THE Oliver Zangwill CENTRE

How to Translate Principles into Practice in Neuropsychological Rehabilitation

13 October 2017

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Aims

- Provide guidelines for translating principles into practice in neuropsychological rehabilitation

- Provide a model of formulating and implementing a rehabilitation plan

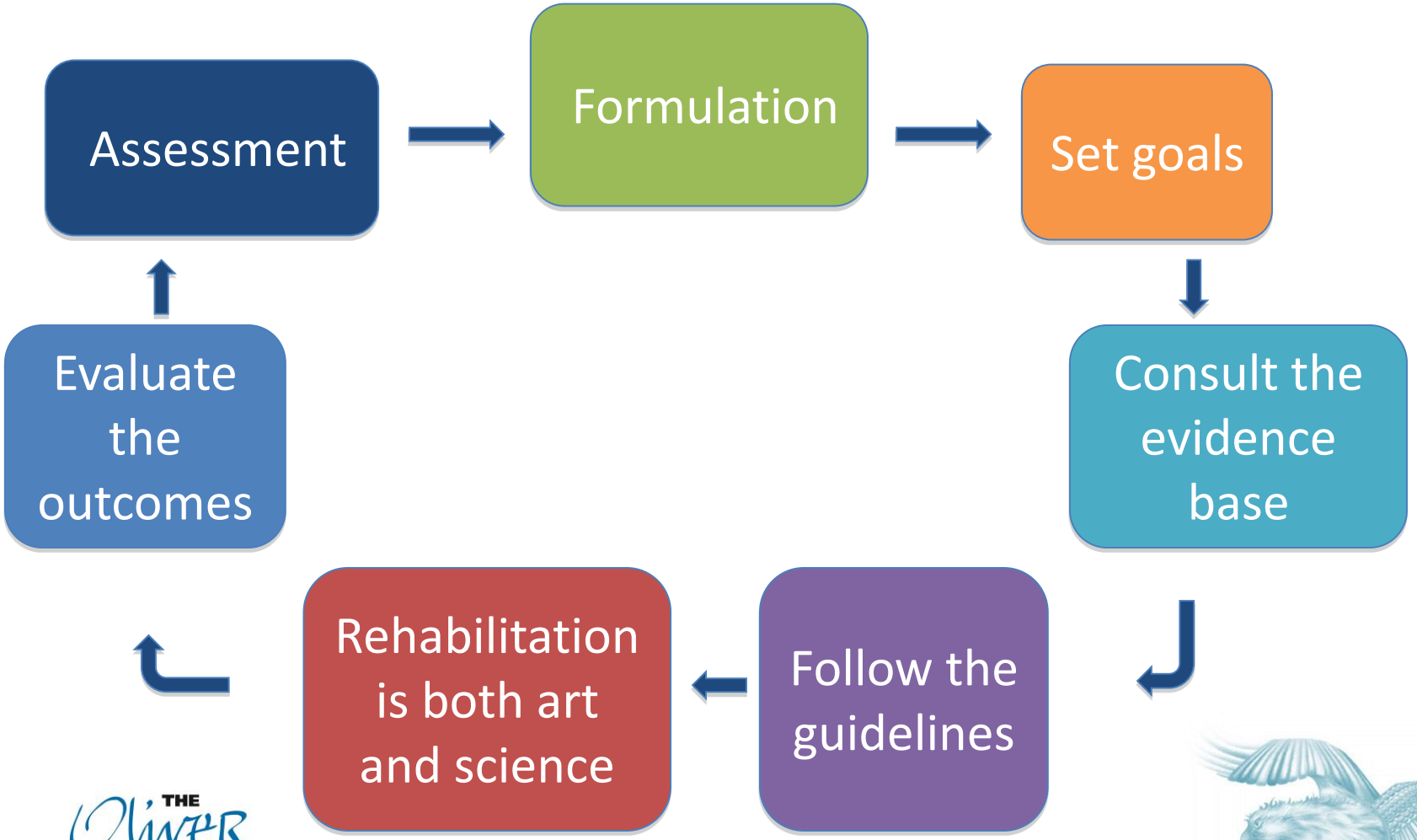
- Present a case example to illustrate case formulation and treatment of cognitive problems based on this approach (the case example is of an outpatient but the principles apply to all)

Meet Eddie

Eddie was referred to the Oliver Zangwill Centre in 2014 by his family doctor.

The purpose of the referral was to address both the cognitive consequences of brain injury and the emotional distress that has resulted from it.

Setting up a rehabilitation programme



Setting up a rehabilitation programme

Assessment

Assessment

Each team member carries out discipline-specific assessment.

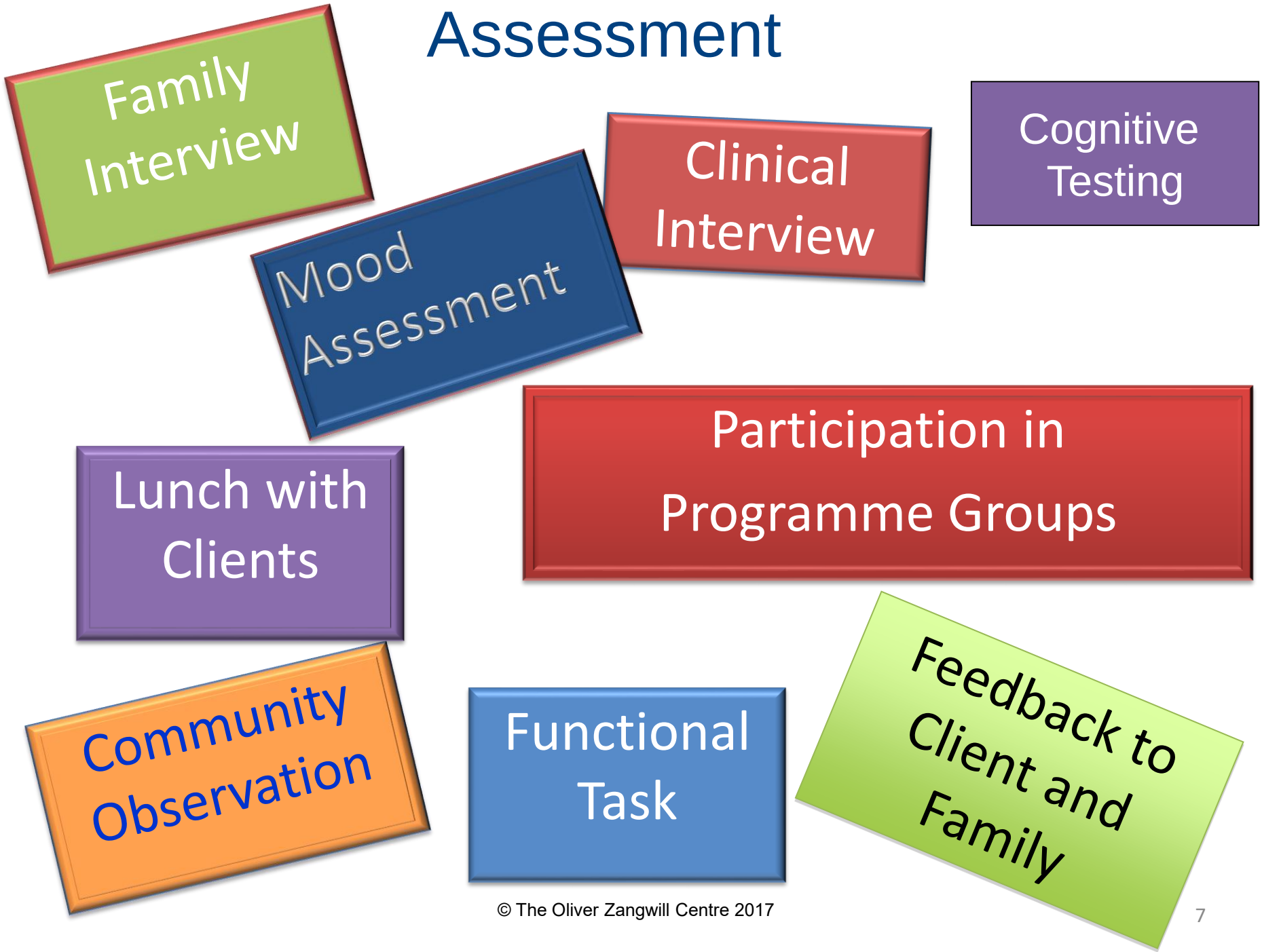
Physiotherapy

Occupational therapy

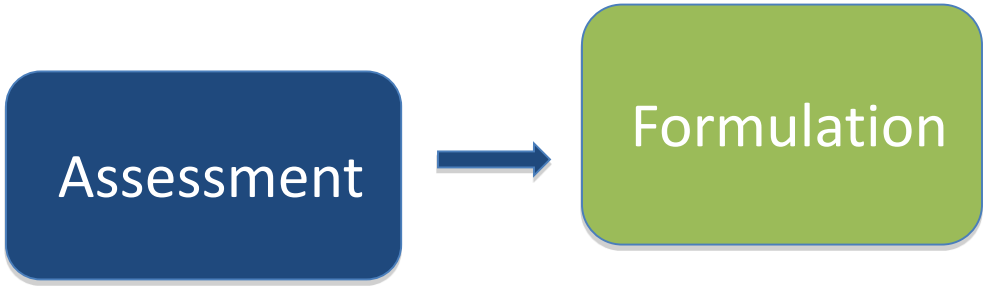
Speech and language therapy

Psychologists assess mood and cognition using standardized tests

Assessment



Setting up a rehabilitation programme



Formulation

The team integrates their findings of changes in cognition, emotion, behaviour, physical well-being, communication, and function with their understanding of the person's social context and sense of identity prior to injury.

Teams working together create the best formulations and rehabilitation plans

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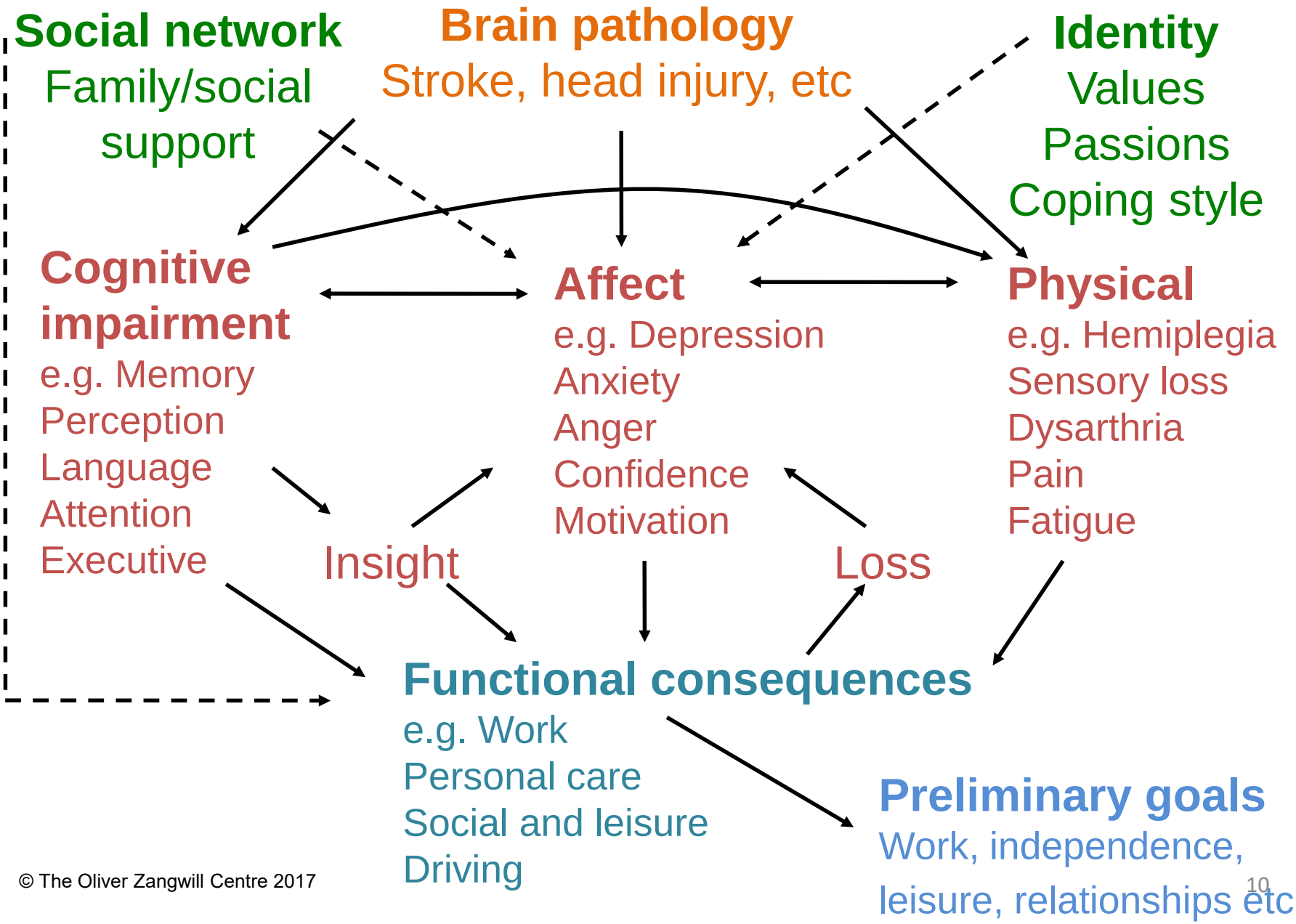
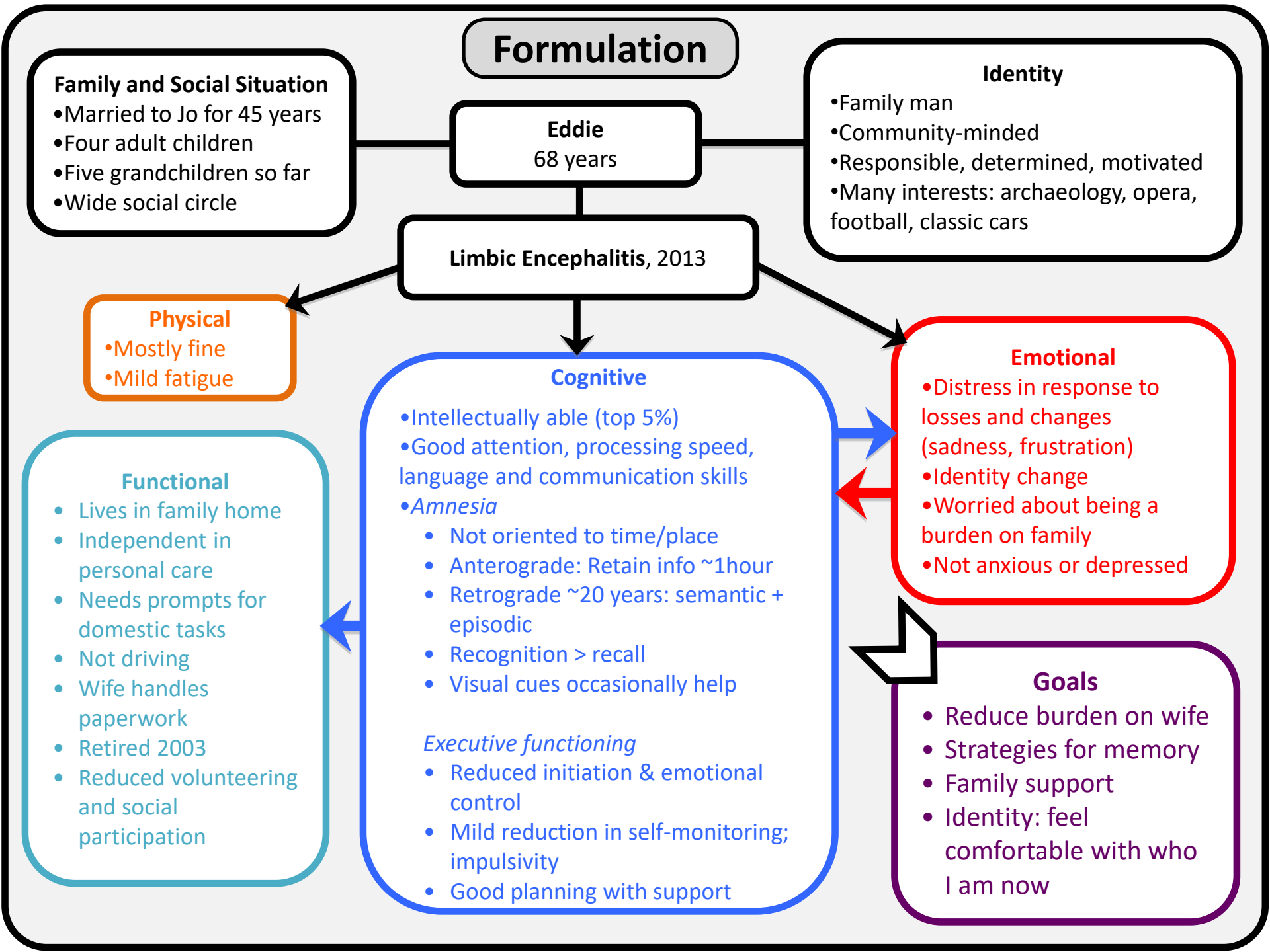
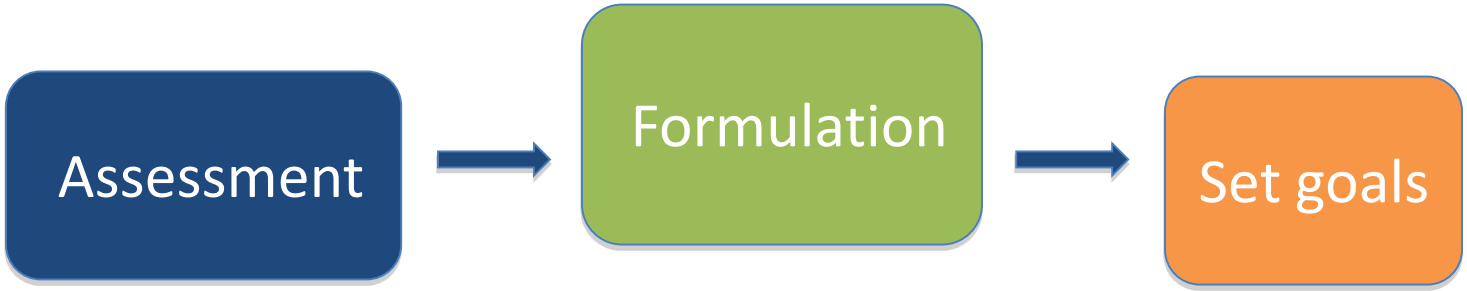
Formulation

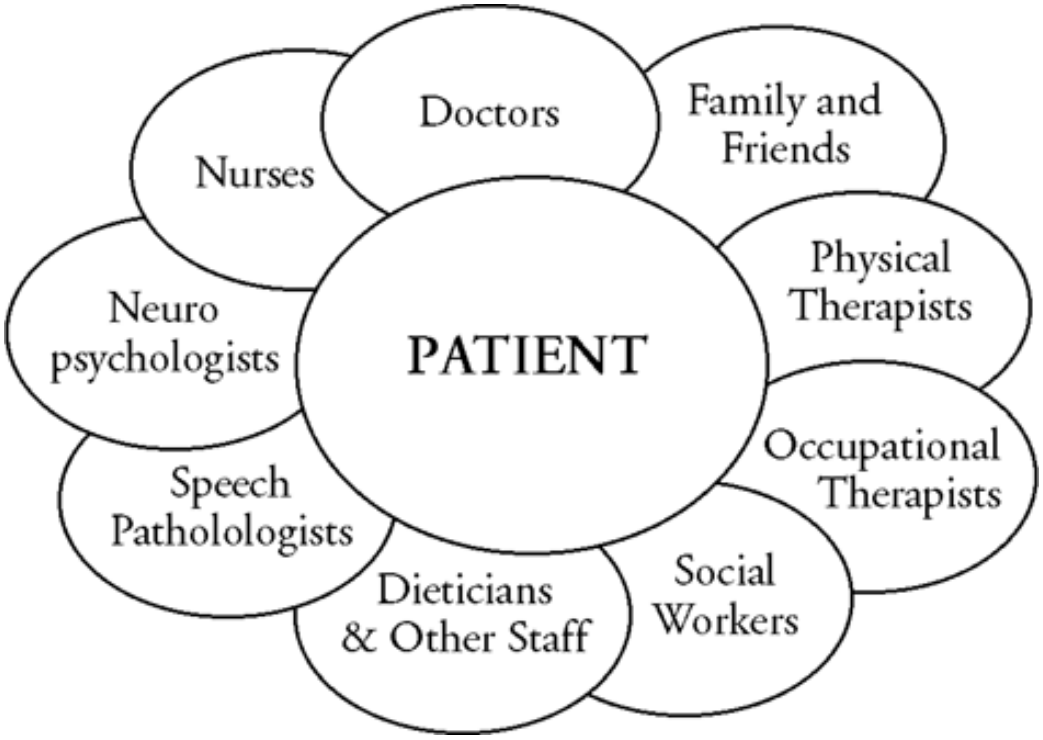



Formulation
Family and Social Situation
•Married to Jo for 45 years
•Four adult children
•Five grandchildren so far
•Wide social circle
Eddie
68 years
Identity
•Family man
•Community-minded
•Responsible, determined, motivated
•Many interests: archaeology, opera, football, classic cars
Limbic Encephalitis, 2013
Physical
•Mostly fine
•Mild fatigue
Cognitive
•Intellectually able (top 5%)
•Good attention, processing speed, language and communication skills
•Amnesia
• Not oriented to time/place
• Anterograde: Retain info ~1hour
• Retrograde ~20 years: semantic + episodic
• Recognition > recall
• Visual cues occasionally help
Executive functioning
• Reduced initiation & emotional control
• Mild reduction in self-monitoring; impulsivity
• Good planning with support
Emotional
•Distress in response to losses and changes (sadness, frustration)
•Identity change
•Worried about being a burden on family
•Not anxious or depressed
Functional
• Lives in family home
• Independent in personal care
• Needs prompts for domestic tasks
• Not driving
• Wife handles paperwork
• Retired 2003
• Reduced volunteering and social participation
Goals
• Reduce burden on wife
• Strategies for memory
• Family support
• Identity: feel comfortable with who I am now

Setting up a rehabilitation programme



Goals are individualised



Goals are individual, so it is important that everyone (patient, family, team, funders) is clear about the aim of rehabilitation.

Goal setting

Best done jointly with team and patient

SMART goals:
Specific
Measurable
Achievable (but challenging)
Relevant/Realistic
and with a Time frame

Smart goals can be measured and used to demonstrate the effectiveness of the intervention.

Одна СИДОРОВСКАЯ (SMART) цель у человека с инсультом

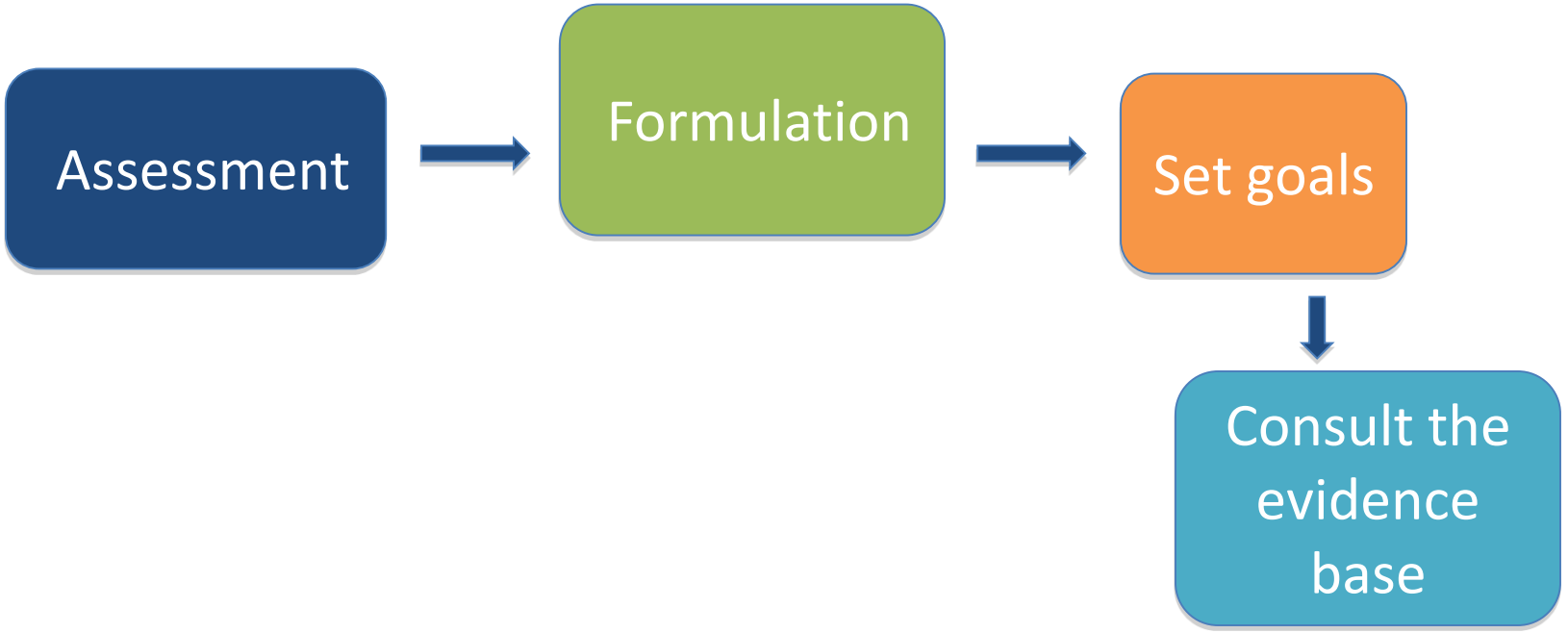
- **С**пецифична
- **И**змеряема
- **До**стижима
- **Р**еалистичным
- **О**пределена во **В**ремени)

Goals for Eddie

Goals

- Reduce burden on my wife
- Strategies for memory
- Family support
- Identity: feel comfortable with who I am now

Setting up a rehabilitation programme



INCOG Guidelines for Cognitive Rehabilitation:

J Head Trauma Rehabil, 2014, Vol 29, No 4

- An international team of researchers and clinicians convened to develop clinical practice guidelines for cognitive rehabilitation of post-traumatic brain injury
- Reviewed previous recommendations and the literature
- Developed decision algorithms
- Prioritised recommendations and developed audit criteria to evaluate adherence to best practice for evidence-based care

Evidence for rehabilitation of memory

Velikonja et al, 2014: INCOG

Rehabilitation for memory problems consists of two basic approaches:

Compensation – uses the person's residual cognitive strengths to minimize the functional impact of the memory impairment on everyday activities

Restoration – aims to improve the specific impaired cognitive function through repeated exercises or massed training trials

Evidence for rehabilitation of memory

Compensation

Internal strategies: help people increase conscious effort during the encoding phase by increasing the ability to monitor task performance

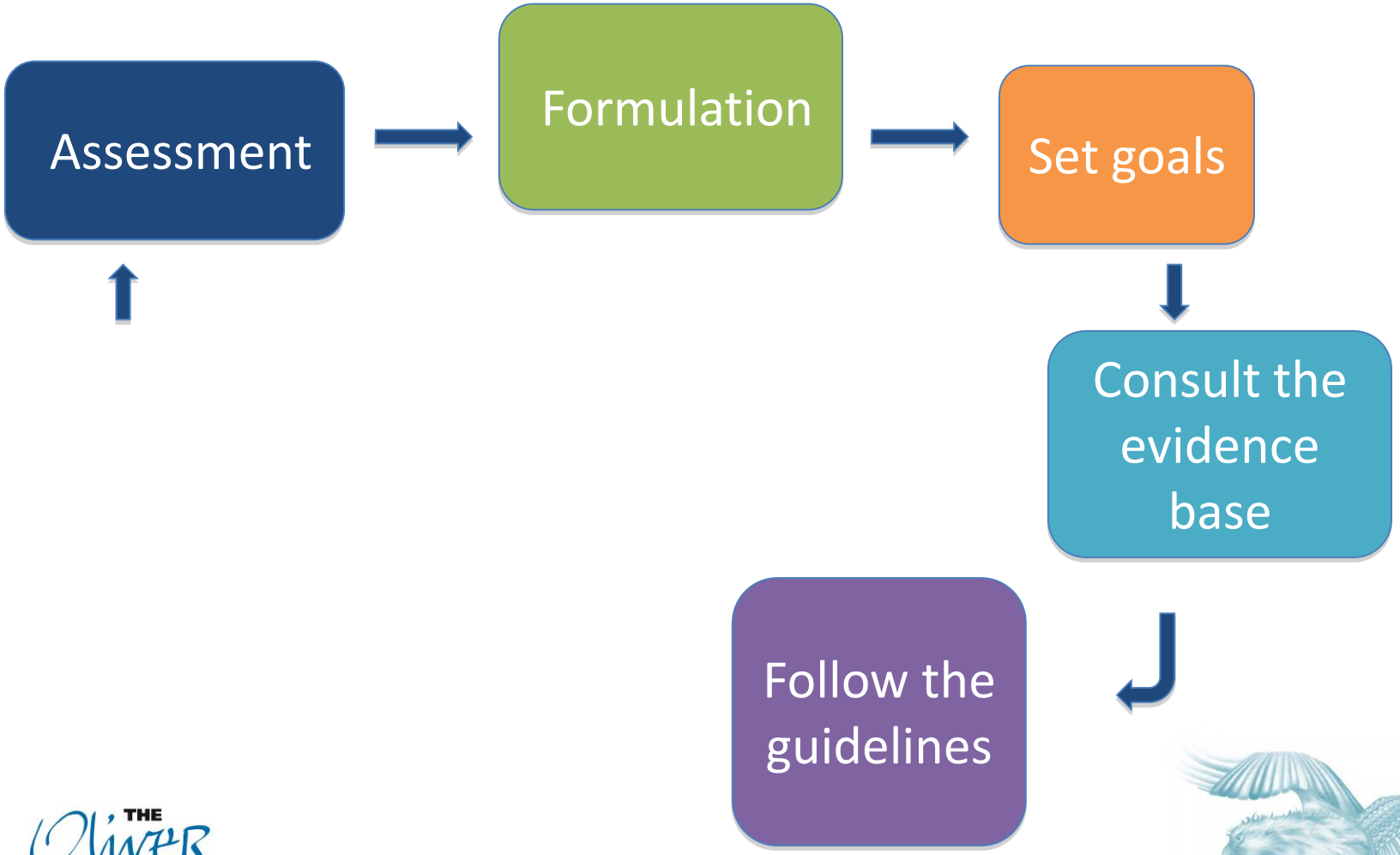
External strategies use physical tools to compensate

Evidence for rehabilitation of memory

Conclusions: There is good evidence for the integration of internal and external **compensatory** memory strategies that are implemented using instructional procedures that consider functional relevance and important patient characteristics for rehabilitation for memory impairments

*The evidence for **restorative** strategies such as computer-based brain training programmes is weak.*

Setting up a rehabilitation programme



Follow the guidelines

SIGN Guidelines: for those with severe memory impairment, external compensations with a clear focus on functional activities is recommended.

http://www.sign.ac.uk/pdf/sign130.pdf

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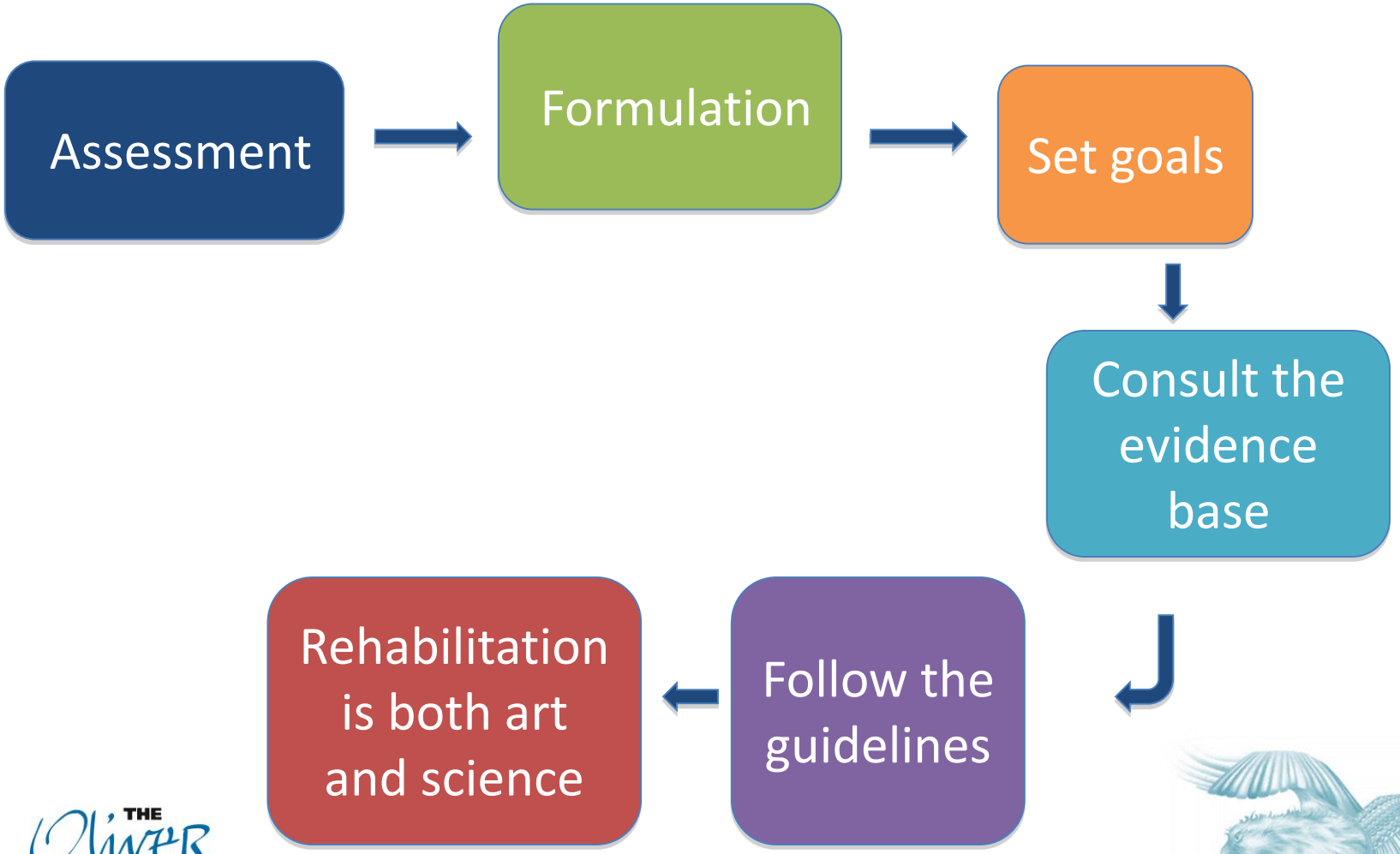
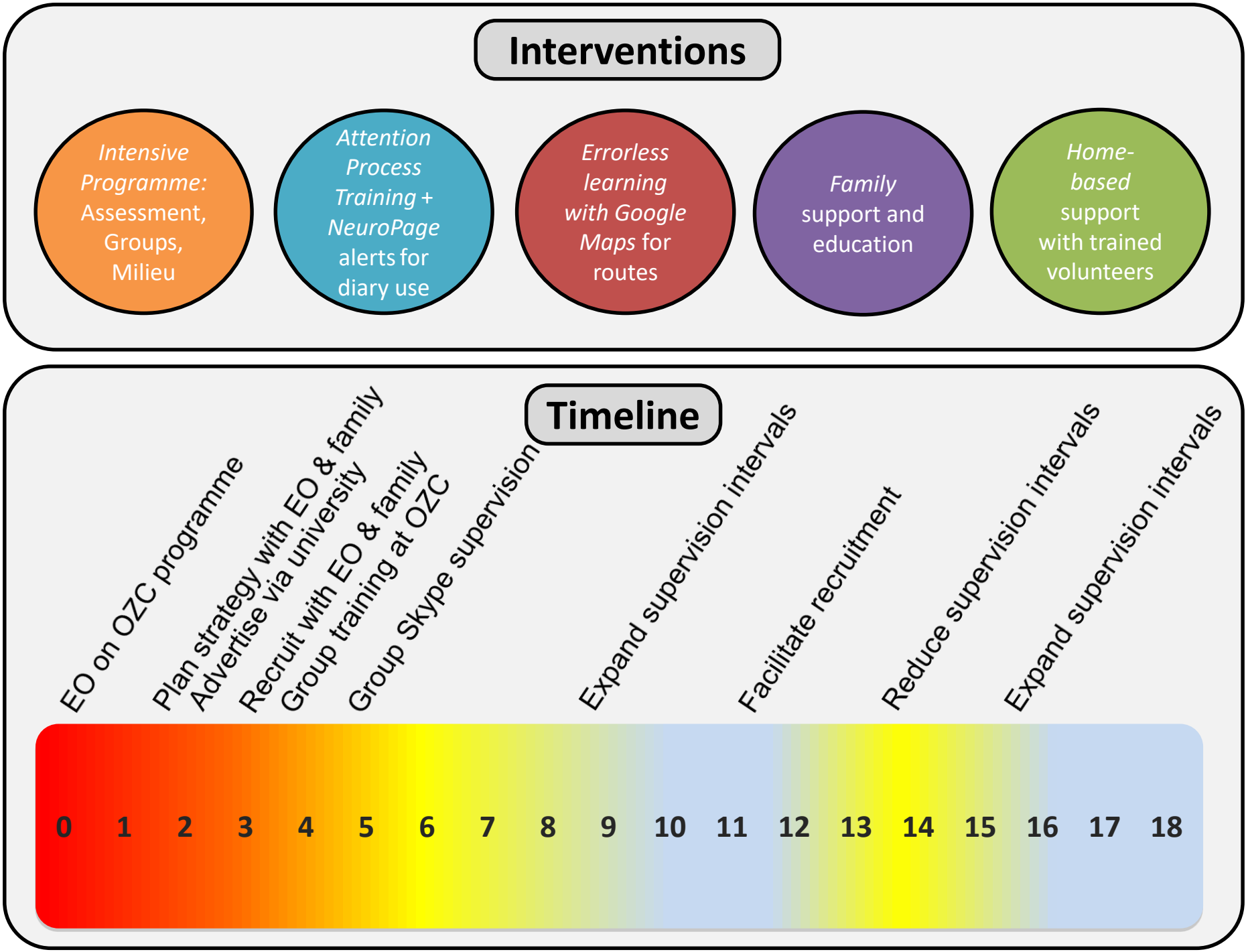
Setting up a rehabilitation programme




Interventions
Intensive Programme: Assessment, Groups, Milieu
Attention Process Training + NeuroPage alerts for diary use
Errorless learning with Google Maps for routes
Family support and education
Home-based support with trained volunteers
Timeline
EO on OZC programme
Plan strategy with EO & family
Advertise via university
Recruit with EO & family
Group training at OZC
Group Skype supervision
Expand supervision intervals
Facilitate recruitment
Reduce supervision intervals
Expand supervision intervals
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Attention Process Training (APT)

(Sohlberg & Mateer, 1989)

The aim of APT is to help clients to learn new information or skills

APT is evidence-based and uses principles from cognitive psychology to help the client to acquire new information in a systematic, graded manner.

The target information is broken down into small steps and repeatedly practised until the client is able to perform them independently in functional situations.

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Attention Process Training

APT helps clients focus attention to the task and utilise intact implicit and procedural memory systems.

APT incorporates principles of effective learning, such as spaced retrieval (recalling over increasing delays) and errorless learning (minimising mistakes that may compete with the ‘correct’ information).

Errorless Learning

Errorless learning is a technique of active repetition with a client, designed in a way so that mistakes cannot be made. This process depends heavily on intact procedural memory.

The aim of errorless learning is to support clients with memory challenges in learning new skills and information.

We try to avoid errors because people with amnesia tend to remember their own mistakes better than they remember corrections to their mistakes.

Eddie's Filofax

Through ATP, Eddie now uses his Filofax as his external memory system.

Eddie refers to his Filofax as his 'Bible'

The 8 sections to Eddie's planner

1) **Orientation:** Tells Eddie where he is (very important to update if Eddie stays in unfamiliar places)
2) **Fingertip information:** Quick access to important information
3) **Forward planner:** To record and keep track of future plans and appointments
4) **Diary:** To record a journal of past events
5) **Log of actions:** A To Do list that stores future intentions and actions in one place
6) **My life:** To store autobiographical memories
7) **Who's-who:** To store information about the people in Eddie's life
8) **Temporary storage:** For receipts, leaflets etc. gathered and to be reviewed at the end of the day by Jo and Eddie.

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NeuroPage

NeuroPage is an automated messaging service provided by OZC

Messages support prospective memory and act as reminders for appointments, meetings, medication taking etc.

Messages can be customised and can be sent any time you wish.

Eddie currently receives messages regarding taking his medication.

You could set this up in Russia…..

Route finding

Memory has a key role in finding our way around familiar and unfamiliar settings.

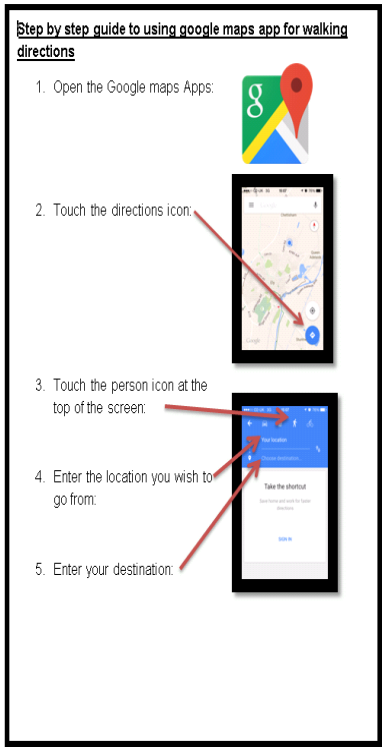
For Eddie, learning a new route is affected by difficulty storing the memory of the different steps of that route.

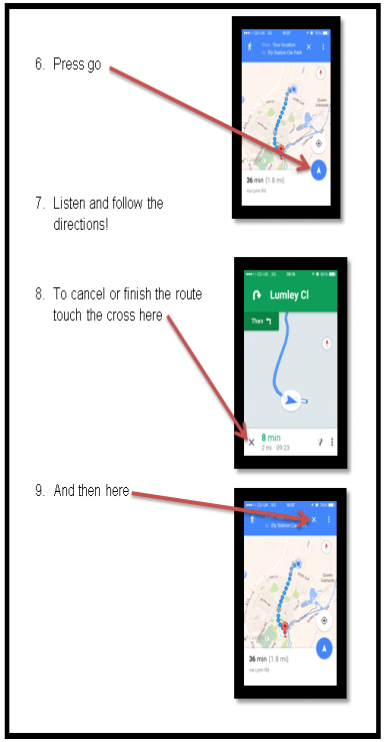
Goal: Learn new routes to improve independent travel

Inefficient: Teaching a new route each time Eddie wants to go somewhere new.

Efficient: Teaching Eddie how to use the Google map app for walking to new places.

Plan: Use errorless learning to teach Eddie to use the app.





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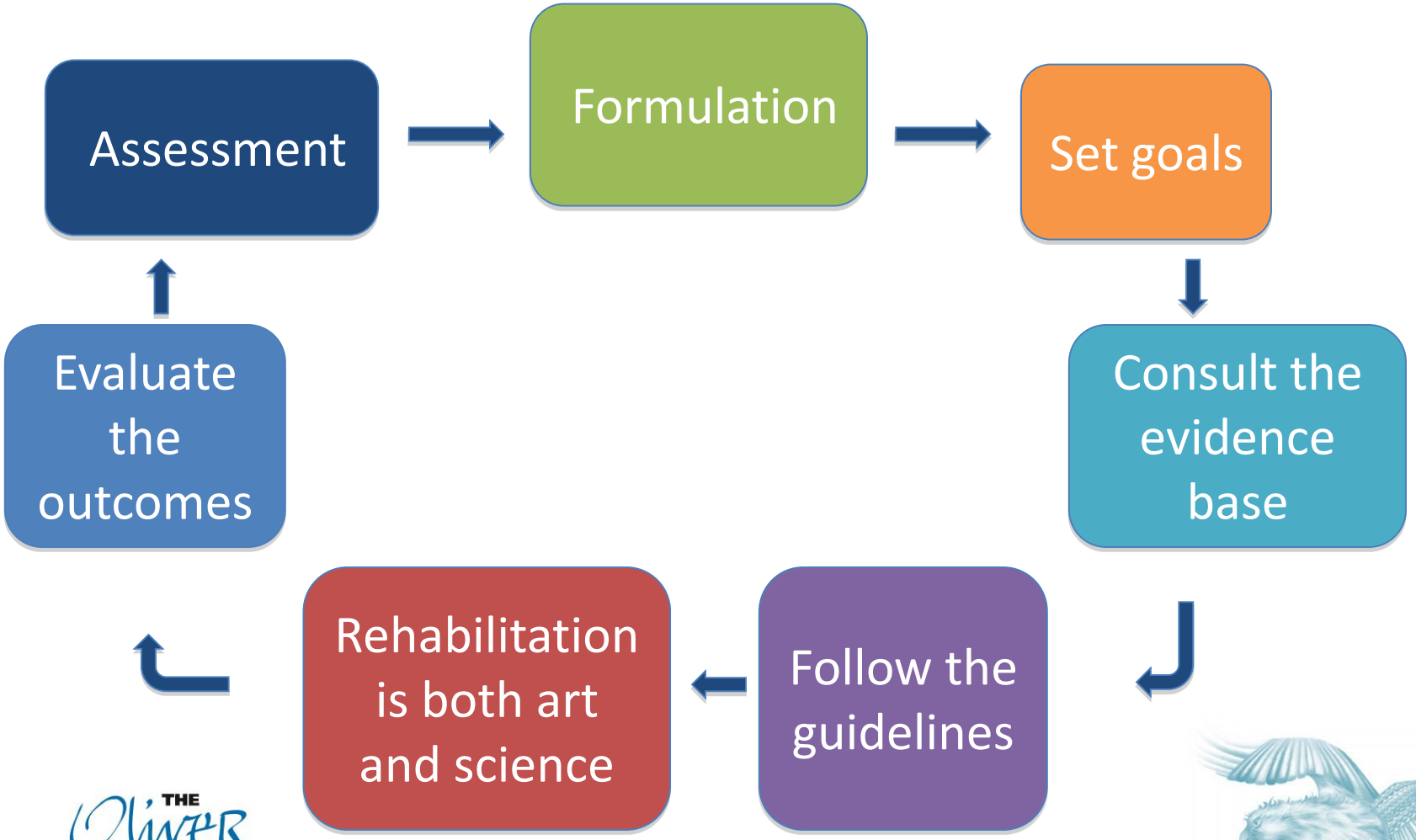

Goals for Eddie

Goals

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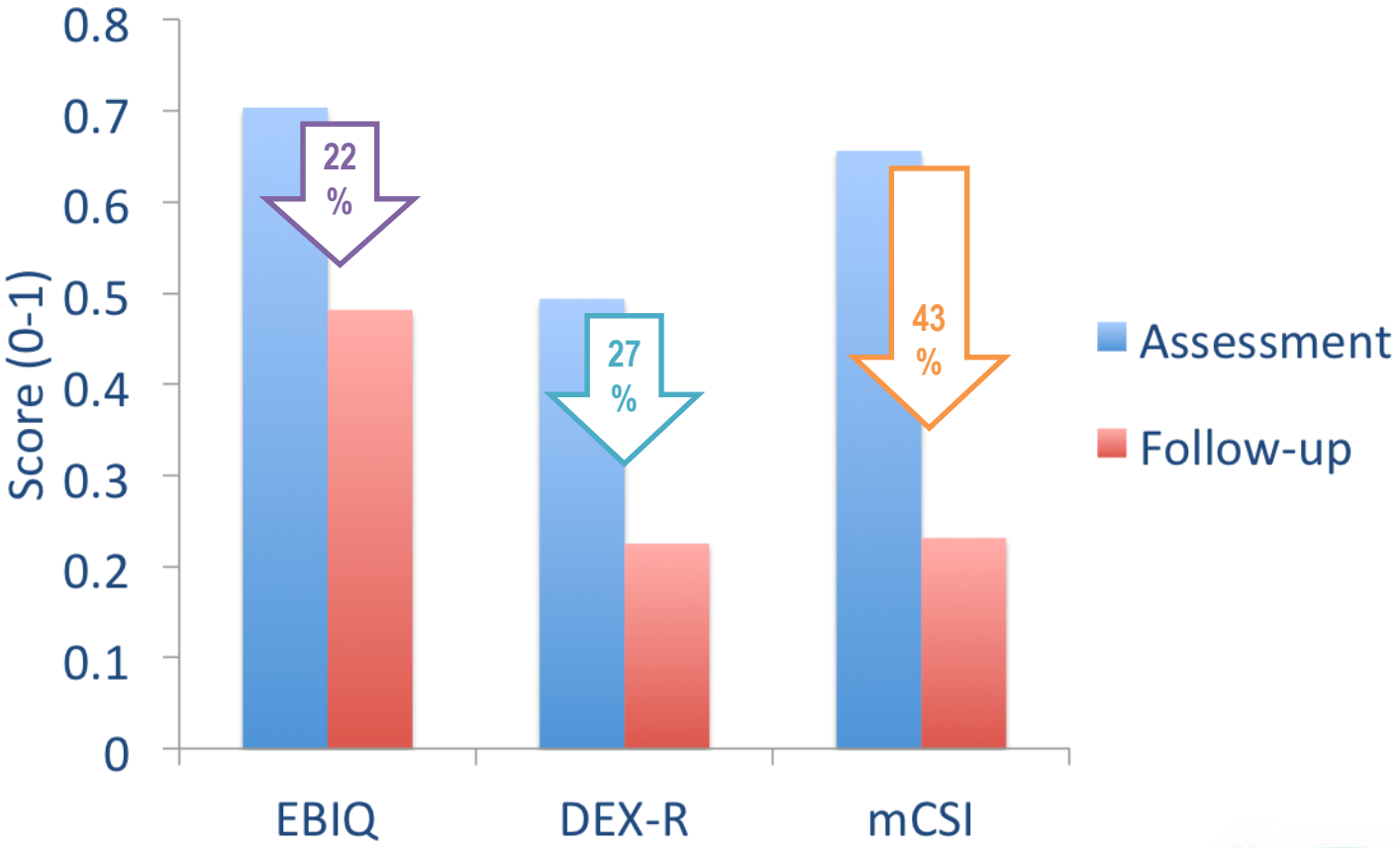
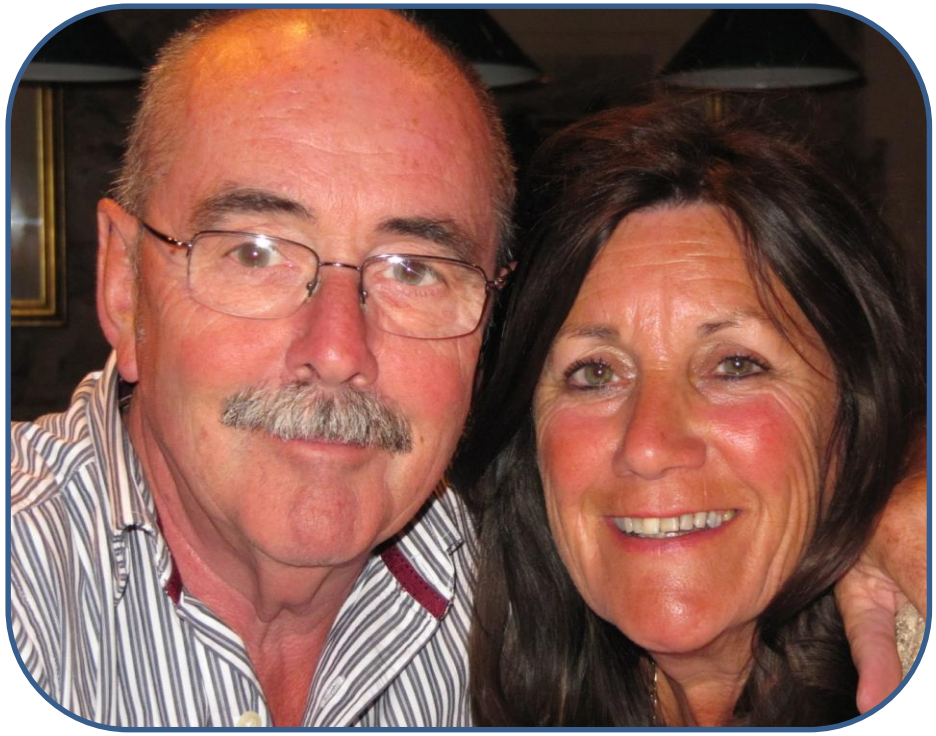
What were the outcomes?



What were the outcomes?

Once the girls [i.e. volunteers] came in, I could switch off and know that Eddie was in good hands. It has allowed me to stay as a wife, not a carer. Jo

I am grateful for the support of the OZC, along with that received from the Encephalitis Society, and most importantly from my family. My life has changed forever but I am embracing the new life and now look forward and not backwards - as backwards I cannot remember anyway! *Eddie*



Eddie's psychological well-being improved as evidenced by a significant reduction in his emotional distress and decrease in carer strain burden for his wife.

Outstanding Achievement Award for Excellence in Encephalitis Healthcare 2016

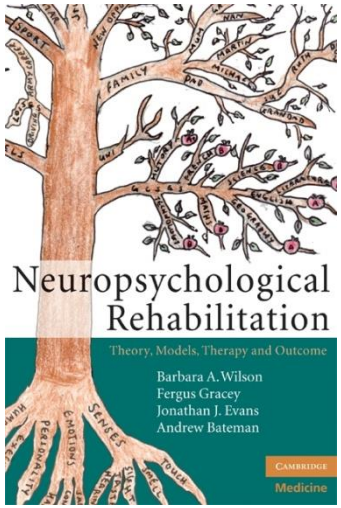
Training support workers to ensure continued rehabilitation success

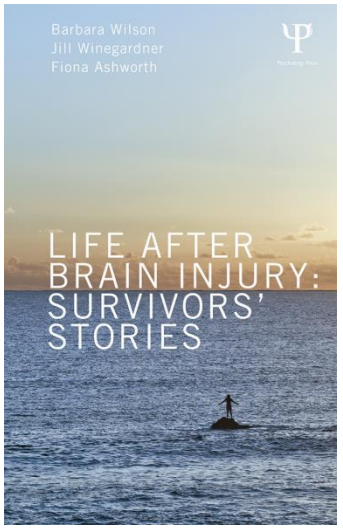
Jessica Fish, James Pamment and Sue Brentnall
The Oliver Zangwill Centre

Resources

- Wilson BA, Gracey F, Evans JJ, & Bateman A. 2009. Neuropsychological Rehabilitation: Theory, Models, Therapy and Outcome. Cambridge University Press.

- Wilson BA, Winegardner J, & Ashworth F. 2014. Life After Brain Injury: Survivor Stories. Psychology Press.





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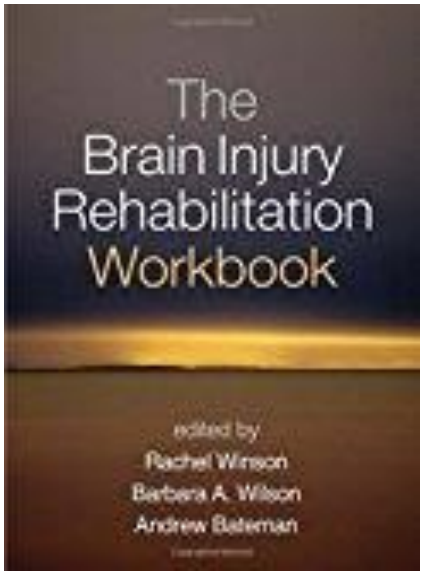
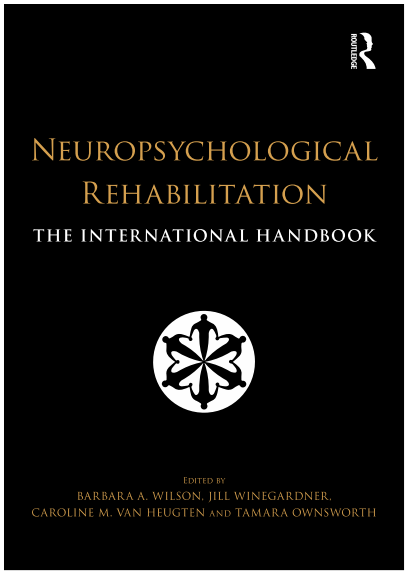
- Wilson BA, Winegardner J, van Heugten CM, & Ownsworth T. 2017. Neuropsychological Rehabilitation: The International Handbook. Psychology Press.





Thank you!

And special thanks to Prof Barbara Wilson, Dr Jessica Fish, and Dr Pauline Monro

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