NUTRITION & DEMENTIA
RESEARCH REPORT LAUNCH

THE LINK BETWEEN NUTRITION & QUALITY OF LIFE FOR PEOPLE WHO LIVE WITH DEMENTIA
Agenda

• Introduction to Compass Group
• Why Compass sponsored this report
• What Compass will do with the report insights
• Alzheimer’s Disease International
• Why did ADI want this report?
• Report presentation:
  – introduction
  – Findings
  – Recommendations
• Question & answers
Introduction to Compass Group

Overview
Millions of people around the world rely on us every day to provide their breakfasts, lunches and dinners. And more and more organisations are choosing to outsource their support services to us.

£17.6bn revenue (in year ended 30 September 2013)

500,000+ great people delivering great service every day

50 countries

50,000+ client locations

4 billion+ meals served a year
Introduction to Compass Group

Where we operate
We operate in around 50 countries, combining local knowledge with global reach. The Group is split into three geographical reporting regions: North America, Europe & Japan, Fast Growing & Emerging.
Introduction to Compass Group

**Sectors**
We operate in a number of sectors, combining global capability, local market knowledge, sector expertise and individual client service, delivering consistently high standards to our customers. Within these sectors we operate a number of world leading brands.

<table>
<thead>
<tr>
<th>Business &amp; Industry (B&amp;I)</th>
<th>Major sector brands</th>
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<tbody>
<tr>
<td>Providing services to people in their workplace, plus fine dining in corporate offices and at social and hospitality events</td>
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<table>
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<tr>
<th>Education</th>
<th>Major sector brands</th>
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<td>Fuelling young minds and bodies from kindergarten to college</td>
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# Introduction to Compass Group

<table>
<thead>
<tr>
<th>Major sector brands</th>
<th>Healthcare &amp; Seniors</th>
<th>Services to patients/residents, staff and visitors</th>
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<tr>
<td></td>
<td>Healthcare &amp; Seniors</td>
<td>Medirest, Morrison Healthcare, Crothall Healthcare</td>
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<tr>
<td>Sports &amp; Leisure</td>
<td>Sports &amp; Leisure</td>
<td>Some of the world’s most prestigious sporting and leisure venues, visitor attractions and social events</td>
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<td></td>
<td>Sports &amp; Leisure</td>
<td>Levy Restaurants, ESS Support Services Worldwide</td>
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<tr>
<td>Defence, Offshore &amp; Remote (DOR)</td>
<td>Defence, Offshore &amp; Remote (DOR)</td>
<td>Workplace support in some of the most demanding terrains in the world</td>
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<tr>
<td></td>
<td>Defence, Offshore &amp; Remote (DOR)</td>
<td>Alzheimer's Disease International, Compass Group</td>
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Why Compass sponsored this report

- We see increased number of people living with dementia in the residential care homes we operate
- Our clients are looking to us for support in the care of residents living with dementia
- Those caring for people who have dementia need support and guidance around diet and nutrition
- There is a clear, defined need for nutritional guidelines for those living with dementia
- We believe it’s the right thing for Compass to be involved with
NUTRITION & DEMENTIA

RESEARCH REPORT LAUNCH

THE LINK BETWEEN NUTRITION & QUALITY OF LIFE FOR PEOPLE WHO LIVE WITH DEMENTIA
About Alzheimer’s Disease International (ADI)

- Established 1984
- The umbrella organisation of Alzheimer associations around the world
- 79 member associations

Aims to help establish and strengthen Alzheimer associations throughout the world, and to raise global awareness about Alzheimer's disease and all other causes of dementia, be the global voice on dementia.
Increase in numbers of people with dementia worldwide (2010-2050), comparing original and updated estimates

- **2010**: 36 million
- **2013**: 44 million
- **2030**: 66 million
- **2050**: 115 million
- **2050 (updated)**: 135 million

People with dementia (millions)
Number of people with dementia in low and middle income countries compared to high income countries.

- **Low and middle income countries**: The shaded area shows a growing trend in the number of people with dementia, starting from a lower base in 2013 and increasing significantly by 2050.
- **High income countries**: The darker shaded area indicates a steady increase in the number of people with dementia, starting from a higher base in 2013 and continuing to rise over the years.
Why do we want this report?

• ADI vision: an improved quality of life of people with dementia and their families
• (1) Nutrition is key component of general well-being of those who have dementia
• Many stories of malnutrition in hospitals and institutions
• (2) Growing attention with policy makers in governments, World Health Organization, G8
• Link between dementia and other chronic diseases in comorbidity as well as sharing the same risk factors
NUTRITION & DEMENTIA
RESEARCH REPORT LAUNCH

THE LINK BETWEEN NUTRITION & QUALITY OF LIFE FOR PEOPLE WHO LIVE WITH DEMENTIA
Report prepared by

- Global Observatory for Ageing and Dementia Care, King’s College London (Martin Prince, Maelenn Guerchet, Matthew Prina)
- University of Geneva (Emiliano Albanese)
- University of Newcastle (Mario Siervo)
- Universidad Nacional Pedro Henriquez Urena, Dominican Republic (Daisy Acosta)
BACKGROUND

- Undernutrition is common among older people
  - up to 10% of older people living at home, 30% of those living in care homes, and 70% of those hospitalised,
  - prevalence even higher in LMIC, particularly in rural and less developed settings

- Particular problem among people with dementia
  - 20-45% have clinically significant weight loss over one year
  - studies in old age homes have, in the past, indicated a substantial proportion of clients with inadequate intake of food and fluids

- Consequences of undernutrition: frailty, reduced mobility, skin fragility, increased risk of falls and fractures, exacerbation of health conditions and increased mortality

- Risk factors: economic and environment situation, oral health problems, mental, neurological and chronic physical diseases, side effects of long-term treatments
Changes in body mass and dementia - Honolulu Asia Aging Study

NUTRITION AND DEMENTIA ACROSS THE LIFE COURSE

Complex relationship between the fats and the brain

• Factors influencing the accumulation of adiposity across the life-course are implicated in the development and decline of cognitive function

• Adequate nutrition in utero, infancy and childhood essential for normal brain and cognitive development
  – resilience to the effects of dementia-related neuropathology

• Obesity in mid-life may be a risk factor for dementia
  – modifiable risk factor and matter of concern considering the rise of obesity worldwide
  – more research required

• Fats may also be an important energy reserve in late life
  – Undernutrition is a bigger public health threat than overnutrition
NUTRITIONAL FACTORS AND DEMENTIA PREVENTION

• Insufficient evidence to confirm a relationship between micro- and macro-nutrients and cognitive function
  *vitamin B6, vitamin B12, folate, vitamin C, vitamin E, flavonoids, omega-3, Mediterranean diet*

• Evidence
  – Associations in cross-sectional studies
  – Not always supported by prospective cohort studies
  – Preventive interventions failed the Randomised Controlled Trials test
  – Too little, too late?

• Possible benefits of adherence to a Mediterranean diet (one trial)
  – Feasibility of sustained change in dietary habits at population level?
  – Active ingredients not known

• Very few RCTs have targeted supplementation upon those who are deficient in the relevant nutrient
UNDERNUTRITION IN DEMENTIA

• People with dementia experience more marked decline in body weight in older age, in all world regions
  ▪ Weight loss starts sometimes in late mid-life, and may even be an early marker of the disease

• Complex multifactorial mechanisms underlie weight loss and undernutrition in dementia:
  ▪ Central regulation of appetite and metabolism disturbed in some forms of dementia
  ▪ Weight loss correlated with disease biomarkers
  ▪ Reduced appetite (consumption), increased activity (expenditure), and disruption of eating and feeding behaviours at later stages of the disease

• Weight loss and undernutrition:
  ▪ worsens the course of dementia,
  ▪ increased functional impairment and dependence,
  ▪ increased risk of morbidity, hospitalisation, institutionalisation and mortality
IMPROVING NUTRITION FOR PEOPLE WITH DEMENTIA

• Be aware of challenges in maintaining weight in dementia
• Monitor weight and nutritional status
• Assess dietary intake (adequate or not?)
• Assess aversive feeding behaviours and understand how these can be managed
• Fortify or supplement the diet when this is inadequate
IMPROVING NUTRITION FOR PEOPLE WITH DEMENTIA

- No evidence that nutritional supplementation (micronutrients, medical foods, or macronutrients) can modify the course of dementia
  - Supplements cannot currently be recommended as disease modifying treatments for dementia or AD
  - Those who are undernourished, or at risk of undernutrition should receive nutritional support
  - B12 or folate deficiencies should be corrected
  - Promising evidence for vitamin E (clinical progression of AD) but at doses that may lead to harmful side effects (bleeding or haemorrhagic strokes)
TREATING UNDERNUTRITION IN PEOPLE WITH DEMENTIA

- Aim to increase energy (calorie) intake through carbohydrate and protein
- Can be achieved by fortifying usual food, or by providing supplements between meals (oral nutritional supplements – ONS)
- ONS
  - Generally well tolerated
  - Convenient (300-400 kcal per 8 fl oz drink)
  - Regular use leads to weight gain (lean body mass)
  - Costly (?)

Questions
- Compensatory reduction in habitual dietary intake?
- Fortification vs. supplementation?
- Efficacy in those with established undernutrition
- Longer term benefits?
  - Physical functioning
  - Mood, QoL
  - Mortality
Efficacy of oral nutritional supplements (% weight gain)

Overall (I-squared = 11.1%, p = 0.343)

<table>
<thead>
<tr>
<th>Study</th>
<th>ES (95% CI)</th>
<th>Weight (%)</th>
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<tbody>
<tr>
<td>Carver</td>
<td>6.18 (-0.01, 12.37)</td>
<td>4.74</td>
</tr>
<tr>
<td>Lauque</td>
<td>2.77 (0.93, 4.61)</td>
<td>53.59</td>
</tr>
<tr>
<td>Wouters 2002</td>
<td>4.21 (0.74, 7.68)</td>
<td>15.11</td>
</tr>
<tr>
<td>Wouters 2006</td>
<td>1.92 (-1.47, 5.31)</td>
<td>15.82</td>
</tr>
<tr>
<td>Faxen</td>
<td>6.61 (2.49, 10.73)</td>
<td>10.74</td>
</tr>
<tr>
<td>Overall</td>
<td>3.43 (2.08, 4.78)</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Weight gain by intensity of oral supplementation
IMPROVING NUTRITION FOR PEOPLE WITH DEMENTIA

• **Nutritional** benefits of education and training for caregivers less apparent, but
  • these are popular interventions
  • much unmet need for guidance and support, throughout the disease course

• In care homes and hospitals staff training and mealtime environment can lead to significant enhancement in calorie intake among residents
  ▪ Eating is a social activity: normalise and optimise this and make it a core aspect of person-centred care
  ▪ Sensitive and inclusive design of dining rooms, kitchens, furniture and tableware
    ▪ Adequate lighting
    ▪ Colour contrasts
    ▪ Family style dining
RECOMMENDATIONS

- More research into:
  - the possibility that nutritional supplementation may reduce the incidence of dementia and/or slow progression, among those who have deficiencies
  - the effective components of the Mediterranean diet
  - the minimum effective dose of vitamin E as treatment for dementia progression
  - the relative efficacy of food fortification and ONS in maintaining weight among people with dementia
  - the feasibility and effectiveness of long term fortification or ONS strategies

- Clear, consistent and evidence-based advice should support decision-making on nutritional supplements
RECOMMENDATIONS

- Nutritional standards for people with dementia should be introduced and monitored
  - Regular monitoring of weight and nutritional status of all people with dementia
  - Dietary advice for all people with dementia and carers, as part of a post-diagnostic care with update throughout the course of the disease
  - Detailed assessment of diet, feeding behaviours and need of feeding assistance when undernutrition is established, and appropriate intervention
  - Nutritional advice and food fortification first, but without delaying ONS if necessary
  - Comprehensive plans to monitor and optimise nutritional status in all care homes and hospitals
  - Staff training in care homes and hospitals, as part of a comprehensive programme of workforce development
CONCLUSION

• Strong theoretical basis for relevance of diet and nutrition to dementia onset and progression
• Suggestive findings from some observational epidemiological research, but difficult to ‘prove’ in classical RCTs
• Clear avenues for future research
• Undernutrition is all too common among people living with dementia – a major concern and source of distress for carers, and a dangerous prognostic sign
• We could do much more to monitor, maintain and improve the nutritional status of people with dementia
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