>'Basically the inflexibility and not being able to provide individuals with foods that they request at the time when they are really ill and the other thing related to that is a lot of a small number of our patients are long term and that can become an issue in actually meeting their nutrition needs if they don't like the food or don't find it because it's repetitive' (Dietitian)</i>
	1.10 Presentation (n=11)	<i>'I'm thinking of texture modified meals more so. They're the ones that I find least attractive. And they're the people that need to eat them the most' (Dietitian)</i>
	1.11 Extras (n=11)	<i>'They cut down the extras list. When I first started here there used to be a big variety of different [extra foods available], they've cut it down to just about hardly anything' (Nutrition Assistant)</i>
	1.12 Taste (n=9) 1.13 Smell (n=7) 1.14 Texture (n=7) 1.15 Fortification (n=6) 1.16 Time allowed to eat (n=6) 1.17 Availability (n=4)	
2. Menu	2.1 Menu variety (n=19)	<i>'They come through in the morning and ask what you'd like for breakfast, lunch and tea. And you've got a choice of picking what you like. Not just thrown in front of you and say that's it. You get to choose what you want to eat' (Patient)</i>
	2.2 Special diets (n=17)	<i>'And the choices, making sure there's enough choices for the range of diets especially those high need individuals select from the main menu' (Dietitian)</i>
	2.3 Menu selection methods (n=16)	<i>'Yeah, I think in a way and in my experience is quite limited but often we have this menu and then you put in these diet codes and rather than giving them options, rather than just chopping things off, you combine a few diet codes and suddenly the person's got one choice and that's it' (Dietitian)</i>
	2.4 Food preferences (n=16)	<i>'We have a prevalence of wet dishes in the hospital. I know that that's not (my) favourite. I'd prefer fish, eat, chicken that I have at home' (Food Service Assistant)</i>

	2.5 Culture (n=12)	<i>'I've noticed with a lot of the patients that are Greek or Italian the family brings in tea at night for them like spaghettis or lasagnes' (Nurse)</i>
	2.6 Diet changes (n=6) 2.7 Foods brought in (n=4)	
3. Medical condition	3.1 Length of stay (n=10)	<i>'The cycle is based on the length of stay. I know that [hospital X] has 1 week. It's geared to the very acute' (Dietitian)</i>
	3.2 Nutrition requirements (n=6) 3.3 Appetite (n=3)	
4. Ward environment	4.1 Preparation to eat and feeding assistance (n=21)	<i>'the poor patient can't sit there and eat it because she can't open it or he can't open it and the nursing staff are busy showering or bathing somebody else, that meal is just going to sit there until the next hour' (Nurse)</i>
	4.2 Monitoring (n=13)	<i>'And no one on that ward notices that that person hasn't eaten. To me that's very much a state of what's happening. It used to be for example a nurses responsibility to feed the patients. That's been eroded with their professionalism' (Dietitian)</i>
	4.3 Dining Environment (n=11)	<i>'I think that has great advantages from the perspective of nursing being able to access people and supervise and support especially for rehab' (Dietitian)</i>
	4.4 Socialisation (n=4)	
5. Management	5.1 Patient & staff feedback (n=18)	<i>'I know that from our survey perspectives that we get back that they're expectations are higher than they ever used to be' (Food Service Manager)</i>
	5.2 Budget (n=16)	<i>'I guess as things get more rigid because of cost, the ability to make changes at short notice is really limited in the ability to cater for individual requirements diminished in some way' (Dietitian)</i>
	5.3 Food safety (n=13)	<i>'The NSW Health document it sort of says to avoid all of these foods because of Listeria, and then it acknowledges that by doing this they don't want to precipitate the issue of malnutrition so use your discretion (Dietitian)</i>
	5.4 Communication (n=9) 5.5 Supplements (n=6) 5.6 Improvements (n=3)	

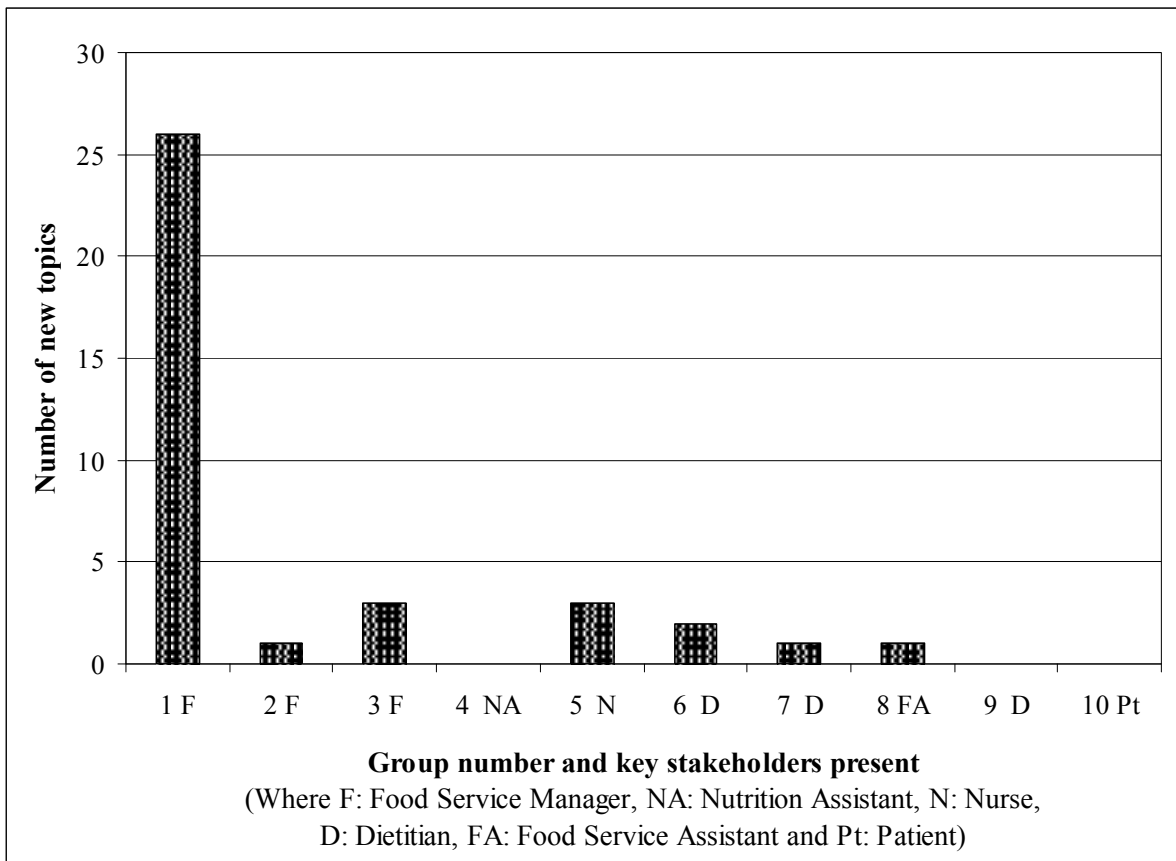


Figure 2: Number of new topics discussed at each session