INTERVENTION RESEARCH: EXPERIENCES FROM THE COAL FACE

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GETTING STARTED

An intervention:
- “a purposive action intended to alter a behavior, reduce risk, or improve outcomes” (CDC, 2007)
- …can be delivered at individual, family, organizational, regional, national or international level (Fraser et al 2009)
- Programs and policy are also interventions, the focus here will be on intervention per se

Themes
- How are interventions developed?
- Is there an effect?
- Can the effect be attributed to the intervention?

TRAUMATIC BRAIN INJURY

Causes:
Domestic violence, shaken babies, road crashes, assaults, gunshot, sporting injuries, falls, blast injuries

Definition:
…results in deterioration in cognitive, physical, emotional or independent functioning. It can be as a result of accidents, stroke, brain tumours, infection, poisoning, lack of oxygen, and degenerative neurological disease. (AIHW 2006a)

Social impact includes risk of substance abuse, unemployment, homelessness, social isolation, incarceration, mental health problems including suicide

Estimated annualized incidence between 100-300 per 100,000
Estimated individual lifetime cost between 2.5 and 4 million dollars

BRAIN INJURY REHABILITATION RESEARCH GROUP

• BIRRG is based at the SAMR
• 7 research streams: Injury & Rehabilitation, Cancer, Mental Health

INGHAM INSTITUTE of APPLIED MEDICAL RESEARCH

- 7 research streams: Injury & Rehabilitation, Cancer, Mental Health

INTERVENTION RESEARCH
TYPES OF INTERVENTION STUDIES

- Natural observation
- N-of-1 designs
- Quasi-experimental designs
- Randomised controlled designs

Intervention research does not happen in a vacuum – supported by observational research, psychometric studies, and literature reviews (narrative, scoping, systematic).

NATURAL OBSERVATION

- Establishing activity type
- Data mining and prospective audits of practice

What are we doing?
- Establishing activity type
- National Allied Health Activity Codes
- Indicators for intervention codes
- Issue of intensity
- On average families received 24 hours of SW intervention
- Range 1-6 family members

EVALUATION

- Information: Reduce confusion
- Counselling: Reduce distress
- Environmental resources: BUT hard to evaluate the accessing services & resources
- Issue of control: can’t withdraw services
- Comparison to an external service

SOCIAL WORK AUDIT

N-of-1 DESIGNS
**A-B DESIGN**

**Design:** A-B design, 3 time points

- **Intervention:**
  - Targeting Premature Ejaculation
  - Standard sex therapy intervention modified for TBI
  - Cross-disciplinary collaboration between sexual health and rehabilitation
  - 3 face-to-face meetings, 3 follow-up phone calls

- **Measurement:** Golombok Rust Inventory for Sexual Satisfaction

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**WITHDRAWAL/REVERSAL DESIGN**

**Serious inappropriate sexual behaviour**

- **Design:** Withdrawal/Reversal design BCBC

- **Intervention:**
  - Tailored to individual presentation based on a case formulation
  - B Phase: Behavioural strategies to limit disinhibition
  - C Phase: Facilitated access to sex worker

- **Measure:** Overt Behaviour Scale

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**GROUP-BASED DESIGNS**

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**PROGRAM**

- (i) Visual inspection
- (ii) Demonstrate control
- (iii) Outcomes
- (iv) Impact
  - Social acceptability of an intervention
**TRANSLATIONAL RESEARCH FRAMEWORK**

Not a linear process

- Ideas
- Anger management program

Programs of research to address:
- Family resilience
- Unemployment
- Mental health including suicide

**QUASI-EXPERIMENTAL DESIGNS**

1. QE designs without control group
2. .................with control group but no pretest
3. ................with control group and pre-tests
4. Interrupted time series design

Harris et al 2006

**BUILDING FAMILY RESILIENCE: DEVELOPING S2S**

- De novo psycho-educational program (Full 10 hour, Abbreviated 5 hour)
- Project team of experienced rehabilitation teachers (metro and rural)
- Steering committee included consumer representatives

**EVALUATION OF S2S**

Controlled trial – Untreated control group design with dependent pretest and posttest

Usual care + S2S  Vs Usual care alone

Delivered by Swers at participating sites

Primary outcome: Resilience
Secondary outcomes: Caregiver strategy use, self-efficacy, burden, positive affect, negative affect

**STRENGTH 2 STRENGTH**

- Translation (scalability)
  - Facilitator training over past 5 years
  - Challenges of fidelity and off-label use

- Efficacy and Replication/adaptability
  - Michigan Institute of Rehabilitation US NIDILRR for a parallel 3 arm RCT

- Feasibility/Adaptability
  - Mater Hospital Brisbane - Adapt S2S for families supporting adolescents/young adults with AOD

**S2S:PHONE BASED**

Feasibility & Acceptability Pilot

Intensity of S2S – would the 5 hour version also have an effect?
One group pre-post design (inc follow-up)

Narrative Evaluation of Intervention Interview
Client Satisfaction Questionnaire-8
Consumer feedback

<table>
<thead>
<tr>
<th>Efficacy</th>
<th>User Feedback Survey (therapist)</th>
<th>Delivery logistics</th>
</tr>
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<tbody>
<tr>
<td>..........</td>
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**Intervention studies and SW**

Griffith University November 2018
EMPLOYMENT: IMPROVING VOCATIONAL OUTCOMES

VIP JOURNEY

<table>
<thead>
<tr>
<th>Study name</th>
<th>Study type</th>
<th>Time frame</th>
<th>Funding</th>
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</thead>
<tbody>
<tr>
<td>H2W</td>
<td>Service description</td>
<td>2007-2009</td>
<td>LBIRU</td>
</tr>
<tr>
<td>VPP</td>
<td>Observational study</td>
<td>2011-2013</td>
<td>$200K</td>
</tr>
<tr>
<td>VIP 1.0</td>
<td>Efficacy study</td>
<td>2015-2017</td>
<td>$1.3 million</td>
</tr>
<tr>
<td>VIP 2.0</td>
<td>Scalability</td>
<td>2018-2021</td>
<td>$1.8 million</td>
</tr>
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- Two different programs
  - Fast Track for return to pre-injury employment
  - New Track for new employment
- Controlled trial (Intervention vs usual care)
- Primary outcome: Employed vs not employed (indicator)
- 3 private VR Providers
- 75 clients with ABI at 6 BIRP sites across NSW over 3 yrs
- Matched controls from 5 non-participating BIRP sites
- Trial completed in September 2017

EVALUATING VIP 2.0 – RE-AIM FRAMEWORK
(Glasgow et al, 1999)

- Place 200 clients in competitive employment
- Roll out across all 12 adult BIRP units in NSW
- Training 16 private VR providers
- Partnership model between BIRP units and providers

MENTAL HEALTH

HOPELESSNESS PRE and POST T'X

- Window to Hope is a 20 hour 10 session CBT group-based program targeting chronic hopelessness after severe TBI
- Evaluated as part of NHMRC EC Fellowship
- Phase II RCT (n=17) parallel two arm (T’x vs Waitlist) design
- WtH effective in reducing hopelessness
- Clinically significant change
- Change sustained at 3 month follow-up
**Intervention studies and SW**

**WINDBOW TO HOPE: A REPLICATION STUDY**

Adaptation to the US military setting Matarazzo et al. 2013

Treat (n=15) vs wait-list (n=20)

Higher levels of background psychiatric conditions including PTSD

Controlling for baseline scores, WtHoH effective at reducing hopelessness at T2

Brenner et al. JHTR 2017

**ACT-ADJUST RCT**

- ACT may be a ‘good fit’ as therapeutic approach in facilitating adjustment after TBI
- 10 session @ 15 hour group-based program
- Parallel group RCT with two arms: Treatment group (n=10) vs an active control (Befriending group, n=9)
- Primary outcome: Psych flexibility
- Secondary outcomes: Depression, stress

**EVIDENCE-INFORMED SUICIDE PREVENTION POLICY**

- I-care participants have high suicide rate
- Window to Hope, ACT-Adjust
- RCT testing delivery of Act-Adjust by phone vs face-to-face (Equivalence or non-inferiority trial)
- Workshop to train therapists in delivery of WtHoH and Act-Adjust

Hawley et al. 2017 Brain Injury

**SAIL SELF-ADVOCACY INDEPENDENT LIVING**

<table>
<thead>
<tr>
<th>Study Phases</th>
<th>Outputs</th>
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<tbody>
<tr>
<td>Initial development of SAIL in practice</td>
<td>Program manual and workbook, 2005-2012</td>
</tr>
<tr>
<td>Develop outcome measures</td>
<td>Personal Advocacy Activity Scale (PAAS), Self-Advocacy Scale (SAS)</td>
</tr>
<tr>
<td>Feasibility pilot (n=9)</td>
<td>Hawley et al. 2017 Brain Injury</td>
</tr>
<tr>
<td>Phase II or Phase III RCT</td>
<td>(NHMRC funding AUD$958,036), 2018-2020</td>
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**INTERVENTION RESEARCH**

- Targeted field of practice
- Sustained programs of research
- Close integration with literature reviews and observational studies
- Conducted from individual practitioners through to broader systems level
- Close collaboration between clinicians, industry and researchers
- Importance of measurement
- Position SW in roles of practice leadership and innovation at the local state, national and international levels

**THANK YOU**

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*There are no stupid questions, as long as you sign, there’s no stupid answers.*

(Albert Einstein)