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**Are The Residents Being Fed Adequately?
or
(Quality, Aged Care & Nutrition)**

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1. ABSTRACT

Ensuring the residents are adequately fed is a key issue both physiologically and emotively.

Nutritional issues include both the provision of food and its intake. Effective strategies that can be monitored are integral to good care in the Food Services department and for the Care staff

The provision of meals offers ample opportunities for quality enhancement. A key issue is ensuring the menu is nutritionally balanced. A variety of tools including templates for nutritional adequacy, are available. Other issues include ensuring the menu is followed, adequacy of food serve sizes, adherence to recipes, the objective monitoring of food intake, and the knowledge of Food Services staff with regard to nutrition in general and therapeutic diets in particular.

Outsourcing of Food Services necessitates specific contractual clauses to ensure nutritional needs are met, and outsourced services should also be monitored regularly to ensure defined nutritional parameters are being met.

Each resident's degree of nutritional risk can also be monitored using a variety of strategies. Once it is determined that a person is at moderate or high nutritional risk then types of interventions, and monitoring their effectiveness also becomes important.

Nutritional systems apply to both direct care providers such as care staff as well as indirect care providers such as Food Services departments.

2. KEY WORDS

Bowel audits, Food Services audits, Nutritional Risk Screening, Weight audits

3. INTRODUCTION

Residential care facilities provide a comprehensive range of services to people who are no longer able to live independently and care for themselves. A very emotive issue is the adequate (perceived and real) provision of nutrition and hydration.

An aspect of "quality" is the ability to measure or monitor systems in some defined and regular format. Are the systems being followed? Can the systems be improved in some manner?

Nutrition services to the Residential Aged Care sector in Australia are typically provided on an "as needs" basis. There have been no well-established systems to guide the decision-making staff with regard to appropriate accessing of services. Anecdotal evidence indicates that dietitians are usually requested to review residents with significant weight loss, review menus of individual facilities, and less often to review residents requiring enteral feeds.

Nutrition Consultants Australia has been providing a comprehensive range of predominantly regular and also casual nutrition services to the Residential Aged Care sector in Melbourne for the last 6 years. Typically we provide regular and casual services to 5-10% of the Melbourne metropolitan sector at any given time, and we

have provided services to about 25% of the sector in the last 6 years; this paper is based on our observations and experiences.

Four key nutrition-related issues will be briefly addressed under two main headings **Direct Care** pertaining to direct resident management strategies, and **Indirect Care** which is related to Food Services.

4. NOTATION

number

% percent

≥ greater than or equal to

≤ less than or equal to

< less than

5. DIRECT CARE ISSUES

5.1 Nutritional Risk Screening

There is a dearth of appropriate holistic systems for the management of nutrition and hydration in aged care facilities in Australia. The most commonly measured parameter to monitor nutrition is weight status. However there are few systems in place to cope with inappropriate weight change, there are minimal intervention systems in place, and there are essentially no systems to monitor the effectiveness of interventions that *have* been initiated.

Essentially a resident's level of nutritional risk should be monitored at the time of admission and at frequent, defined intervals thereafter – personal experience indicates 3-monthly to be a reasonable frequency for those identified at **Low** nutritional risk.

However, for those residents identified at **Moderate** or **High** nutritional risk, appropriate interventions should be initiated and their effectiveness monitored – there is no point in continuing an intervention if it is not proven to be effective. Based on personal observation of current practices, if a resident is deemed to be at nutritional risk then a nutrition support product is administered, typically as the only intervention, and there is no monitoring of its effectiveness.

There are only two reliable nutritional risk screening tools that have been validated for the residential aged care sector. The two Tools are:

- the Mini Nutritional Assessment (MNA). This Tool was developed in France and is an internationally recognised, well-established and reliable tool.
- the Nutritional Risk Screening Tool (NRST). This Tool was developed in Australia and has recently been validated for the Residential Aged Care sector. Unlike the MNA, the NRST's development criteria included minimal time to complete and suitability for administration by unskilled Care staff.

Introduction of a nutritional risk screening tool enables identification of residents most likely to be at moderate or high nutritional risk, and consequent initiation of appropriate interventions. Appropriate nutritional management strategies should be defined and stratified. An example of stratification is outlined

- an increase in serve sizes.
- if the resident has a sweet tooth then trial double desserts to encourage appetite.

- administration of nutrition support products.
- Identification of the next level of intervention.

Auditing of nutritional risk scores can indicate changes in nutritional management systems. For example the number of residents identified at low risk may increase; a decrease in the number of residents identified at moderate or high risk may indicate earlier effective interventions, rather than any change in types of residents admitted.

5.2 Bowel audits

Poorly-managed bowel function is associated with many outcomes such as increased risk of falls, increased confusion, increased off-time in people with Parkinson's disease, and is also believed to reflect inadequate fibre and fluid intake.

A bowel audit comprises review of the drug charts for a 3-month period to ascertain the following

- whether or not the resident is prescribed a regular aperient
- frequency of PRN aperient, suppository and enema administration

If a resident requires ≥ 4 PRN aperient, suppository or enema interventions per month then review of the bowel management strategies for that resident is recommended.

Bowel management strategies can be audited to establish their levels of effectiveness. Table 1 is a summary of bowel management audits for 10 facilities. As can be seen from Table 1, based on intermittent interventions per month, the majority of facilities have adequate bowel management strategies (using a cut-off of 10%), with two facilities having significantly poor practices.

Strategies for Continuous Improvement could include

- increasing the number of residents not requiring regular interventions;
- increasing the number of residents not requiring further PRN aperient, suppository and enema interventions;
- decreasing the number of residents requiring ≥ 4 intermittent interventions per month.

Strategies to improve bowel management practices could include:

- food interventions to include increased fibre intake such as
 - added bran or psyllium to defined foods;
 - increasing fruit and vegetable intake ;
 - cooking baked products (cakes, biscuits, some desserts) with half wholemeal and half ordinary flours;
 - adding bran &/or psyllium to baked products and soups.
- defined interventions to increase fluid intake such as
 - jelly squares;
 - extra gravies and sauces;
 - extra drinks rounds;
 - drink breaks to be part of all activities and lifestyle programs.

All these interventions can also be provided in a thickened consistency for those with dysphagia

5.3 Weight Audits

Due to the systems in place in most aged care facilities one can ascertain bowel status of a resident on a defined day, or the prescribed management of continence status on a defined day, regardless of the passage of time. However one is generally unable to ascertain weight status within a defined time frame. This is generally because:

- regular recording of weights has not been perceived to be important;
- the weights have been recorded on a variety of documents as various documentation systems have been trialled;
- difficulty in locating previously recorded weights to ascertain change in status;
- the information has generally not been used as the basis for decision-making i.e. if there is a defined weight change of X kg then these are the actions to be initiated;
- there has been no regular auditing of weights to ensure they are being recorded;
- even if weights are recorded there is no evidence of their reliability, i.e.
 - whether last month's weight was carried forward instead of the resident being weighed;
 - if the weight was accurately recorded.

Review of 12-month weight audits for ten clients is outlined in Table 2. As can be seen from Table 2, several parameters can be monitored

- missed weights – contributing factors for missed weights include
 - resident in hospital;
 - resident on a family outing;
 - scales are broken.

I suggest if > 10% weights are missed then it is advisable to review the system.

- indeterminate weight trends – contributing factors include
 - resident not well positioned on the scales;
 - faulty scales;
 - inappropriate scales;
 - recent illness;
 - time of day of the weighing.

I suggest if weight trends cannot be established within 3 months then both a weighing scale and a system review be implemented.

- residents weighing ≤ 45 kg – whilst there are some residents who do typically weigh ≤ 45 kg there are many residents whose admission weight was much heavier and they have lost weight during their time in residential care. Robust systems are recommended to ensure there is not a weight loss to ≤ 45 kg.
- residents weighing < 40 kg – ditto resident's weighing ≤ 45 kg.
- weight loss ≥ 3 kg/12 months – there are many contributing factors to weight loss such as

- amputation;
- infections;
- hospitalisation;
- inadequate provision of food;
- underlying pathologies;
- disease progression or exacerbation;
- fretting.

Cause of weight loss, interventions to minimise weight loss, and effectiveness of the nutrition interventions and essential documentary components.

- appropriate weight change – some changes, either increased weight or decreased weight, are acceptable. Anecdotal evidence indicates untrained care staff perceive all weight-loss to be “good” and all weight-gain to be “bad”. These perceptions may reflect some of the more strident anti-obesity messages in the community.
- volitional weight loss – regardless of contributing factors such as poorly-managed hypothyroidism, lymphoedema, and ascites, anecdotal evidence indicates that residents who are perceived to be overweight are food restricted without their knowledge or consent, by the staff as a weight management strategy.

Review of 24-month weight audits for two clients is outlined in Table 3. As can be seen from Table 3, the parameters that can be monitored are the same as those in Table 2. This information has been included because there is a dearth of data regarding weight status over time of residents in residential aged care facilities in Australia.

6. INDIRECT CARE ISSUES

6.1 Food Services

Food Services departments in Aged Care facilities are generally staffed by unskilled staff, although there is now a trend to employing chefs. There is generally an assumption of knowledge, or an expectation that relevant knowledge will be passed from staff member to staff member, possibly by osmosis.

If the meals are unacceptable and not eaten by the residents, then all other aspects of care can be compromised, such as wound healing, bowel management strategies, falls management strategies. The residents can also become generally malnourished which can also manifest as difficult, resistive or aggressive behaviours, poor demeanour, and lethargy.

There are a number of nutrition and hydration parameters that can be monitored from a quality perspective, such as:

- **Ensuring a balanced menu.** The 13345+ Plan¹ is a validated tool that indicates the general nutritional adequacy of the menu. This Tool can be taught to the Food Services staff within about 1-2 hours, and can guide their decision making at menu-changing times. Review of our data indicates that there is generally an inadequate provision of vegetables and/or fruits by the majority of facilities, and there may also be an inadequate provision of dairy

products, however the breads and cereals and protein groups are generally adequately provided.

- **Identified texture-modified and therapeutic menus.** Anecdotal evidence indicates that residents requiring a vitamised diet are typically “given the same food as everyone else except it’s vitamised”. However the residents are not provided for example vitamised scones, and may not even be provided between-meal snacks. Residents requiring diabetic diets may be served the foods cooked without sugar.
- **Maintaining a varied menu.** Variety can be monitored by a number of parameters such as the frequency with which a dish is included on the menu, the number of new dishes introduced within a defined time frame. I suggest no dishes be repeated on a 3-week menu.
- **Integral inclusion of high fibre ingredients.** Inclusion of high fibre ingredients into recipes is an effective strategy for increasing fibre intake in the diet. An audit of ordering supplies can quickly indicate usage of ingredients such as wholemeal flours, hi-fibre white breads, bran, and psyllium.
- **Adequacy of basic nutritional knowledge of the Food Services staff.** A Certificate III in Nutrition & Hydration is now available to ensure a basic level of competency.
- **Basic knowledge for common therapeutic diets.** Provision of either in-house or outsourced training of the Food Services staff on current dietary requirements, for a range of therapeutic diets including diabetes, Coeliac, low fat, etc.
- **Standardised recipes and menus.** Defined recipes and menus increases the likelihood of consistency of meal standards across the facility from all Food Services staff, whether they are regular or casual.
- **Standardised serve sizes.** This strategy minimises staff interpretation of serve sizes for small, medium and large, and ensures the residents are consistently served similar-sized meals based on their individual needs.
- **Standardised common texture-modified diets.** Standardised consistencies of foods for texture-modified diets including vitamised and soft diets.
- **Standardised thickened drinks.** Standardised consistencies of fluids for texture-modified drinks including nectar and honey consistencies.
- **Menu compliance.** Menu compliance is important to ensure balanced menus are being provided to the residents. Menu non-compliance may indicate heavy workloads that preclude compliance or may reflect perceptions that the menu is only for Accreditation purposes and that compliance is not necessary. Regular spot checks on the meals provided will indicate degree of compliance with the menu. Anecdotal evidence indicates the evening meals and weekend meals are commonly believed to be the least compliant with the menu.
- **Evaluating acceptability of the meals.** Regular plate waste audits will indicate acceptability of meals. If specific dishes are regularly not eaten by the majority of residents then it is likely the dish is unacceptable, however if specific residents are regularly not eating then it may indicate an underlying medical condition that requires further investigation.
- **Contract of Service clauses.** If Food Services is outsourced then there are some specific clauses that should be included in the contract of service so that performance can be monitored. These clauses should include:
 - Documentary evidence of the nutritional adequacy of all the menus provided including house, vitamised, soft, diabetic, coeliac, etc.
 - Documentary evidence of the acceptability of the meals to the residents which includes regular plate waste audits. The Aged Care facility should also be conducting regular plate waste audits to ensure reliability of the figures provided.

- Documentary evidence of staff training and up-to-date knowledge with regard to therapeutic diets and texture-modified diets.

7. RECOMMENDATIONS

Key areas in nutrition have been identified that lack effective monitoring and evaluation systems, and include

- regular nutritional risk screening with appropriate follow-up as a defined system to guide decision-making;
- regular bowel audits to ensure their appropriateness, and further strategies to decrease intermittent interventions;
- regular weight audits to monitor regular recording, their utilisation in decision-making interventions, and appropriate monitoring of the interventions;
- Food Services training on balanced menus, therapeutic diets, texture-modified foods and fluids;
- standardisation of in-house menus, recipes and serve sizes;
- utilisation of the Certificate III in Nutrition & Hydration as a base skill level for Food Services staff;
- monitoring acceptability of individual meals;
- specific clauses relating to nutrition performance for outsourced Food Services.

8. CONCLUSIONS

In asking the questions “Are the residents being fed adequately?” Can our systems provide answers?

In practice many of the systems outlined in this paper are not yet fully or even partially implemented, and so the answer is **NO**.

9. REFERENCES

1. Cited in *Identifying & Planning Assistance for Home-Based People Who are Nutritionally at Risk: A Training Manual* (Department of Human Services HACC Program, 2001). This Tool modified from The 12345+ Food Plan (Baghurst et al, 1992. Journal of Nutrition Education; 24:65-72).

Table 1: Summary Bowel Audits 2004-2005

| # beds | # residents with no regular aperients prescribed | | | | | # residents with regular aperients prescribed | | | | | Total intermittent interventions (# residents ≥ 4/month) % |
|--------|--|-----------|-----|-------------|-------|---|-----------|-----|-------------|-------|--|
| | No regular aperients | NI % | PRN | PRN + supps | supps | Regular aperients | NOI % | PRN | PRN + supps | supps | |
| 30 | 13 43% | 12 92% | 0 | 1 | 0 | 16 53% | 6 37% | 2 | 5 | 3 | 0 0% |
| 39 | 27 69% | 18 67% | 5 | 2 | 2 | 11 28% | 7 64% | 1 | 0 | 3 | 1 3% |
| 28 | 22 79% | 20 91% | 2 | 0 | 0 | 6 21% | 5 83% | 1 | 0 | 0 | 0 0% |
| 30 | 17 57% | 3 18% | 4 | 8 | 2 | 12 40% | 2 17% | 1 | 2 | 7 | 12 40% |
| 30 | 17 57% | 4 23% | 8 | 4 | 1 | 13 43% | 7 54% | 0 | 3 | 3 | 6 20% |
| 30 | 23 77% | 7 30% | 16 | 0 | 0 | 7 23% | 4 57% | 2 | 0 | 1 | 2 7% |
| 65 | 43 66% | 21 49% | 12 | 4 | 5 | 19 29% | 2 10% | 10 | 3 | 4 | 1 1.5% |
| 104 | 69 66% | 29 42% | 18 | 9 | 2 | 37 36% | 25 68% | 4 | 2 | 6 | 3 3% |
| 30 | 17 57% | 3 18% | 10 | 4 | 0 | 11 37% | 4 36% | 1 | 4 | 2 | 3 10% |
| 87 | 64 74% | 20 31% | 17 | 2 | 1 | 23 26% | 14 61% | 5 | 1 | 3 | 9 10% |

NI – No interventions
 NOI – No other interventions
 PRN – as required
 supps - suppositories

Table 2: Weight Audit Summaries-One Year Audits

| # beds | # missed weights /total weights % | # residents | | | | | | | | | |
|--------|-----------------------------------|-------------|------|------|----------------|------------------|----------------|------------------------------|---------------|---------------|--------------------------------|
| | | stable | gain | loss | loss then gain | loss then stable | gain then loss | indeterminate weight trend % | weigh ≤ 45 kg | weigh < 40 kg | weight loss ≥ 3 kg/12 months % |
| 30 | 53/272 19% | 14 | 3 | 3 | | | | 10 33% | 7 | 4 | 3 10% |
| 18 | 18 /223 8% | 8 | 6 | 0 | 1 | | | 3 17% | 1 | 0 | 0 0% |
| 58 | 105/526 20% | 11 | 5 | 7 | 2 | | | 33 57% | 7 | 4 | 7 12% |
| 31 | 84/318 26% | 1 | 2 | 7 | | 1 | | 20 68% | 6 | 5 | 7 23% |
| 30 | 27/283 9.5% | 19 | 5 | 3 | | | | 3 10% | | | 2 7% |
| 28 | 19/300 6% | 17 | 4 | 2 | 1 | | 2 | 2 7% | 1 | 0 | 2 7% |
| 45 | 46/440 10% | 21 | 2 | 13 | | | | 9 20% | 15 | 4 | 12 27% |
| 100 | 61/1193 5% | 37 | 17 | 22 | | | | 8 8% | 7 | 8 | 21 21% |
| 29 | 21/302 7% | 7 | 1 | 5 | | | | 16 55% | 6 | 2 | 5 17% |
| 48 | 171/540 32% | 21 | 2 | 3 | | | | 22 46% | 3 | 1 | 3 6% |

Table 3: Weight Audit Summaries-Two Year Audits

| # beds | # missed weights /total weights (%) | #residents | | | | | | | | | |
|--------|-------------------------------------|------------|------|------|------------------|----------------|------------------|------------------------------|---------------|---------------|--------------------------------|
| | | stable | gain | loss | loss then stable | gain then loss | gain then stable | indeterminate weight trend % | weigh ≤ 45 kg | weigh < 40 kg | weight loss ≥ 3 kg/24 months % |
| 32 | 64/714 9% | 16 | 2 | 4 | 4 | 2 | 4 | 0 0% | 11 | 4 | 8 25% |
| 19 | 57/410 14% | 7 | 2 | 6 | | | | 4 21% | 5 | 1 | 6 32% |