Developing **Xanamem™** for Alzheimer's Dementia

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Investor Presentation
April 2015

Actinogen Medical

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Actinogen Medical - Overview

Developing a novel treatment for Alzheimer's disease (AD) and its prodromal stage mild cognitive impairment (MCI)

- Lead compound Xanamem™ blocks production of cortisol – the stress hormone – in the brain. A novel mechanism of action

Successful early development – Phase II planning underway

- Positive results in pre-clinical and first Phase I study – early development funded by the Wellcome Trust
- Second Phase I study and final pre-clinical study underway – results due mid-2015. Research fully funded.
- Phase II study planned for 2016 in AD and prodromal AD/MCI
- US FDA's designation of Mild Cognitive Impairment as an indication shifts the landscape for AD drug development to much earlier treatment

Alzheimer's – a significant and growing unmet medical need

- AD population expected to triple over the next generation, increasing prevalence underpinned by shifting age demographic
- American Alzheimer's Association estimates the direct healthcare cost in 2013 of US$250bn

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Board and Management

A highly experienced Board and Management team with a wealth of drug development, commercialisation and clinical research expertise

Martin Rogers
Chairman

- Biotechnology entrepreneur and executive
- Non-Executive Director of OncoSil (ASX:OSL), Chair of Rhinomed (ASX:RNO) and Non-Executive Director of Cellmid (ASX:CDY)

Bill Ketelbey
CEO

- MD with 30 years' experience in pharmaceuticals
- Senior roles at Pfizer, including development of Aricept™, the current leading AD treatment

Vince Ruffles
VP Clinical Research

- Extensive drug development experience over 20 years
- Responsible clinical development and regulatory strategy

Jason Loveridge
Non-Executive Director

- Former head of Nomura Life Sciences Fund in the UK with 28 out of 34 investment wins in investing in Biotech

Anton Uvarov
Non-Executive Director

- Healthcare and biotech equities analyst, formerly Citibank NY
- Executive Director of Sun Biomedical

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A significant unmet need

Alzheimer's disease is emerging as one of the most significant health challenges of our time

- A person develops AD almost every minute in the US[1]
- AD cost the US healthcare system **$US250 billion** in 2013
- Estimated to increase to **US$1 trillion** by 2050, outstripping the cost of treating all other diseases
- Current treatments are of limited benefit. New and alternative treatments are desperately needed
- Xanamem™ has the potential to be a multi-billion dollar product

Alzheimer's is the only cause of death among the top 10 in America that

CANNOT BE PREVENTED, CURED OR EVEN SLOWED.

1 in 3 Seniors

DIES WITH ALZHEIMER'S

or another dementia.

[1]Alzheimer's Association- Facts and Figures 2014) http://www.alz.org/downloads/Facts_Figures_2014.pdf?utm_content=bufferb49b5&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

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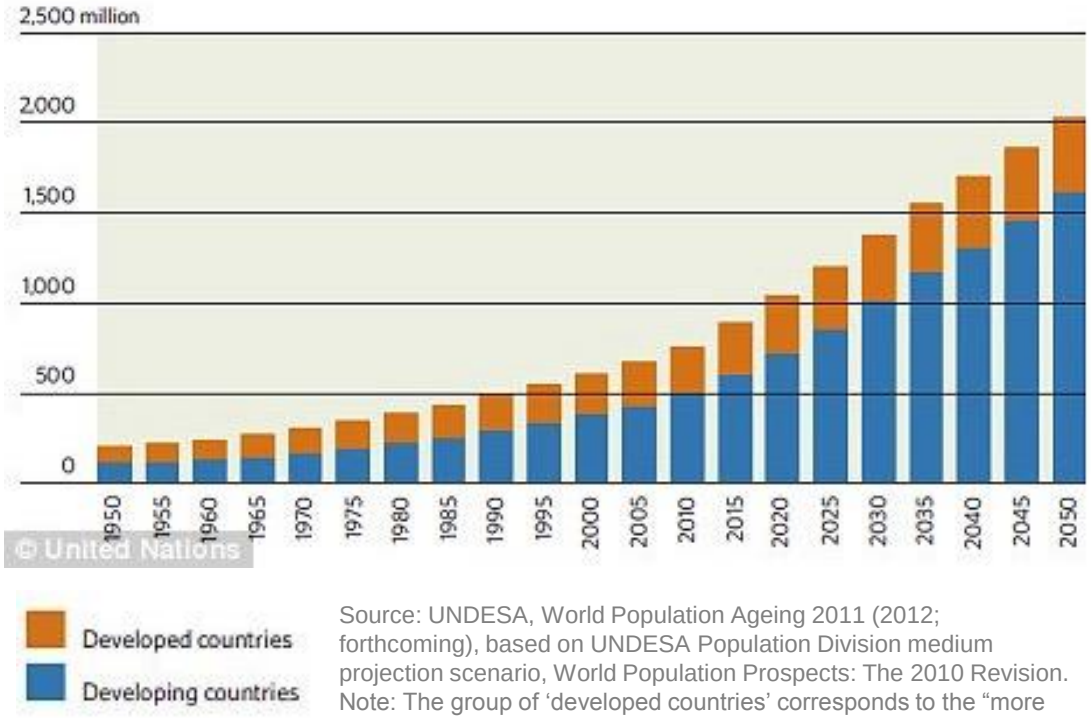
AD consequence of a rapidly ageing population

Number of people aged 60 or over: World, developed and developing countries, 1950-2050



Source: UNDESA, World Population Ageing 2011 (2012; forthcoming), based on UNDESA Population Division medium projection scenario, World Population Prospects: The 2010 Revision. Note: The group of 'developed countries' corresponds to the "more developed regions" of the World Population Prospects: The 2010 Revision, and the group "developing countries" corresponds to the "less developed regions" of the same publication.

- Affects nearly 36 million patients worldwide
- In Australia, there are currently 320,000 AD sufferers – by 2050, this is expected to rise to close to 1 million.
- Commonly diagnosed in patients in their 60's, with 25% of 85 year olds and up to 50% of 95 year olds developing the disease
- AD is the second leading cause of death in Australia. (ABS)

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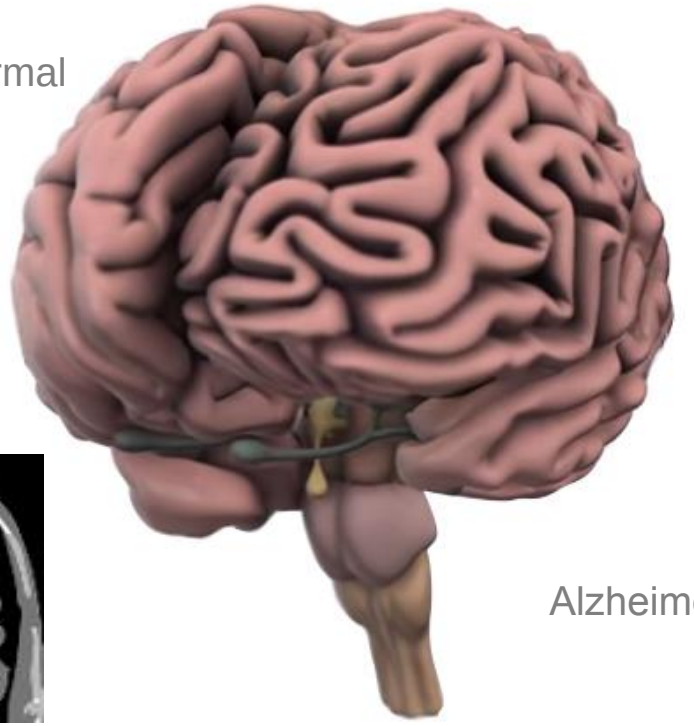
The hallmarks of AD

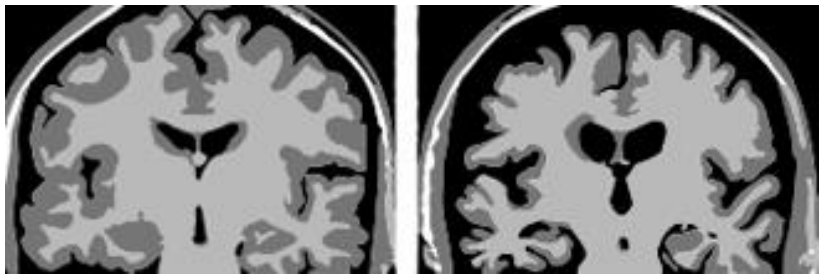
Memory, language and abstract reasoning impairment with

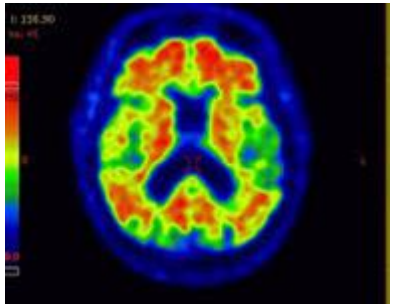
- brain shrinkage – particularly hippocampus and cortex
- neuronal loss
- amyloid plaques
- neurofibrillary tangles

Normal



Alzheimer's





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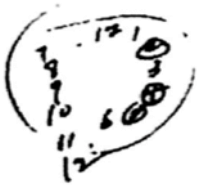
Signs of AD

Dementia is typically documented by decreasing performance on neuropsychological tests assessing memory, general knowledge, language, abstract reasoning and the ability to perform particular tasks requiring minimal skill:

‘ Please draw a clock. Put the hours on it and set the time at 2:45’

Score 10:
Normal

Score 8:
Mild Cognitive Impairment (numbers error and placement of hands)



Score 4:
Moderate cognitive impairment

Score 2:
Severe cognitive impairment

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Overview of Xanamem™

Xanamem™ - under development as a treatment for Alzheimer's disease and prodromal Alzheimer's/mild cognitive impairment

THOMSON REUTERS

recently named Xanamem™ as one of the top five drugs in Phase 1 development in the global pharmaceutical or biotech industries

- A novel mechanism of action blocking the production of cortisol in the brain
- Excess cortisol (the stress hormone) has been shown to lead to reversible memory loss, amyloid plaques and neural death – hallmarks of AD
- Link between excess cortisol and cognitive performance identified in patients with Cushing's disease, Alzheimer's, depression and normal aging
- Early development of Xanamem™ funded by the Wellcome Trust: $25m over seven years
- Second Phase I study underway - data expected mid-2015
- Phase II to target early and prodromal AD.
- Expected to be synergistic with other AD therapies – marketed and in research
- Patent protection to 2031

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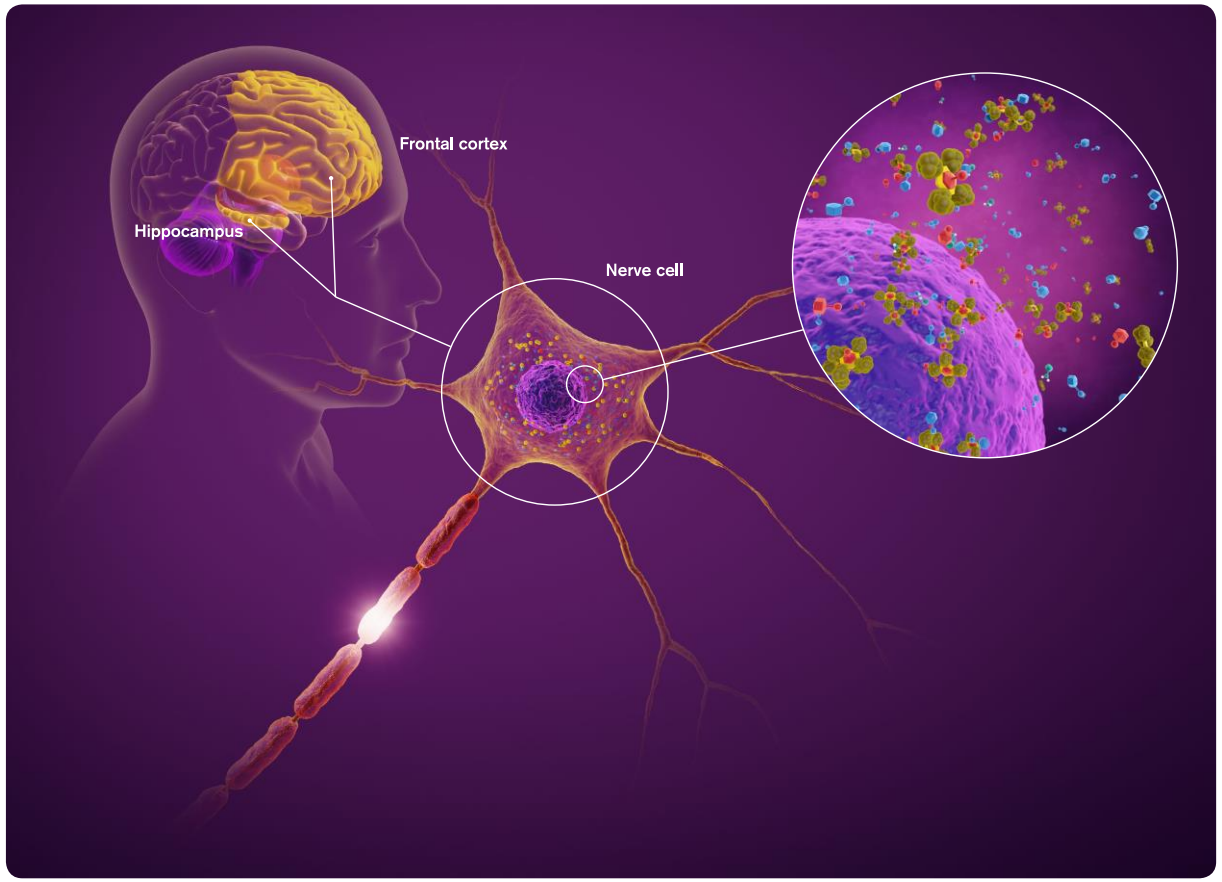
Mechanism of action: a key differentiator

Xanamem™'s novel mechanism of action sets it apart from other AD treatments



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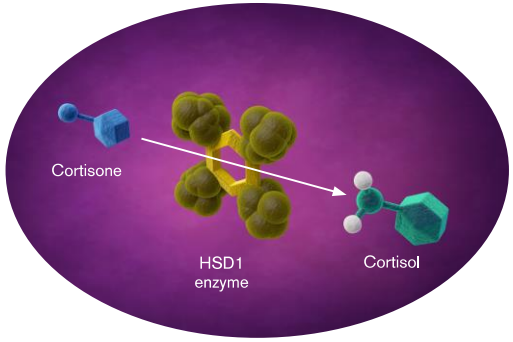
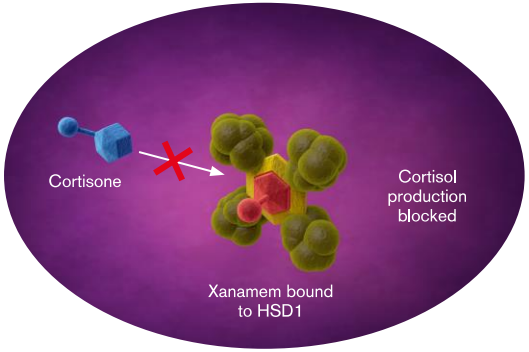
Mechanism of action: a key differentiator

Xanamem™'s novel mechanism of action sets it apart from other AD treatments

- The HSD1 enzyme activates cortisone, producing cortisol – the stress hormone
- Xanamem™ blocks the HSD1 enzyme and prevents production of cortisol
- Excess cortisol contributes to the memory loss, amyloid plaques and neural death associated with AD
- The HSD1 enzyme is most concentrated in the hippocampus and frontal cortex of the brain – the areas most impacted by AD
- Pre-clinical and clinical data suggests Xanamem™ has the potential to treat AD and its early prodromal stage, mild cognitive impairment and significantly alter the course of the disease



HSD1 enzyme actives cortisone producing cortisol



Xanamem™ binds to HSD1, blocking cortisol production

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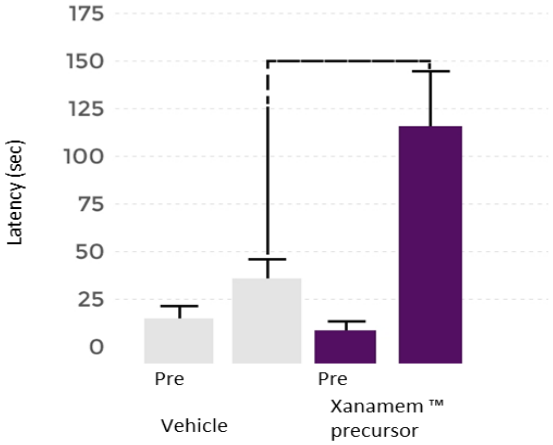
Pre-clinical data

Xanamem™- a highly selective HSD1 inhibitor in pre-clinical animal models.

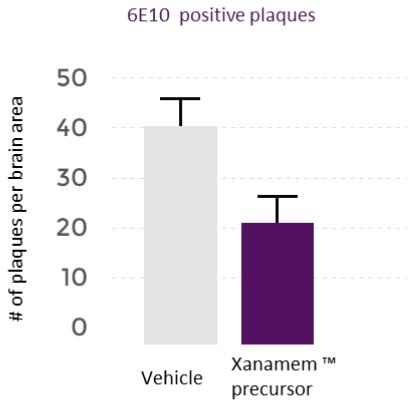
- Inhibition of HSD1 improves cognition in ageing and AD models
- Inhibition of HSD1 reduces Aβ plaque burden and plasma Aβ in AD models

Cognitive Enhancement with Xanamem™ in AD (Performance in Passive Avoidance Test, treatment for 28 days)



AD - progressive cognitive decline

Xanamem™ reduces number of Aβ plaques in AD brain (28 day treatment)



AD - associated with amyloid plaques in the brain

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Clinical trials overview

Second Phase 1 study in healthy volunteers underway

- Trial conducted at Linear Clinical Research, Sir Charles Gairdner Hospital Perth, Western Australia.
- 40 healthy volunteers enrolled across 3 studies
- First study to confirm how the body absorbs and metabolises Xanamem™ and the optimal dose
- Two follow-on studies:
  - Fast-fed study in a cohort of 12 patients
  - Additional study of 4 patients to confirm the central nervous system pharmacokinetics of Xanamem™
- Trial on-time and on-budget. Full results expected by mid 2015

Linear
Clinical Research Limited

Phase II efficacy and safety study in patients with early and prodromal AD/ mild cognitive impairment. Planned for 2016 in US, Australia and UK

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Xanamem™ Clinical Advisory Board

Powerhouse Advisory Board to drive Xanamem™'s clinical development. World experts to help design the optimum Phase II efficacy trial for Xanamem™ in early and prodromal Alzheimer's patients

Prof. Craig Ritchie

- Professor of Psychiatry of Aging, University of Edinburgh, UK
- Senior Investigator in over 30 Alzheimer's clinical trials
- Published extensively on dementia

Prof. Colin Masters

- Professor, University of Melbourne, Australia
- Executive Director of Mental Health Research Institute
- Senior Deputy Director of the Florey Institute of Neuroscience and Mental Health

Prof. Jeffrey Cummings

- Professor of Medicine (Neurology), Cleveland Clinic, Ohio and Nevada, USA
- Chair of the Neurological Institute of Cleveland Clinic
- edited 39 books and published over 650 papers

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Pipeline

Xanamem™'s novel mechanism of action – blocking excess cortisol production – offers many additional possible applications relevant to diseases of the central nervous and endocrine/metabolic systems

- Potential development opportunities:
  - Cognitive dysfunction in schizophrenia, depression
  - PTSD (post traumatic stress disorder)
  - Diabetes – cognitive dysfunction and treatment
  - Cardiovascular disease
  - Post myocardial infarction
  - Obesity
  - Neuroprotection in metabolic disease

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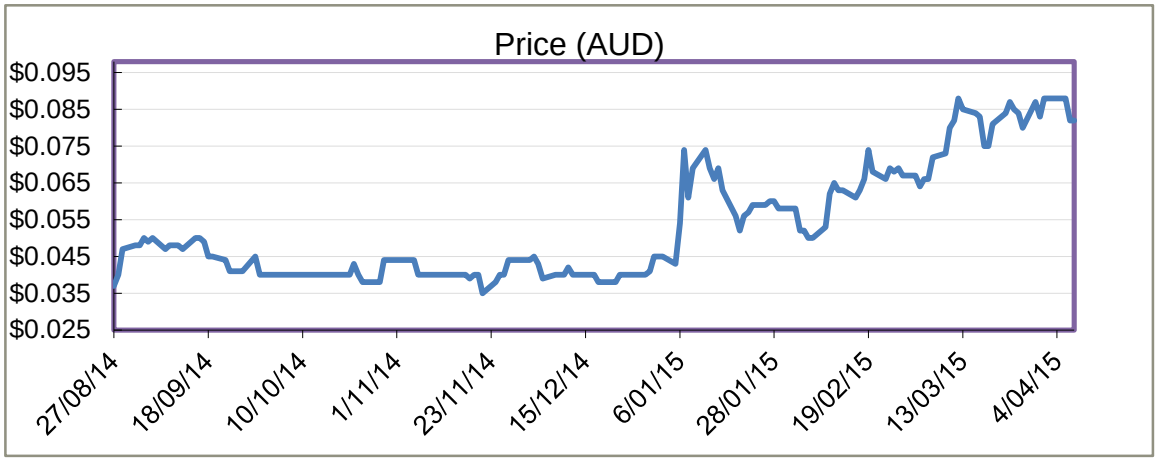
Financial profile



Key Corporate Data:	
Market Cap:	$41.34m
Share Price	$0.084
Cash as of 31 Dec 2014	$2.05m
Shares on issue	492m

Top Ten Shareholders	Percentage
Edinburgh Technology Fund Limited	9.78%
JK Nominees Pty Ltd	7.05%
Tisia Nominees Pty Ltd	6.83%
Mr Martin Rogers	5.08%
Warmbi SARL	4.41%
Denlin Nominees Pty Ltd	4.06%
Mr Jason Peterson & Mrs Lisa Peterson	3.56%
Webinvest Pty Ltd	3.35%
Oaktone Nominees Pty Ltd	2.99%
Dr John William Ketelbey	2.48%

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Milestones

EARLY-2015

Second Phase I trial

✓ **initiated**

Final pre-clinical study for IND

✓ **initiated**

MID-2015

Results for Phase I trial and final preclinical study

Establishment of Xanamem™ Clinical Advisory Board

✓ **completed**

2016

Phase II efficacy study in patients with AD and Mild Cognitive Impairment

Phase II study and protocol design

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Investment highlights

- Xanamem™ a potential treatment for early and prodromal AD/mild cognitive impairment
- Significant unmet need in a huge and growing global market
- Novel mechanism of action, targeting the stress hormone cortisol – a key differentiator
- Hypothesis backed by good pre-clinical and clinical evidence. Early development funded by Wellcome Trust
- Final Phase I and preclinical results due mid-2015; funded through to completion of these studies
- IND filing and Phase II study planned for 2016
- Expected to be synergistic with other AD therapies – marketed and in research
- Patent protection to 2031
- Tight capital structure with top 20 shareholders owning more than 70%

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Thank you and questions