Overview of Nutrition Issues in the Ageing Population and Implications for Dietary Guidance

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University of Queensland
- The ‘elderly’ are not a single group
- One size does not fit all
- The new Food Modelling System and the Dietary Guidelines
- Nutrition imperatives in the elderly population
  - Malnutrition is not a single issue/problem
  - Sarcopenia
- Other nutrients
Comparison 1999-2051 age distribution Australia

Box 2.4: Older Australians

- At 30 June 2011, more than three million Australians (14% of the population) were aged 65 or over (ABS 2011a).
- By 2031, older Australians are projected to grow to 19–21% of the population (ABS 2008b).
- In 2009, 94% of older Australians lived in the community in private homes or self-care accommodation (AIHW analysis of the ABS 2009 Survey of Disability, Ageing and Carers).
- In 2010–11, 11% were employed, with 53% of these working part time (ABS 2011k).
- In 2006, 27% participated in voluntary work (ABS 2006b).
- In 2009, at age 65, females could expect to live another 21.8 years and males another 18.7 (ABS 2011l).

See Chapter 6 in Australia’s welfare 2011 for more information about older Australians (AIHW 2011a).
Physical health

Although many older Australians are generally in good health, the extent of disability and disease, often involving multiple conditions, tends to increase with age:

- 44% of those aged 65–74 have disability, of whom 11% have a severe or profound core activity limitation (that is, always or sometimes requiring assistance with activities relating to communication, mobility and/or self-care).
- 81% of those aged 85 and over have disability, of whom 54% have a severe or profound core activity limitation.
- 49% of Australians aged 65–74 have five or more long-term health conditions, increasing to 70% of those aged 85 and over (AIHW analysis of 2009 SDAC) (see ‘Section 3.2 Functioning and disability’ for more discussion about how disability relates to age).
Note: People with a severe or profound core activity limitation are unable to perform or always/often require help with communication, mobility and/or self-care. For more information on how disability is measured, see Box 3.2 in 'Section 3.2 Functioning and disability'.


Figure 2.17: Expected years of life with disability and with severe or profound core activity limitation at age 65, by sex, 1998 and 2009
What do we know?

- 1998 – national newspoll survey of Elderly nutrition – over 70 yrs
  - 73% reported fewer than 5 serves F&V
  - 54% men never planned meals
  - 65% never discussed diet or nutrition with doctor

- 2008 national health survey – over 75 yrs
  - 91% reported fewer than 7 serves F&V
Some of the issues

- The elderly group is often thought of as a homogeneous group.
- There is confusion between the public health messages aimed at chronic disease reduction and prevention in the free living population and focusing on this among some of the very elderly groups, the frail elderly and especially in RAC or palliative care.
The focus on obesity has meant it is hard to get the malnutrition/high nutrient message across or recognised at times. Weight loss is DANGEROUS in >70s. New metanalysis confirms that the most appropriate weight is in the overweight to obese grade 1 range.

Using tools designed for the well younger population is not always relevant.

We need to think differently about food and nutrition.
Malnutrition

- Malnutrition is the silent epidemic- 35%+ in health facilities, (www.daa.asn.au), 15% in HACC clients in community (Leggo et al 2008), up to 50% in RAC

- The kind of malnutrition we see most is now recognised in the classification system –
  – disease induced malnutrition,
  – malnutrition in a land of plenty
  – Malnourished overweight persons
Older population

80+

Community frail

<80 yrs

Community

Chronic disease

No chronic disease

RAC

>50% QoL

Nutrition ++

Disease management

15% QoL

Nutrition ++

Disease prevention
Malnutrition

- Loss of muscle mass - age related inflammation (sarcopenia)
- Disease related inflammation (cachexia)
- Protein energy malnutrition
Overall, there was strong support for using mobility and strength testing as the primary gold standard and relevant outcome for problems of muscle weakness and low muscle mass.

Most conference participants felt that low muscle mass without weakness was not clinically relevant.

Although the measurement of grip strength was acknowledged to be highly feasible in clinical settings, some participants recommended that grip strength serve only as a screen for clinically important weakness, followed by more detailed testing of lower extremity strength.
1% muscle loss per yr >50yrs

- Increased incidence of falls
- Increased incidence in Hip Fractures
- Loss of Strength
- Impairment in activities of daily living

18.5 Billion in Health Care Costs (Janssen et al. 2004)
Figure 2: Underlying mechanisms involved in muscle wasting diseases. Despite the fact that both diseases result in muscle wasting, the underlying causes of sarcopenia (blue) and cachexia (orange) are distinct. Sarcopenia arises from a multitude of factors, including [1] decreased amino acid intake, [2] diminished physical activity, [3] loss of motor neurons with age, and [4] a decline in anabolic stimulating hormones. Cachexia, in contrast, results from the physiological changes that occur during the progression of other chronic inflammatory illnesses. In cancer, the REE (Resting Energy Expenditure) is known to increase,ushina the overall eneray state...
So… Food and nutrients

- What should we be doing for the older population and elderly?
- How much is needed?
- What is the role of the RDIs, dietary guidelines for this group?
A Model

Food supply

Distribution

Consumption

Nutrition

Health outcome

The food system

Food based dietary guidelines

Food selection guides

Recommended nutrient intakes

Dietary guidelines
Linking together

Food Supply → Food Groups

Disease prevention → NRV/RDIs

Optimal health → DGs

Food Selection Guide

Revised 2011

Revised 2006 and 2013?

Revised version late
Need to group foods

- Grouping foods has been around for the last 2000 years at least
- The way that foods are grouped is important for the dietary guideline message and how it is pictured.
- Food groups should be underpinned by robust scientific modelling
Remember

- This is about underpinning the DGs and the AGHE
- The DGs and AGHE are based on
  - The well population
  - Disease prevention
  - Optimising health
- It represents the collections and proportions of foods which can deliver the RDIs of the nutrients selected for modelling within any parameters set.
Approach to new DGs and FMS

- The new food modelling system is based on strong science and
  - The revised RDIs
  - Aspirational “best practice” eating for chronic disease prevention, underpinned by evidence defined as per the NHMRC processes
  - The combinations of foods as eaten by different age and gender groups – not the food supply as is

- Weekly intakes
- Recognises sociocultural issues
But…..

- A food modelling system depends on what you tell it are the limits (otherwise it could pick an unlikely combination of foods—especially green vegetables).

- There are MANY ways that you can construct good diets and good menus. The national system is based on a particular set of ideas.

- You could replace many foods with fortified, functional or ‘super’ foods and get a different combination.

- The recommended intakes need to be of relevance so do not apply to all (eg the chronically ill).
A MODELLING SYSTEM TO INFORM THE REVISION OF THE AUSTRALIAN GUIDE TO HEALTHY EATING

By Dietitians Association of Australia Project Manager Annette Byron

With consultants Professor Katrina Baghurst, Professor Lynne Cobiac, Associate Professor Peter Baghurst, Dr Anthea Magrey
Nutrients in model

- Protein, thiamin, retinol equivalents, vitamin C, folate, calcium, iodine, iron, magnesium, zinc.
- These all have EARs, RDIs, and data in the food composition database.
- Other nutrients checked as outputs only.
- Fortified foods in model
  - Bread – iodine, folic acid, and thiamine
  - Breakfast cereals
  - Soy products for calcium and B12
Nutrition needs of aging population

- The recommended amounts of nutrients do not reduce with age.
- Some eg protein, calcium increase with age
- Energy needs are much lower with the very elderly – usually in the order of 5500-7000kJ
- Appetite can be reduced
- This means that food must be ‘better’ than that for younger people.
- Foods need to be nutrient dense NOT the bulky low fat needs of the well, overweight population
Limits imposed

Table 4: Food group parameters used to inform the range of serves for the initial composite food group modelling for adult Foundation Diets

<table>
<thead>
<tr>
<th>Food group</th>
<th>Minimum average daily serves</th>
<th>Maximum average daily serves</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals overall</td>
<td>4</td>
<td>6</td>
<td>Model all wholegrain(wg); all white and 50-50 wg-white (subsequently 2/3 wg to 1/3 refined ratio agreed as a result of modelling)</td>
</tr>
<tr>
<td>White rice</td>
<td>unlimited</td>
<td>unlimited</td>
<td>120g cooked rice = 1 serve</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cultural acceptability particularly for Asian cuisines</td>
</tr>
<tr>
<td>Wholegrain or brown rice</td>
<td>unlimited</td>
<td>unlimited</td>
<td>See cereals overall</td>
</tr>
<tr>
<td>Refined pasta</td>
<td>unlimited</td>
<td>unlimited</td>
<td>120g cooked pasta = 1 serve</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cultural acceptability particularly for some Mediterranean cuisines</td>
</tr>
<tr>
<td>Wholegrain pasta</td>
<td>unlimited</td>
<td>unlimited</td>
<td>See cereals overall</td>
</tr>
<tr>
<td>Wholegrain or higher fibre bread</td>
<td>unlimited</td>
<td>unlimited</td>
<td>40g bread equivalent = 1 serve</td>
</tr>
<tr>
<td>Refined or lower fibre bread</td>
<td>unlimited</td>
<td>unlimited</td>
<td>40g bread = 1 serve</td>
</tr>
<tr>
<td>Oats</td>
<td>unlimited</td>
<td>2</td>
<td>Serve = 25g dry</td>
</tr>
<tr>
<td>Refined or lower fibre breakfast</td>
<td>unlimited</td>
<td>2 serves</td>
<td>Suggest sliding scale based on energy content (serve 30g)</td>
</tr>
<tr>
<td>Legumes</td>
<td>unlimited</td>
<td>unlimited</td>
<td>Includes beans including baked beans, soybean, chickpeas, lentils, tofu</td>
</tr>
<tr>
<td>Green, brassica vegetables</td>
<td>1</td>
<td>2</td>
<td>Upper level was modelled on basis of cultural acceptability and variety as a large number of serves (e.g. 11–15/day) are chosen in an unrestrained model because of high nutrient density of this food category Serve = 75g</td>
</tr>
<tr>
<td>Orange vegetables</td>
<td>1</td>
<td>2</td>
<td>As above</td>
</tr>
<tr>
<td>Starchy vegetables</td>
<td>1</td>
<td>4</td>
<td>Not to dominate vegetable group</td>
</tr>
<tr>
<td>Other vegetables</td>
<td>1</td>
<td>2</td>
<td>Includes tomatoes</td>
</tr>
<tr>
<td>Nuts and seeds</td>
<td>unlimited</td>
<td>2</td>
<td>High in energy density. Serve = 30g</td>
</tr>
</tbody>
</table>

continues…
Table 4: Food group parameters used to inform the number of serves for the initial composite food group modelling for adult *Foundation Diets*

<table>
<thead>
<tr>
<th>Food group</th>
<th>Minimum average daily serves</th>
<th>Maximum average daily serves</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meats, fish, seafood, poultry</td>
<td>unlimited</td>
<td>150g</td>
<td>Note global contraction and convergence framework - suggests contraction over decades among high consuming populations to mean of 90g meat/person/day for all people - allows room for low consuming populations to increase intake - based on principles of reducing poor health from both over and under-consumption and availability within the Australian food supply. Maximum level in modelling is consistent with evidence in literature review re health and chronic disease.</td>
</tr>
<tr>
<td>Lean red meats</td>
<td>unlimited</td>
<td>65g</td>
<td>See above.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Good source of limiting nutrients</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Includes beef, lamb, veal, pork, venison, kangaroo. Pork included as epidemiological evidence usually includes pork as red meat.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Current red meat consumption is high in Australian men but low in some groups such as young women. Maximum level in modelling is consistent with evidence in literature review re health and chronic disease; lean varieties are preferable.</td>
</tr>
<tr>
<td>Lean white meats</td>
<td>unlimited</td>
<td>65g</td>
<td>Includes chicken, turkey, duck, quail, crocodile</td>
</tr>
<tr>
<td>Fish and seafood</td>
<td>20g</td>
<td>40g</td>
<td>Combine all categories for modelling purposes. Minimum set due to evidence of health benefits of consumption.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>At a 100g serve the daily range of 20-40g targeted for modelling of <em>Foundation Diets</em> would equate to 1.4 to 2.8 serves a week.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Note: as shown in Table 26, the resulting <em>Foundation Diets</em> for adults included at least 40% more fish and seafood than reported for NNS95; additional amounts can also be consumed instead of Discretionary choices in Total Diets if required). There is evidence that supply of some species is more sustainable than others.</td>
</tr>
<tr>
<td>Eggs</td>
<td>Unlimited</td>
<td>1 egg</td>
<td>Serve = 150g (edible portion) Exclude juice for modelling</td>
</tr>
<tr>
<td>Fruit</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Food Type</td>
<td>Serving Amount</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------</td>
<td>----------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Total dairy foods</td>
<td>Unlimited</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Serve = 250g milk equiv</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Good source of limiting nutrients</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some non-lower fat dairy foods to be included for cultural acceptability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>After initial modelling, dairy foods were modelled on a mix of higher fat and lower fat options for Foundation diets. Serve quantities were combined but with the proviso that most choices be lower fat.</td>
<td></td>
</tr>
<tr>
<td>Higher fat dairy foods</td>
<td>0.5</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Predominantly cheese. Good source of calcium and vitamin A and variety but limit re saturated fat content. Serve = 40g</td>
<td></td>
</tr>
<tr>
<td>Medium fat dairy foods</td>
<td>1</td>
<td>unlimited</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Includes full fat milks, yoghurts, some reduced fat cheese.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dairy food consumption declining in children</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Serve = 250g milk equiv</td>
<td></td>
</tr>
<tr>
<td>Lower fat dairy foods</td>
<td>unlimited</td>
<td>unlimited</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dairy food consumption declining in children</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Serve = 250g milk equiv</td>
<td></td>
</tr>
<tr>
<td>Unsaturated spreads and oils</td>
<td>unlimited</td>
<td>0 or unlimited depending on modelling</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>High energy density. Consider current culinary practices. Available dietary data are inadequate to support weighting (see methods). Include as an allowance as per previous CFG modelling.</td>
<td></td>
</tr>
</tbody>
</table>
Things to note

- Modelled on the smallest and least active in the group
- Those with very low activity have no room for “spare” additional foods in terms of energy
- Foods have been grouped differently to those to which we have been used based on updated information and the modelling process
- These may not be the final way that foods are grouped or labelled in any pictorial version
Increased flexibility in the content of each of the food groups compared with the “core foods”

Terminology is different – foundation foods

Amounts have been expressed over 7 days to indicate that this is a more realistic way of understanding good diet. However this may be translated differently in the final materials for the general population (which is very disappointing and destroys the intent of increasing flexibility in foodways).
Table ES3: Omnivore Foundation Diets for men designed to attain RDI for the age group within energy needs of the smallest (160cm) and very sedentary (PAL 1.4) in the group

<table>
<thead>
<tr>
<th>Composite food group</th>
<th>Serve size</th>
<th>19–30 yrs</th>
<th>31–50 yrs</th>
<th>51–70 yrs</th>
<th>70+ yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starchy vegetables</td>
<td>75g</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Green &amp; brassica vegetables</td>
<td>75g</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Orange vegetables</td>
<td>75g</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Legumes</td>
<td>75g</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Nuts/seeds</td>
<td>30g</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Other vegetables</td>
<td>75g</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Fruit</td>
<td>150g</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Wholegrain or higher fibre cereals/grains</td>
<td>Equiv 40g bread</td>
<td>28</td>
<td>28</td>
<td>28</td>
<td>21</td>
</tr>
<tr>
<td>Refined or lower fibre cereals/grains*</td>
<td>Equiv 40g bread</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Meat and als minus red</td>
<td>Equiv 65g red meats</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Red meats (beef, lamb, veal, pork)</td>
<td>65g</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Dairy foods**</td>
<td>Equiv 250g milk</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>24</td>
</tr>
</tbody>
</table>

Additional modelled allowance of unsaturated oils and spreads:

| Poly-unsaturated margarine***         | 10g        | 28        | 28        | 28        | 14      |

*Refined or low fibre cereals were included as a group for cultural reasons; wholegrain or higher fibre cereals can replace these if preferred.

**Should be mostly low fat

***As proxy for unsaturated oils and spreads. Could be replaced with oil (7g/serve) or seeds or nuts (10g/serve) (See Appendix 7.2.7)
Table ES4: Omnivore Foundation Diets for women designed to attain RDI for the age group within energy needs of the smallest (150cm) and very sedentary (PAL 1.4) in the group;

<table>
<thead>
<tr>
<th>Composite food group</th>
<th>Serve size</th>
<th>19–30 yrs</th>
<th>31–50 yrs</th>
<th>51–70 yrs</th>
<th>70+ yrs</th>
<th>19–30 yrs</th>
<th>31–50 yrs</th>
<th>19–30 yrs</th>
<th>31–50 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starchy vegetables</td>
<td>75g</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Green &amp; brassica vegetables</td>
<td>75g</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Orange vegetables</td>
<td>75g</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Legumes</td>
<td>75g</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Nuts/seeds</td>
<td>30g</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Other vegetables</td>
<td>75g</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Fruit</td>
<td>150g</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Wholegrain or higher fibre cereals/grains</td>
<td>Equiv 40g bread</td>
<td>28</td>
<td>28</td>
<td>20</td>
<td>15</td>
<td>41</td>
<td>41</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Refined or lower fibre cereals/grains*</td>
<td>Equiv 40g bread</td>
<td>14</td>
<td>14</td>
<td>8</td>
<td>6</td>
<td>19</td>
<td>19</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Meat and alts minus red</td>
<td>Equiv 65g red meats</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>12</td>
<td>12</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Red meats (beef, lamb, veal, pork)</td>
<td>65g</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>12</td>
<td>12</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Dairy foods**</td>
<td>Equiv 250g milk</td>
<td>17</td>
<td>17</td>
<td>28</td>
<td>28</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
</tbody>
</table>

Additional modelled allowance of unsaturated oils and spreads:

| Poly-unsaturated margarine***               | 10g        | 14        | 14        | 14        | 14      | 14        | 14        | 14        | 14        |

*Refined or low fibre cereals were included as a group for cultural reasons; wholegrain or higher fibre cereals can replace these if preferred.

**Should be predominantly low fat

***As proxy for unsaturated oils and spreads and could be replaced with oil (7g/serve) or seeds or nuts (10g/serve). (See Appendix 7.2.7)
Eat a wide variety of nutritious foods from these five food groups every day
Drink water.
Older Australians are not all the same

- 65-80yrs fit and well – chronic disease prevention messages are still relevant - Dietary guidelines useful
- >80yrs – whether fit and well or with chronic disease
  - Prevent weight loss
  - Ensure adequate nutrients
  - Plenty of anti-oxidants
- Frail elderly
  - Prevent malnutrition (related to falls)
- **Palliative care (any age)**
  - Quality of life takes primacy
- **Chronic disease (any age)**
  - Reducing/managing symptoms
  - Individualised nutrition plans/care
Other nutrients

- High nutrient foods should be encouraged in the elderly.
Novel foods

- Foods which are fortified with nutrients eg breads, breakfast cereals, juices, foods with milk powder and cheese added etc can be very useful.
- Persons with malnutrition need higher energy foods such as cream, oil, etc.
- Functional foods, new ingredients and ‘super foods’ can be useful.
Anti-inflammatory
Antioxidant-Rich Beverages

How do the popular beverages compare in antioxidant activity?

Antioxidant compounds are found in vegetables, fruits and many natural beverages like tea. Balanced diets are naturally-rich in antioxidants. Enjoy the variety, flavours and health potential in every serving!

2 cups black tea = 1 glass red wine = 7 glasses orange juice = 20 glasses apple juice

One OUNCE of VIBE is all you need to keep you feeling GOOD and HEALTHY

just ONE potent ounce of VIBE is equivalent to the nutrients found in...

11
Tomatoes
Vitamin A

20
Orange Slices
Vitamin A

96
Blue Berries
Antioxidants

5
Green Tea
(EGCG Content)

10 cups
Raw Green Beens
Folate

25
Asparagus
Antioxidants

19
Wheat Slices
Zinc

Certified
Organic Aloe Vera

30
Broccoli
Selenium

71
Cantaloupe
Vitamin E

World Leader in Nutrient Delivery
Plus 100s of Healthy Nutrients from Whole-food Process
Let them eat cake

This amount of cake with cream
500kJ
2.5g protein
6g fat
15g CHO
0.4 g fibre

Same as eating
1 slice white bread +
1.5 tsp of margarine/butter

Is it easier to eat?
More enjoyable for some?

Nutrient values from “Foodworks” 2007
Take home message

- The nutritional needs and objectives are different for the very elderly, the frail elderly or persons requiring care compared with the ‘well’ older population or the younger population.
- The elderly need the same nutrients (or more) but in less food.
- PHN messages aimed at disease prevention are not relevant to these groups.
- The DGs need careful consideration and should not be imposed on the >80s or the frail, those with chronic disease or who take many medications.