MENTAL HEALTH FOLLOWING TERROR: FROM INDIVIDUAL RESPONSES TO MASS DISASTER CARE PLANS

Sara Freedman, PhD,
School of Social Work,
Bar Ilan University.
Dept of Psychiatry,
Hadassah University Hospital
Jerusalem Israel

Since 1 October
2936 attacks
Stone throwing: 1706
Petrol bomb: 494
Stabbing: 157
Shootings: 87

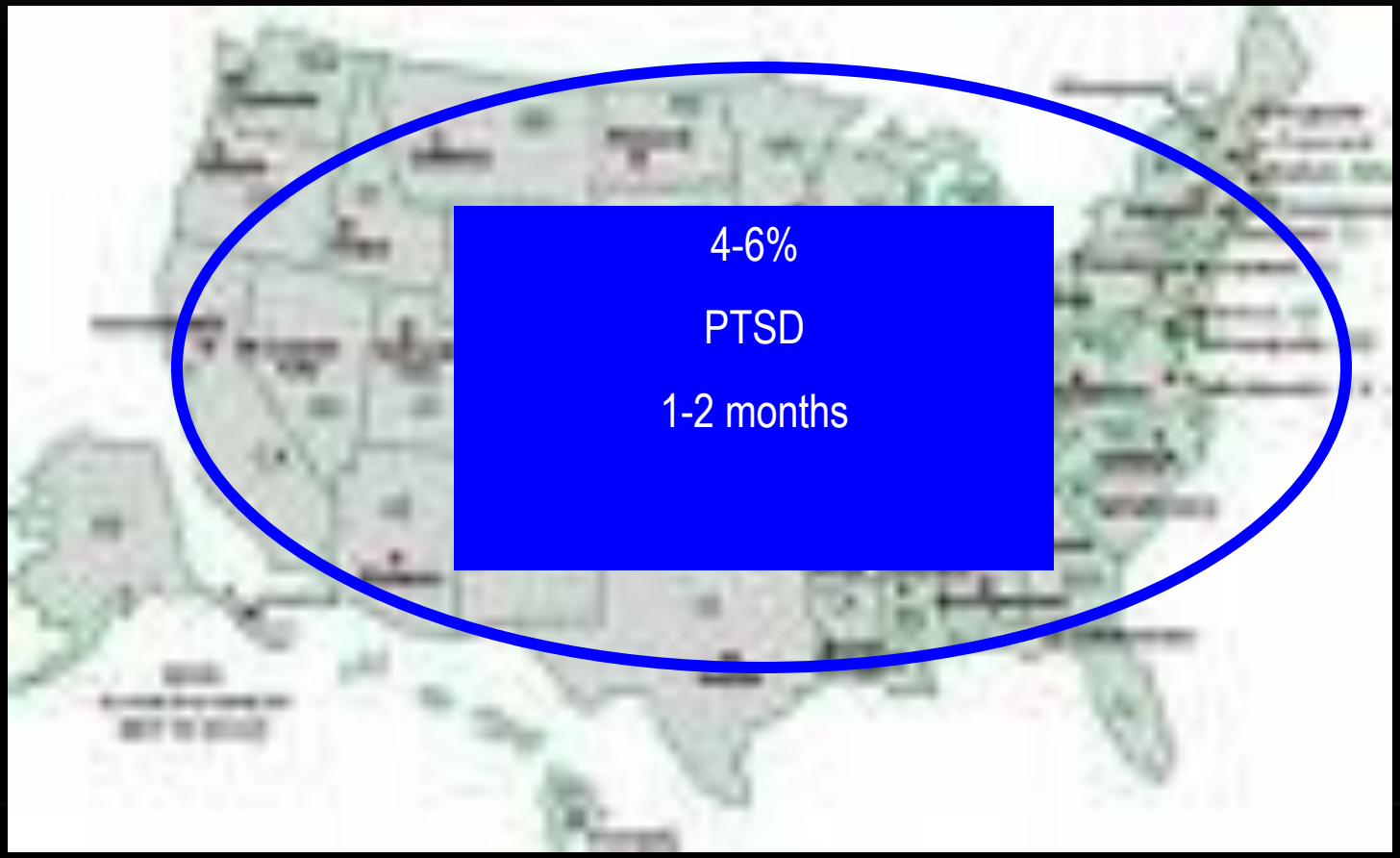
PTSD FOLLOWING A TERRORIST ATTACK

"Terrorism is about psychology…[it] is about imagining the monster under our beds or lurking in dark closets – the faceless, omnipotent enemy who might be … our neighbor….The power of terrorism lies precisely in its pervasive ambiguity, in its invasion of our minds"

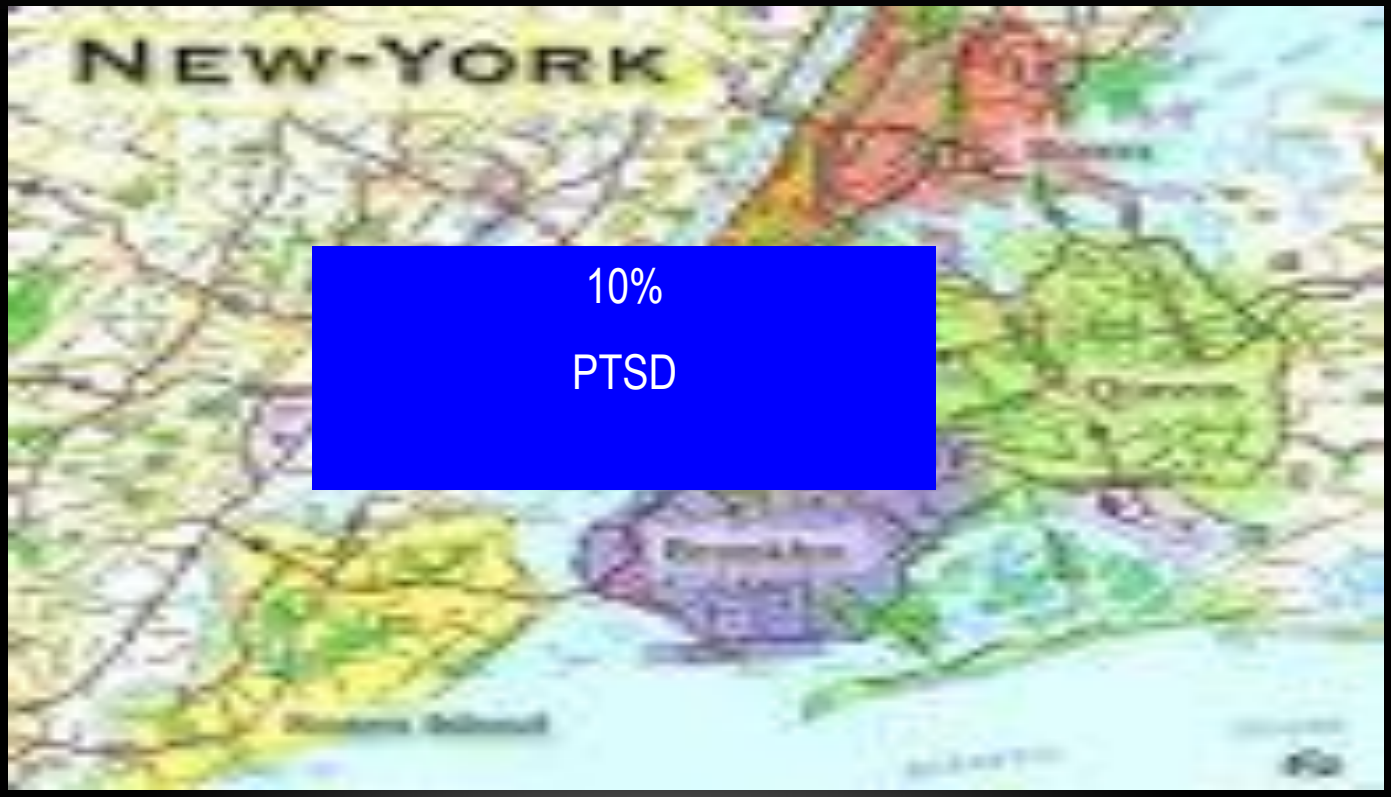
(Zimbardo, 2003).

PTSD FOLLOWING A TERRORIST ATTACK 9/11

PTSD FOLLOWING A TERRORIST ATTACK 9/11



PTSD FOLLOWING A TERRORIST ATTACK 9/11



PTSD FOLLOWING A TERRORIST ATTACK LONDON, 2005

Substantial Stress	
11-13 days	31%
7 months	11%

PTSD FOLLOWING A TERRORIST ATTACK MADRID, 2004

PTSD FOLLOWING A TERRORIST ATTACK ISRAEL, 2001-2006

PTSD FOLLOWING A TERRORIST ATTACK ISRAEL, 2001-2006

- Epidemiological Studies
  - 9% PTSD (Bleich et al, 2004, Shalev et al, 2004)
- ER patients
  - 35-38% PTSD (Kutz & Dekel, 2005; Shalev & Freedman, 2005)

35%

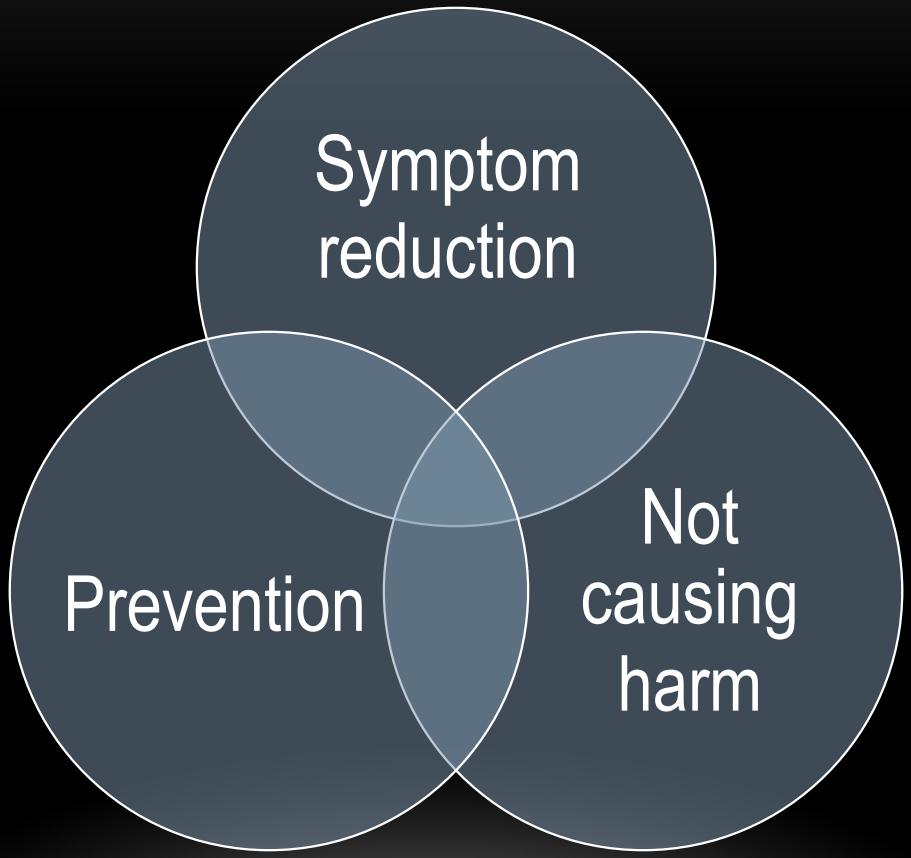
10%

4%

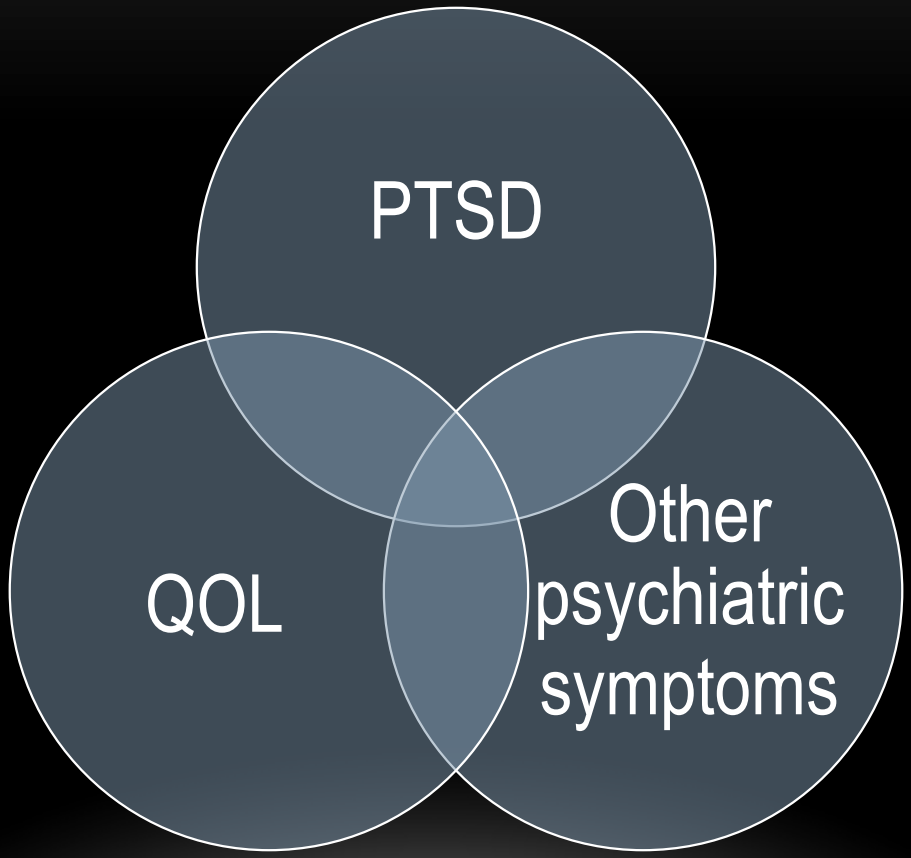
“Speaking now as a mental health professional, why do we need to do anything at all? Yes, there is a desire to “do something.” None of us like to see people in distress.”

(Wessely, 2005)

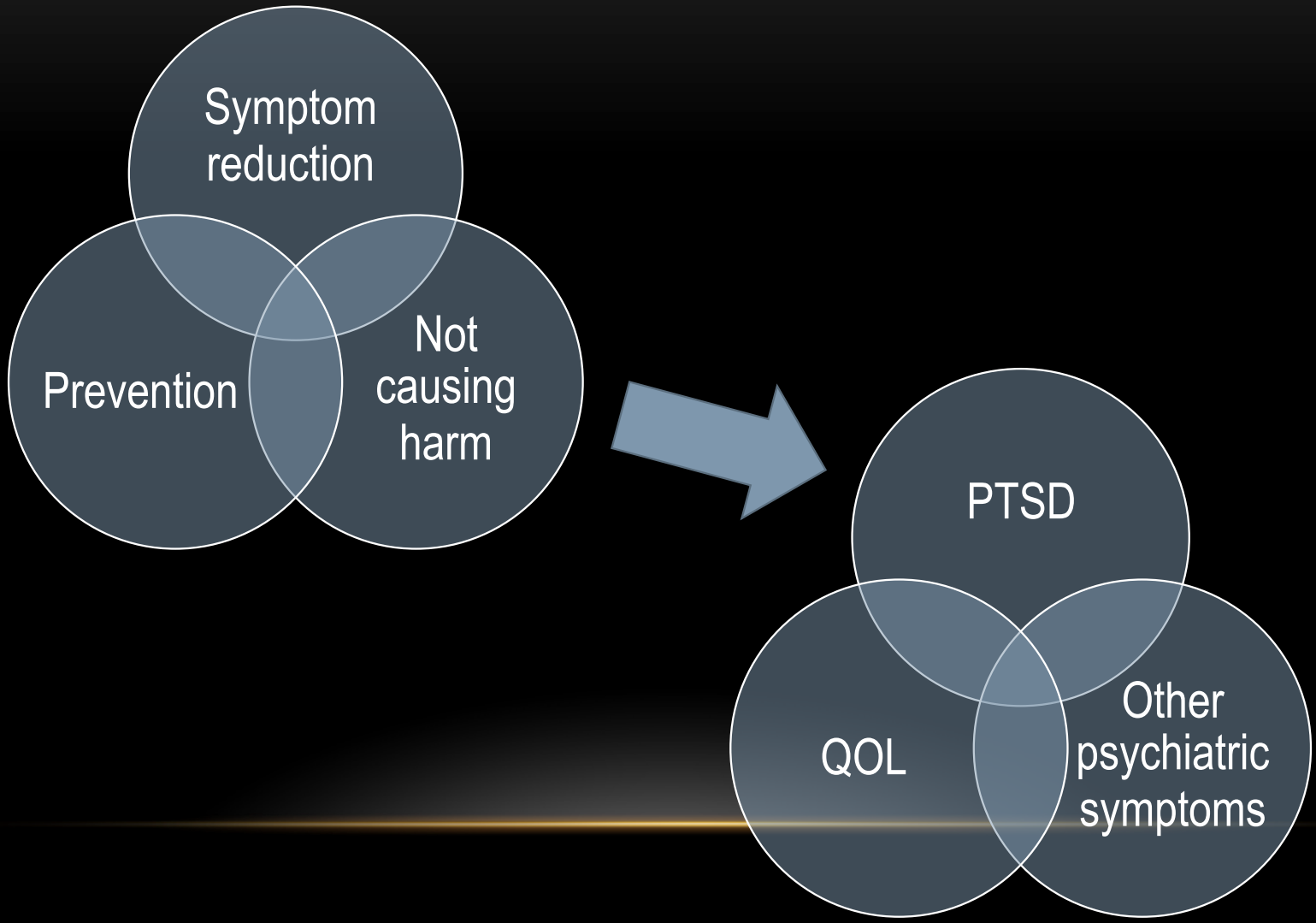
EARLY INTERVENTION WHAT IS THE POINT?

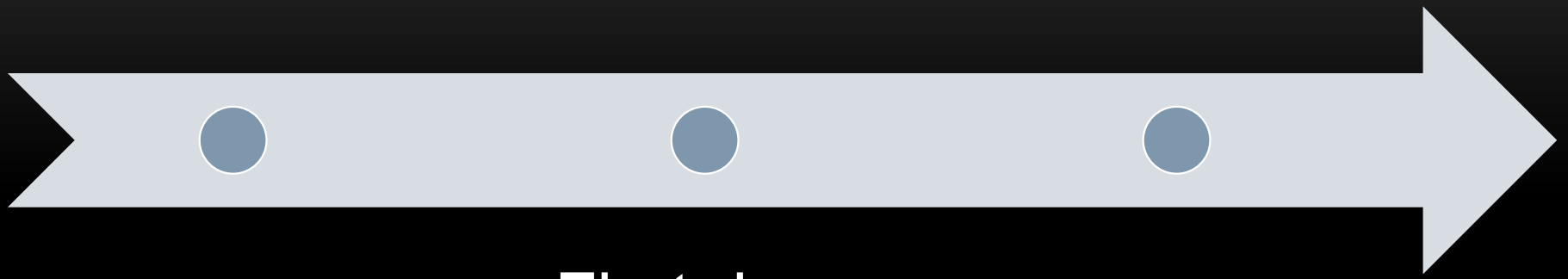


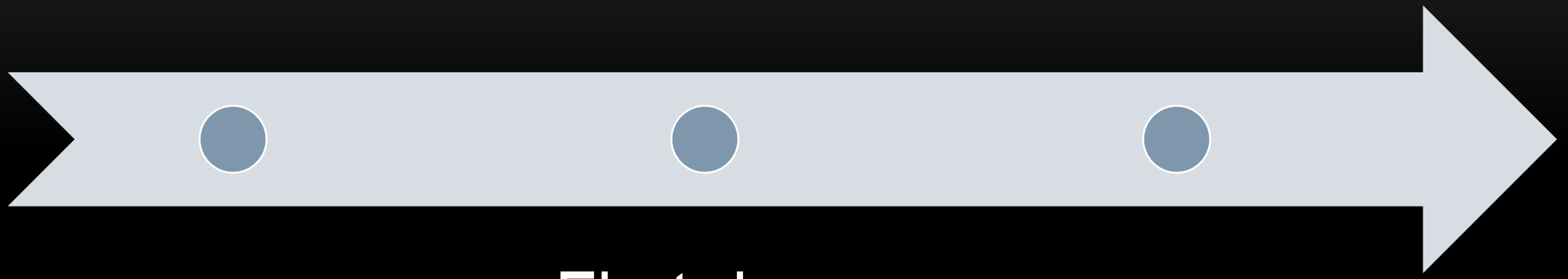
EARLY INTERVENTION
WHAT IS THE POINT?



EARLY INTERVENTION WHAT IS THE POINT?




First hours
First weeks
First days


First hours
First weeks
First days

FIRST HOURS

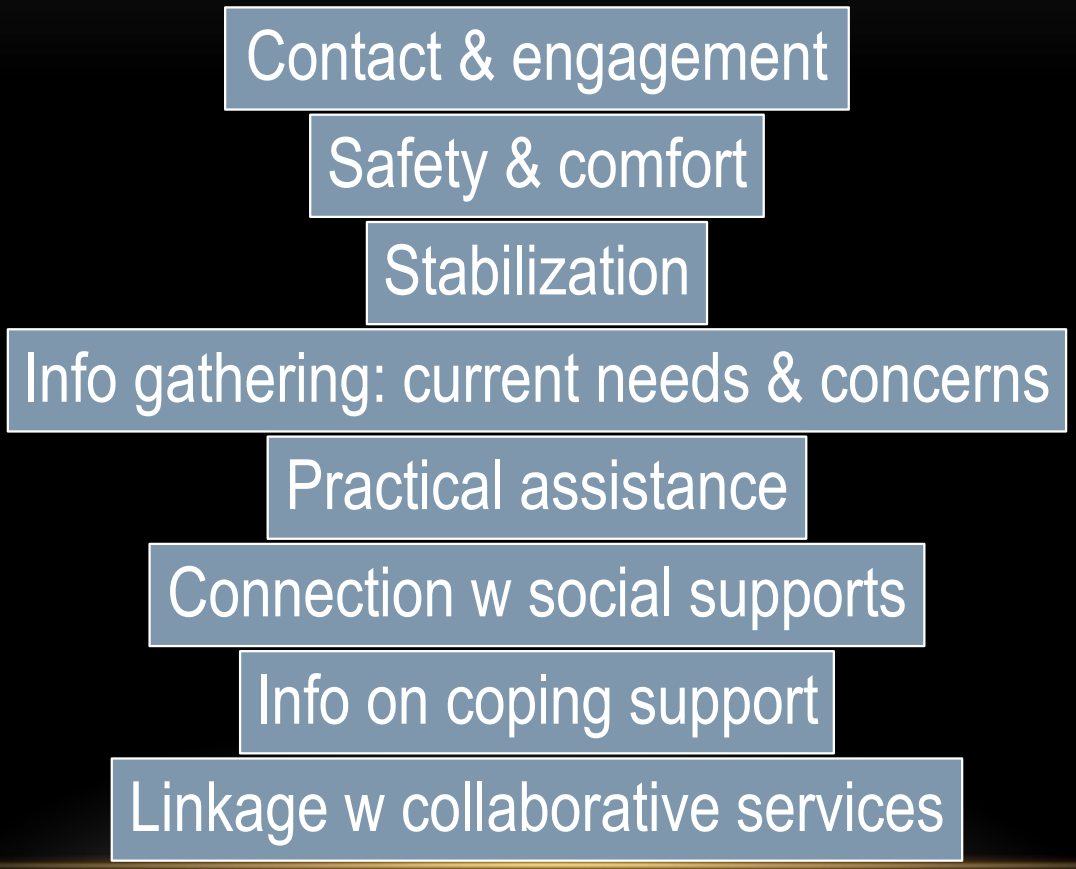
- Rare experience for most therapists
- Social Work Intervention
  - Family Room – identification, reunite
  - Assessment
  - Referral

FIRST HOURS

PSYCHOLOGICAL FIRST AID

- Mostly in the context of mass disasters, terrorist attacks.

PSYCHOLOGICAL FIRST AID
RUZEK ET AL, 2007, 2009



Promote Connectedness

- Help people contact friends or loved ones.
- Keep families together. Keep children with parents or other close relatives whenever possible.

Promote Self-Efficacy

- Give practical suggestions that steer people towards helping themselves.
- Engage people in meeting their own needs.

Promote Hope

- Find out the types and locations of government and non-government services and direct people to those services that are available.
- Remind people (if you know) that more help and services are on the way when they express fear or worry.

PFA

- Assumption that most people will be fine, and that these symptoms do NOT reflect psychopathology
- BUT
- Small percentage express extreme symptoms in the first hours

FIRST HOURS

Initial reactions

- unpredictable
- unstable
- complex
- no “disorder” or clear symptoms

Symptoms vs. psychopathology.

EMERGENCY ROOM, OR SCENE OF EVENT

Not necessarily post trauma, but part of the trauma.

“upon arrival to the ED, most of the survivors are half-way between enduring stress and reappraising its consequences” (Schreiber et al, 2007)

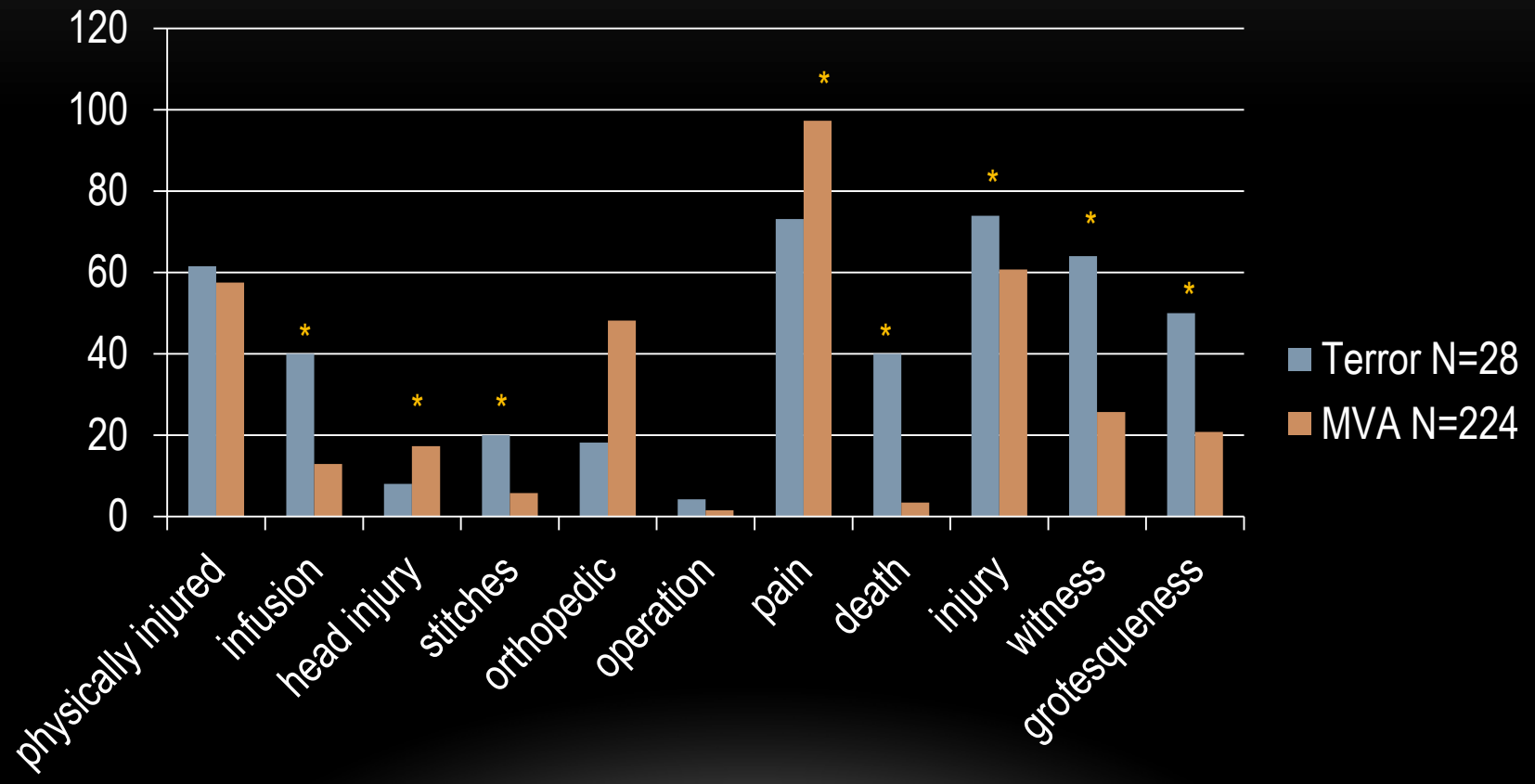
ADAPTIVE REACTIONS

- Can include many emotional reactions, including sadness, fear, confusion, anger
- Patient does not get stressed by these emotional reactions
- Trauma narrative changes over time

MALADAPTIVE REACTIONS

- No periods of calm
- Dissociation
- Intrusions that are extremely distressful
- Social withdrawal
- Inability to reflect on event

MVA VS TERROR, EMERGENCY ROOM REACTIONS



Freedman & Shalev, Unpublished Data

MVA VS TERROR, EMERGENCY ROOM REACTIONS

Freedman & Shalev, Unpublished Data

RESEARCH

- Evidence informed but not [yet] evidence based….

- Schreiber et al (2007) PIMSMA 213 terror victims
  - Non RCT (patients 'randomized' according to therapist availability)
  - PFA vs PIMSMA
  - At follow up (3-9 months & 2 years): no difference between groups

- Gelpin et al (1996)
  - 26 ER patients, 13 received benzodiazepines. Not randomized. Med group did worse at 6 month follow up (9/13 PTSD vs 3/13)

RESEARCH

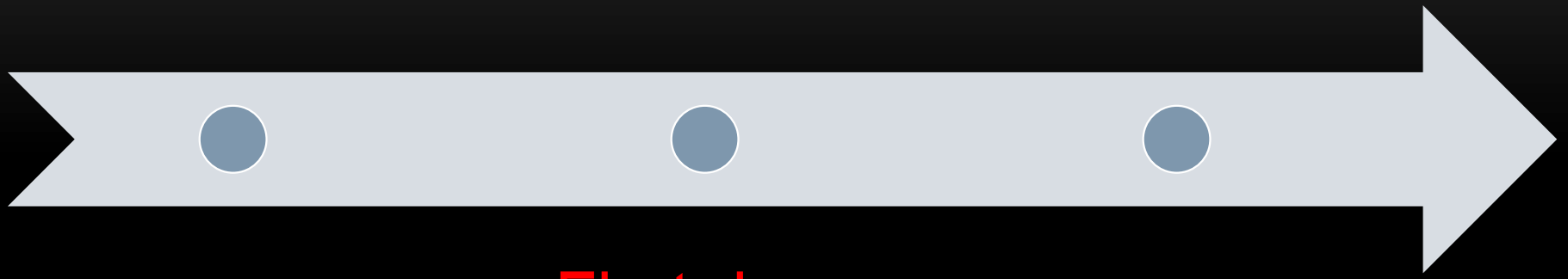
- Galili unpublsihed data
  - Children arrived in ER following traumatic event, followed up. No difference between those seen by psychiatric team and those not

- Gidron et al (2001) MSI
  - 24 hours post trauma, N=17

- “*no psychological interventions administered in the first hours, or even the first 72 h, have proven efficacy for preventing posttraumatic stress symptoms*.”

Agorastosal et al, 2011

- Rothbaum et al (2012)
  - Modified PE 11-12 hours in the ER
  - Modest effects sizes (PTSD: 46% vs 51% at 4 weeks (ns), (26% vs 47% at 12 week follow up, signif)
  - When analysed per trauma type, only significant effects found for rape victims


First hours
First weeks
First days

SYMPTOMS

- Similar to very initial reactions
- More periods of calm

INTERVENTIONS

PSYCHOLOGICAL DEBRIEFING – EVERLY & MITCHELL (1983)

- Model based on recreating events in combat
- Build group narrative
- Group pre-exists the event

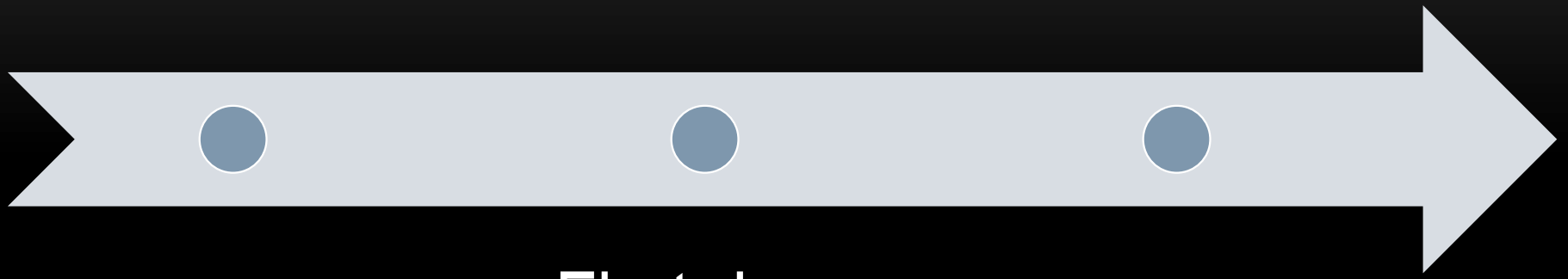
CRITICAL INCIDENT STRESS MANAGEMENT

Seven core components:

- Pre-crisis preparation, to set expectations.
- Demobilization and group briefing, to allow decompression and stress management.
- Defusing, symptoms driven direct intervention
- Critical incident stress debriefing
- Individual intervention when needed
- Family & group intervention
- Follow up and referral

Authors	Study population	Study Design	N	Timing of treatment post trauma	Treatment/s	Outcome
Adler et al, 2008	Peacekeepers	RCT	952	Not timed to a specific event	Groups CISD vs. Survey only vs. Stress management	No overall effects
Bisson 2007	Burns victims	RCT	133	2-19 days	Debriefing vs. no treatment control	Debriefing groups had higher levels of PTSD at follow up
Lee et al, 1996	Miscarriage	RCT	60	14 days	Individual counseling vs. treatment as usual	No overall effects
Marchand et al	Armed robbery victims	RCT	75	2-22 days (first session); one week after that (second session).	Debriefing vs. no treatment control	No overall effects
Mayou et al, 2000 (3 year follow up of Hobbs et al, 1996)	Road Traffic accident victims	RCT	160	24-48 hours	Debriefing vs. no treatment control	At 3 months post intervention: no difference between groups; at 3 years: intervention group had higher symptom levels
Rose et al, 1999	Violent crime	RCT	157	<1 month	Debriefing vs. education vs. assessment	No overall effects
Sijbrandij et al, 2006	Adult civilian trauma	RCT	236	11-19 days	Emotional debriefing vs. educational debriefing vs. no treatment control	All groups showed similar results
Stallard et al, 2005	Children aged 7-18, following road traffic accident	RCT	158	Within 1 month	Debriefing vs. no treatment control	Groups showed similar results
Wu et al, 2012	Military rescuers	RCT	1267	1 month	Cohesion debriefing vs. Debriefing vs. no treatment	Cohesion debriefing resulted in lower PTSD at follow up

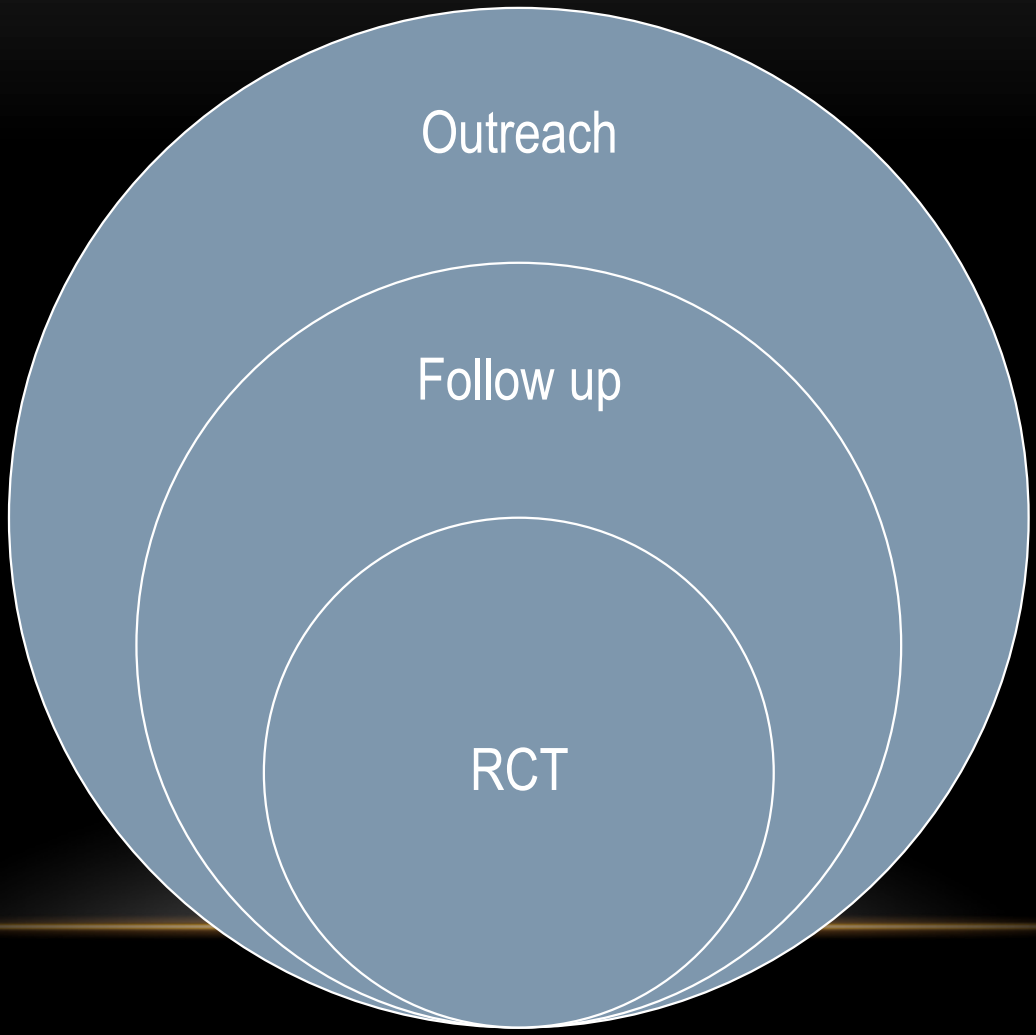
"Nevertheless, over two-thirds of patients who received the [treatment] rated it as useful." Turpin et al, 2005


First hours
First weeks
First days

- Symptom profile
  - PTSD (without the time period)
  - ASD

- Studies focus on CBT, with a few studies including other treatment types (e.g. SSRI)

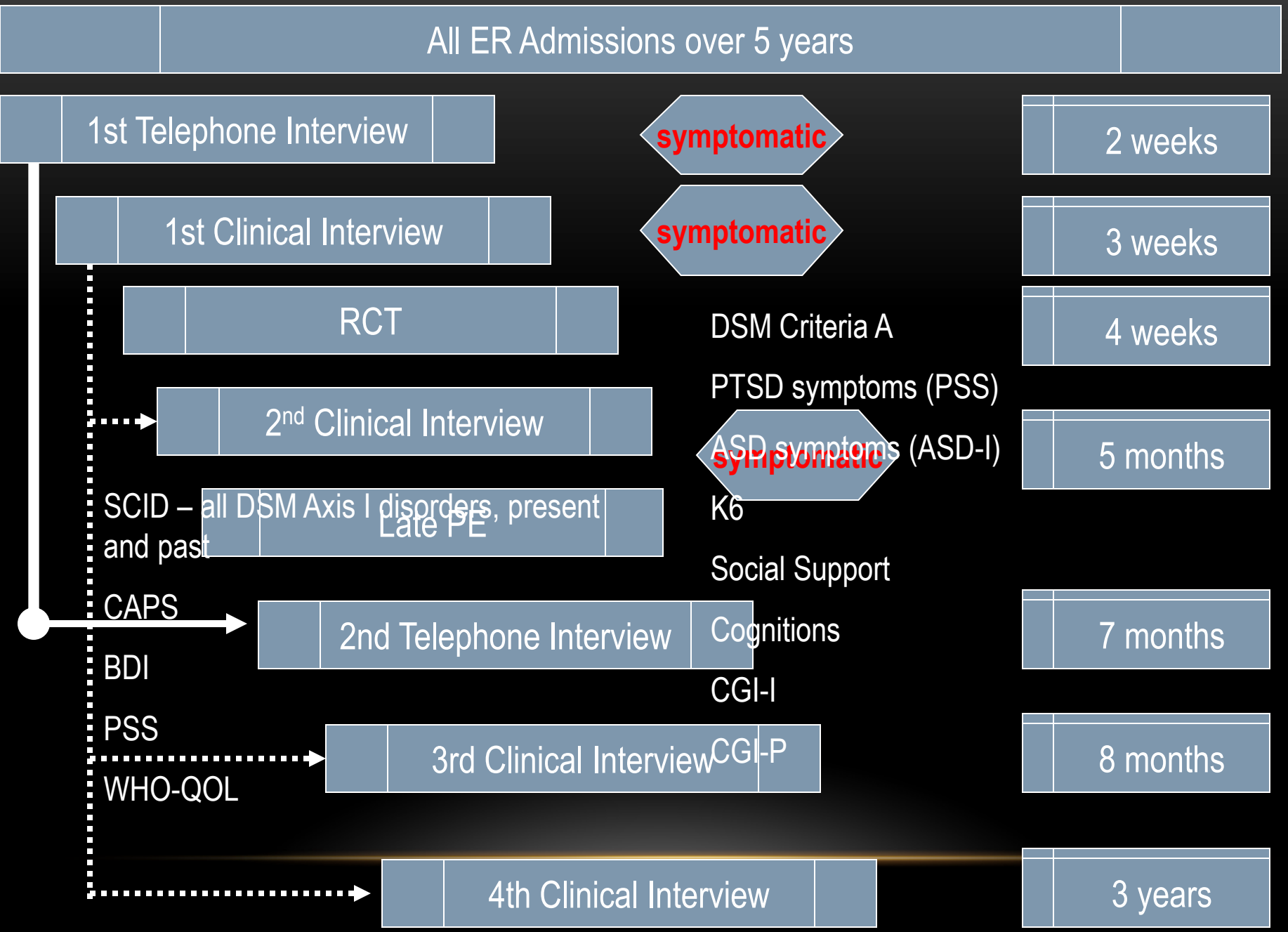
JERUSALEM TRAUMA OUTREACH AND PREVENTION STUDY (J-TOPS) SHALEV ET AL, 2011, 2012



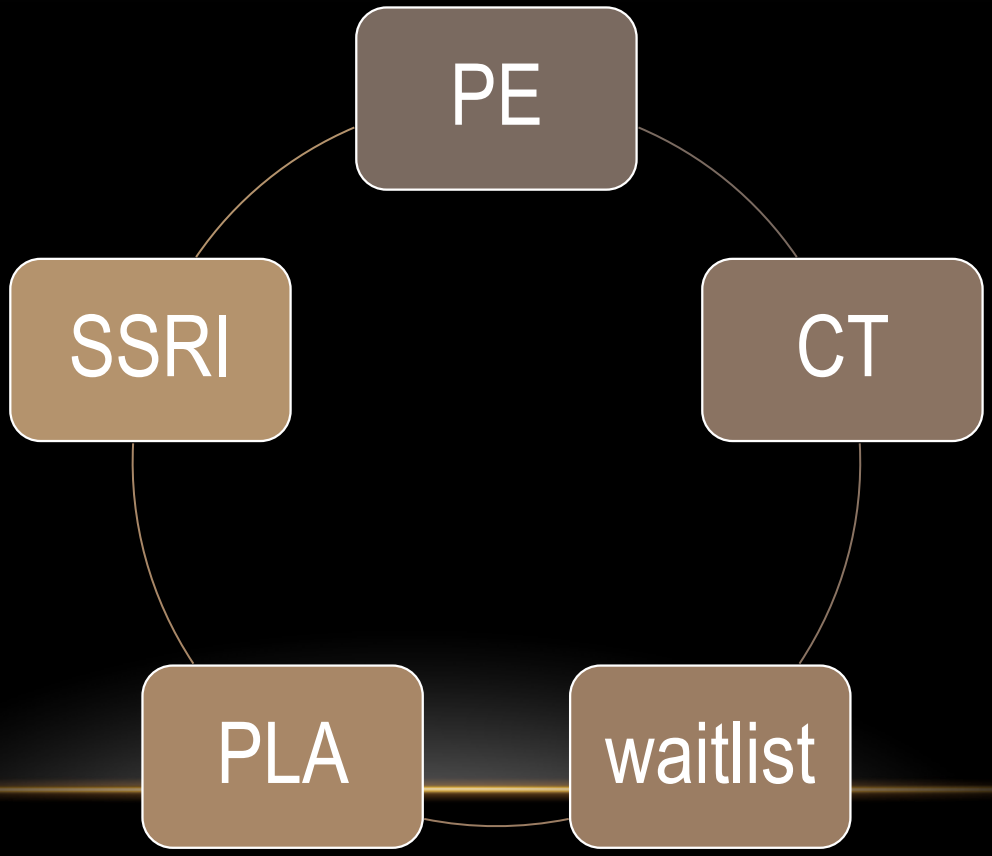
JERUSALEM TRAUMA OUTREACH AND PREVENTION STUDY (J-TOPS) SHALEV ET AL, 2011, 2012

- Does early intervention prevent PTSD?
- Which therapy works best?
- Early vs. late
- Effectiveness

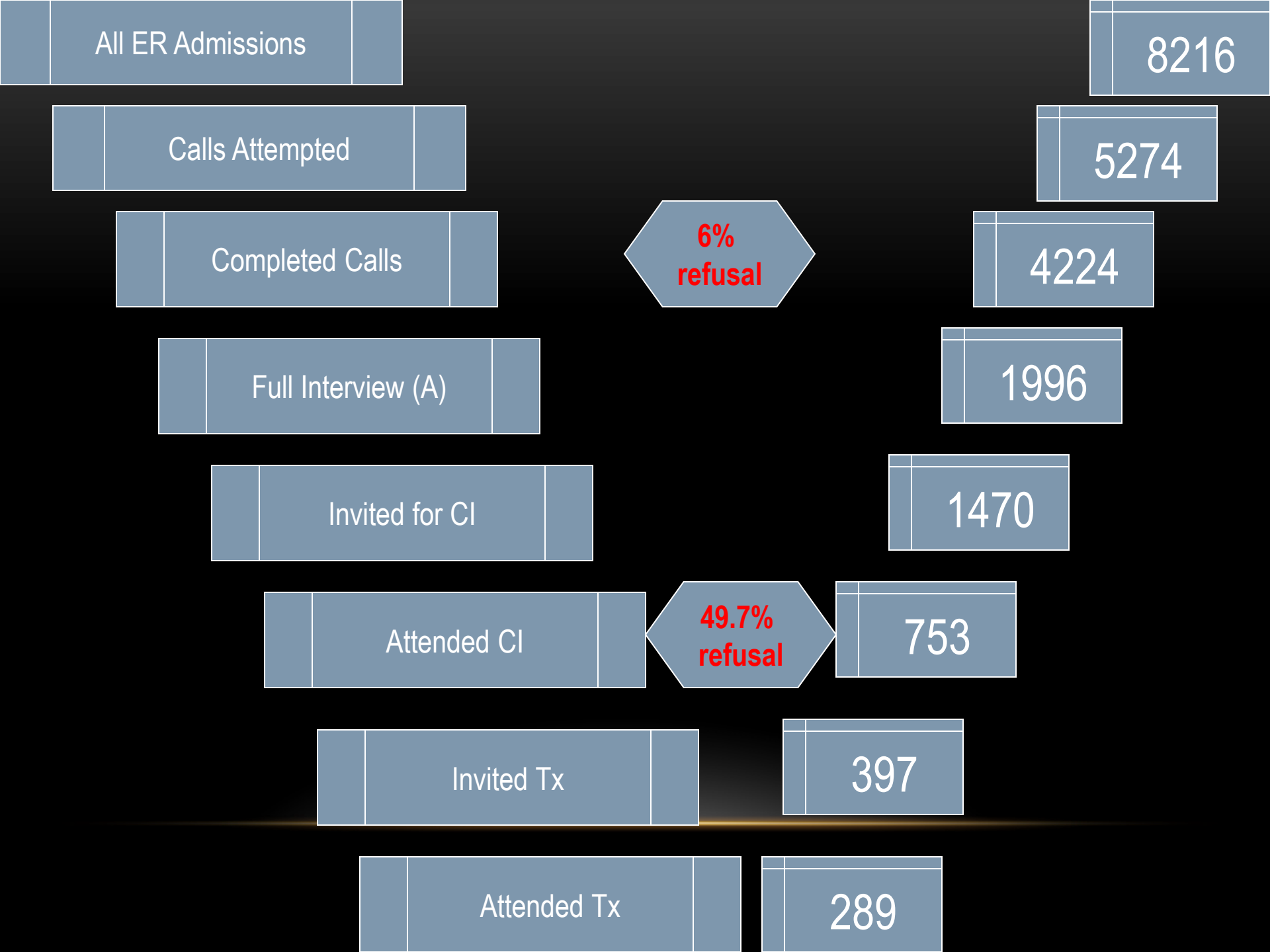
efficacy


All ER Admissions over 5 years
1st Telephone Interview
symptomatic
2 weeks
1st Clinical Interview
symptomatic
3 weeks
RCT
DSM Criteria A
4 weeks
PTSD symptoms (PSS)
2nd Clinical Interview
ASD symptoms (ASD-I)
symptomatic
5 months
SCID – all DSM Axis I disorders, present and past
Late PE
K6
Social Support
CAPS
2nd Telephone Interview
Cognitions
7 months
BDI
CGI-I
PSS
3rd Clinical Interview
CGI-P
8 months
WHO-QOL
4th Clinical Interview
3 years

TREATMENT ARMS



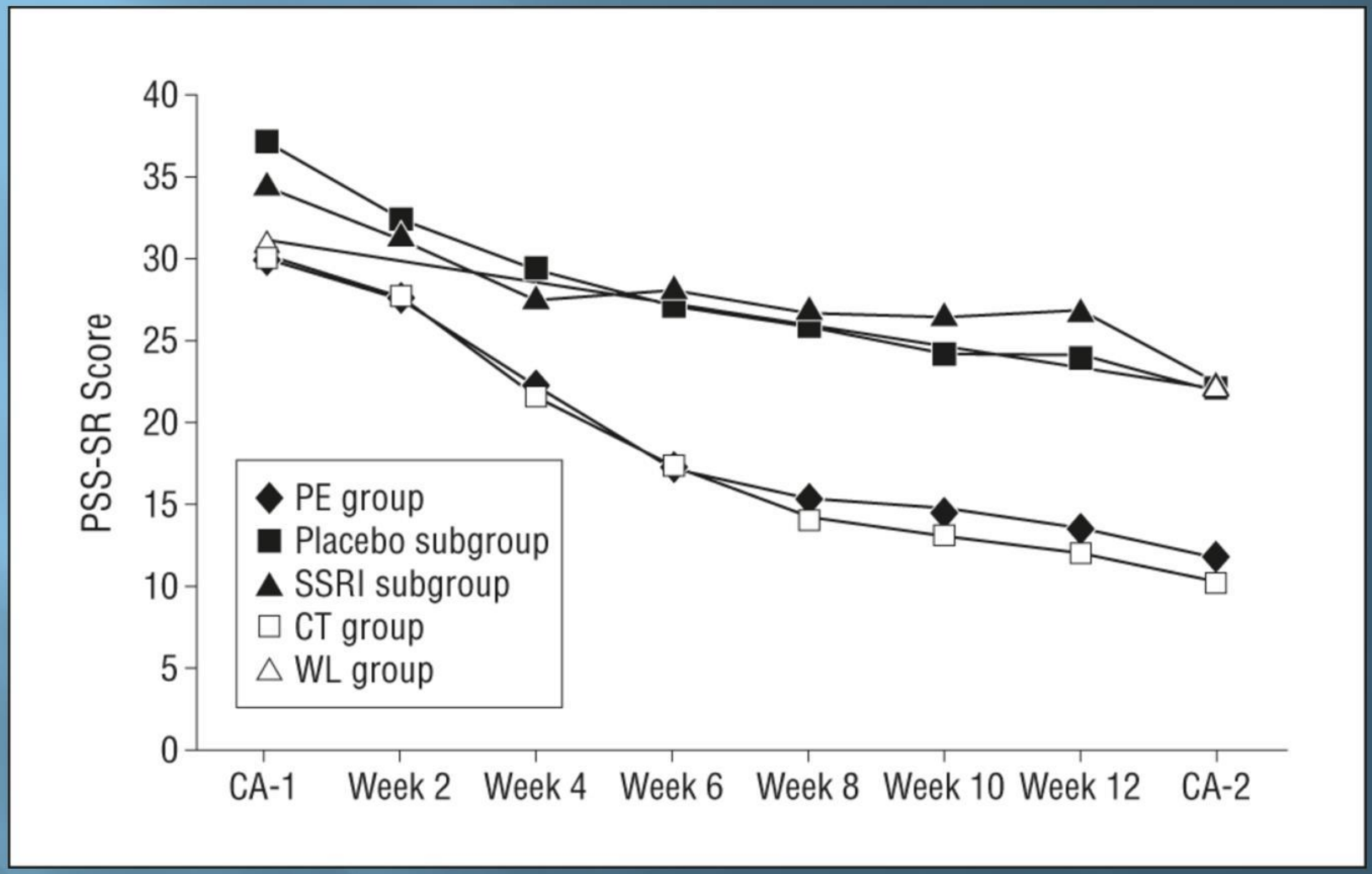
RESULTS


All ER Admissions
8216
Calls Attempted
5274
Completed Calls
6% refusal
4224
Full Interview (A)
1996
Invited for CI
1470
Attended CI
49.7% refusal
753
Invited Tx
397
Attended Tx
289

EFFICACY STUDY

EFFICACY STUDY

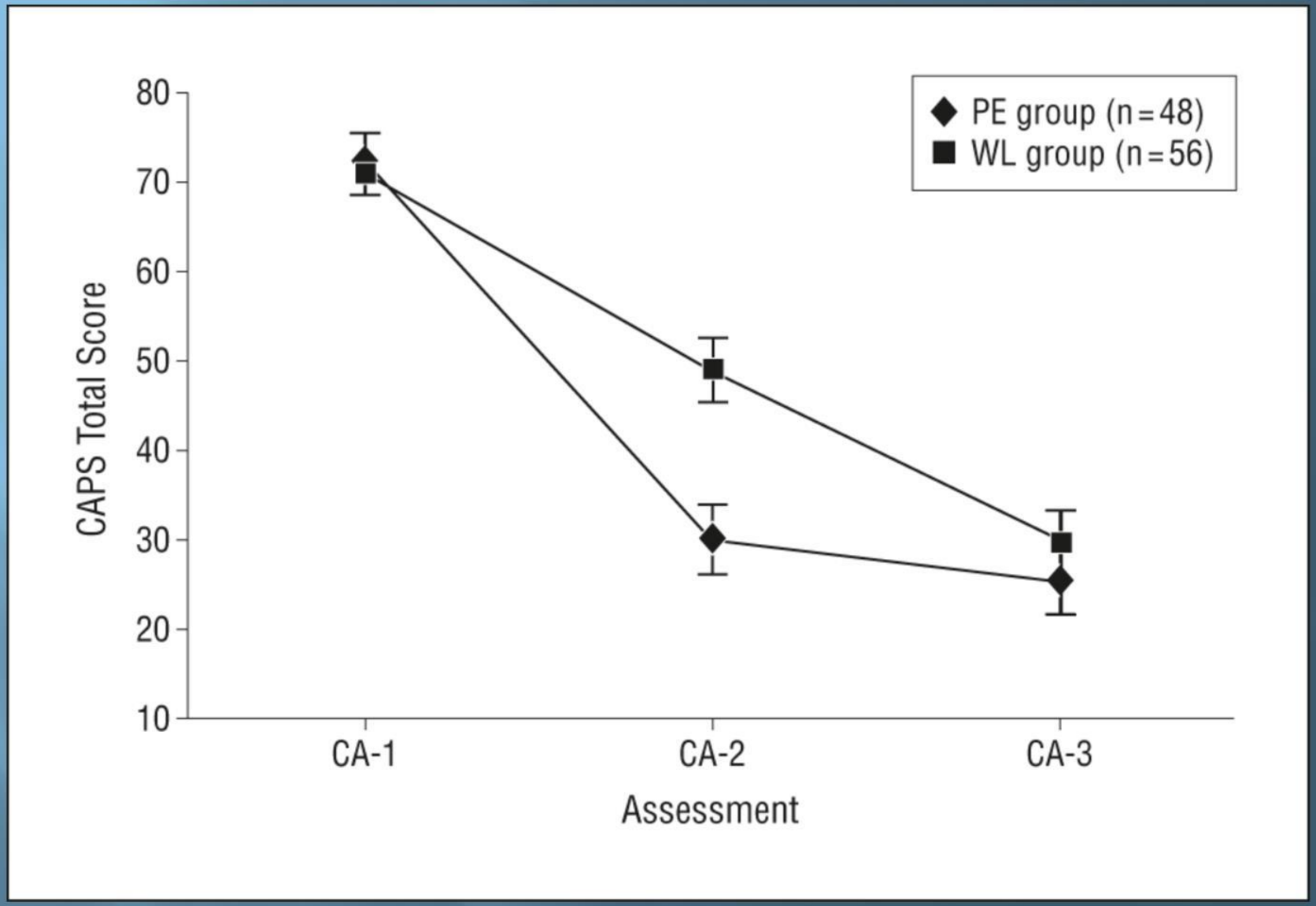
- Does early intervention prevent PTSD?
- Which therapy works best?



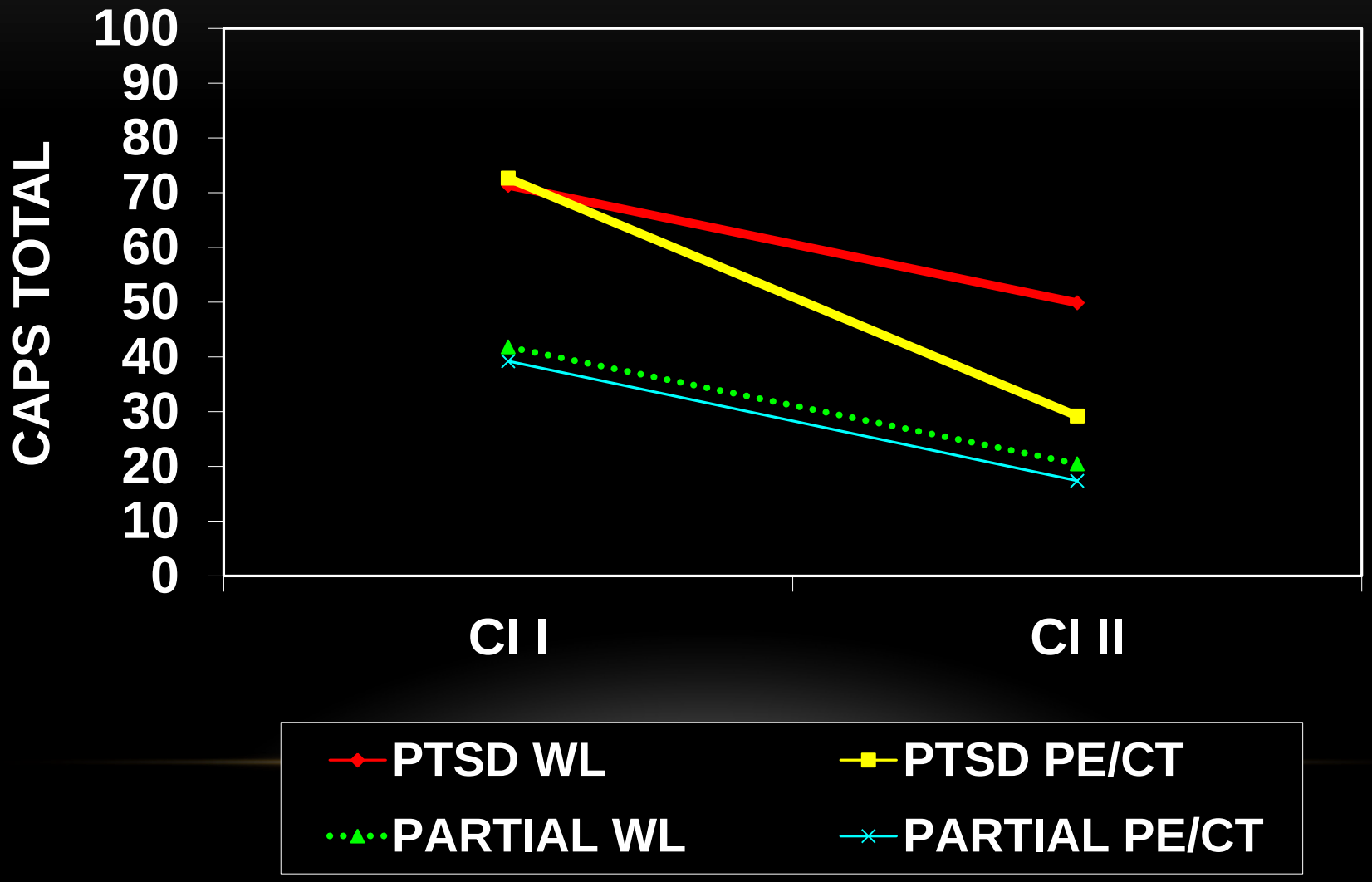
Rpt measures ANOVA: sig effects of time, gp, and gp x time; $F(3,126)=5.43$, $p<0.001$. Shalev et al, 2011

EFFICACY STUDY

- Early vs. late


PE group (n = 48)
WL group (n = 56)
CAPS Total Score
80
70
60
50
40
30
20
10
CA-1
CA-2
CA-3
Assessment

ACTIVE TREATMENT (PE/CT) VS WAITLIST; FULL VS PARTIAL PTSD



WHAT DOES TREATMENT LOOK LIKE?

- CBT
- Psycho education
- In vivo exposure
- Imaginal exposure
- Cognitive restructuring
- Relapse prevention

- Short treatment – 5 sessions
- “full” treatment – 12 session

Authors	Study population	N	Timing of treatment post trauma	Treatment/s	Outcome
Bisson 2004	Physically injured trauma survivors	152	5-10 weeks	CBT vs. TAU	CBT led to significantly lower PTSD symptoms at follow up
Bryant 2005	Adult civilian trauma with ASD	87	Within 1 month	CBT, CBT + hypnosis, Supportive e counseling	CBT & CBT-hypnosis lead to greater treatment effects than supportive counseling; CBT-hypnosis reduced re-experiencing symptoms
Bryant 2008	Adult civilian trauma with ASD	90	Within 1 month	Exposure vs. cognitive restructuring vs. waitlist control	Exposure based therapy leads to more significant changes than cognitive restructuring
Bryant et al 99	Adult civilian trauma with ASD	45	Within 2 weeks	PE vs. PE+AM vs. Supportive counseling	Less chronic PTSD in PE and PE+AM groups
Bryant et al 98	Adult civilian trauma with ASD	24	Within 2 weeks	CBT vs. supportive counseling	CBT leads to significantly lower PTSD at post treatment and follow up
Bugg et al, 2007	Adult civilian trauma	36	Within 6 weeks	Structured writing vs. information only	No significant difference between groups at follow up.
Cox et al, 2010	Children, accidental injury	85	2 weeks	Web based CBT vs. waitlist control	Decrease in anxiety in treatment group
Ehlers et al, 2003	Motor Vehicle Accident	96	Within 6 months	Cognitive therapy vs. self-help booklet vs. repeated assessments	Cognitive therapy resulted in fewer symptoms of PTSD and depression. Self help not useful
Freyth et al, 2010	Civilian trauma with ASD	40	One month	PE vs. supportive counseling (3 sessions)	No difference between groups at follow up
Foa et al, 2005	Adult female sexual assault victims	90	Within 4 weeks	4 2-hr sessions CBT vs. assessment vs. supportive counseling	Less anxiety at 3 months follow up for CBT; no significant differences at 9 months follow up
Nixon, 2012	Physical & sexual assault victims	30	Not stated	PT vs Supportive counseling	No difference between groups at follow up
O'Donnell et al, 2012	Injured survivors	46	4-6 weeks	CBT vs usual care	CBT resulted in less PTSD, MD and anxiety at 6 & 12 months
Shalev et al, 2012	Civilian trauma survivors	242	Within 4 weeks	CT vs PE vs PLA vs escitalopram vs WL	CT=PE, CT, PE> meds, pla, wl. No difference between early & late PE
Sijbrandij 2007	Civilian trauma survivors	143	Within 3 months	Brief CBT vs. waitlist control	Accelerated recovery in the CBT group; no difference in long term outcome
Wagner 2007	Injured trauma survivors	8	Between 1 & 3 months	TAU vs. Behavioral activation	Behavioral activation resulted in fewer symptoms of PTSD, but not in depression
Zehnder et al, 2010	Children, RTA	101	7-10 days	30 minute intervention vs. treatment as usual	Reduced depression and beh problems in treatment group, who were pre adolescent; no effect in older children

- Eight studies, giving treatment to all exposed, regardless of symptoms, within one month of the event.
- Not all Psychological Debriefing.
- No significant differences between treatment and control conditions.

- Meta analysis Roberts et al (2009)

- 15 studies – treatment for symptomatic interventions, within 3 months of the event.
- Results show that TF-CBT more effective than waitlist or supportive counseling.

- Meta analysis Roberts et al (2009)

- 11 studies – treating individuals with ASD or acute PTSD, within 3 months of the event.
- TF-CBT > waitlist or supportive counseling.
- Meta analysis Roberts et al (2009)

- There was no evidence that a multiple-session intervention aimed at everyone, irrespective of their symptoms, following a traumatic event was effective. Trauma-focused CBT was significantly better than waiting list or usual care at reducing traumatic stress symptoms in individuals who were symptomatic at entry into the study, but the magnitude of effect varied. The magnitude was largest for individuals who were diagnosed with acute stress disorder or acute PTSD. Evidence of the benefits of trauma-focused CBT for symptomatic individuals who did not meet full diagnostic criteria for these conditions was weak.
- Roberts et al, 2009

- “Evidence supporting the effectiveness of most interventions used to prevent PTSD is lacking”.

Gartlehner et al, 2013

- “Overall, evidence for preventive interventions for ASD and PTSD is scarce.”

Howlett & Stein, 2016

SERVICE PLANNING

What should mental health services provide following a terrorist attack?

SERVICE PLANNING

9/11

- In the immediate aftermath, 40 million $ in aid
- However…”these results suggest an unmet need…” Neria et al, 2006

SERVICE PLANNING

Perception that

- PTSD is the focus
- Existing services cannot cope with a large disaster
- There is an urgent need to treat
- Outreach is key

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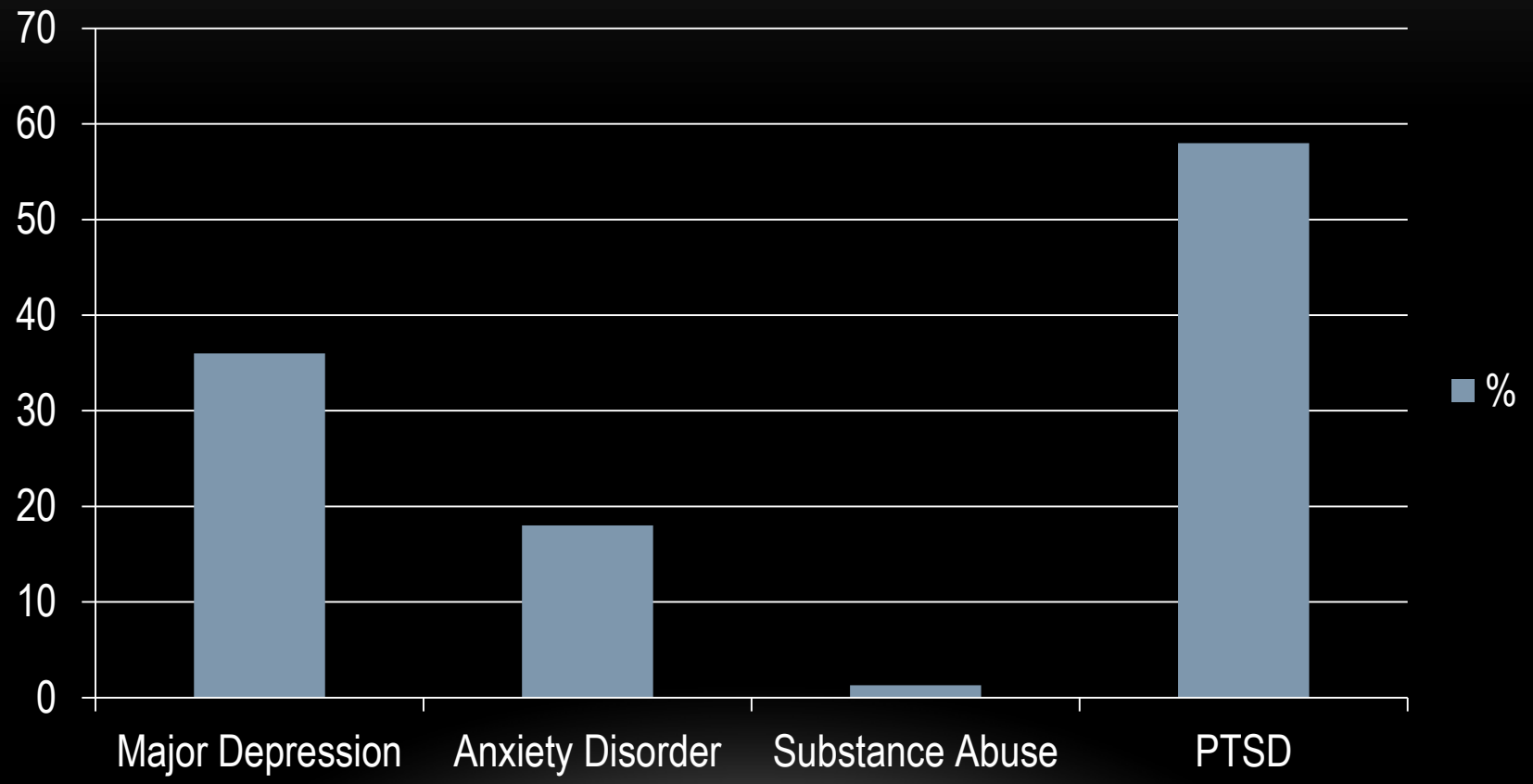
DISORDERS OTHER THAN PTSD



Shalev et al, 2011, 2012

SERVICE PLANNING

Perception that

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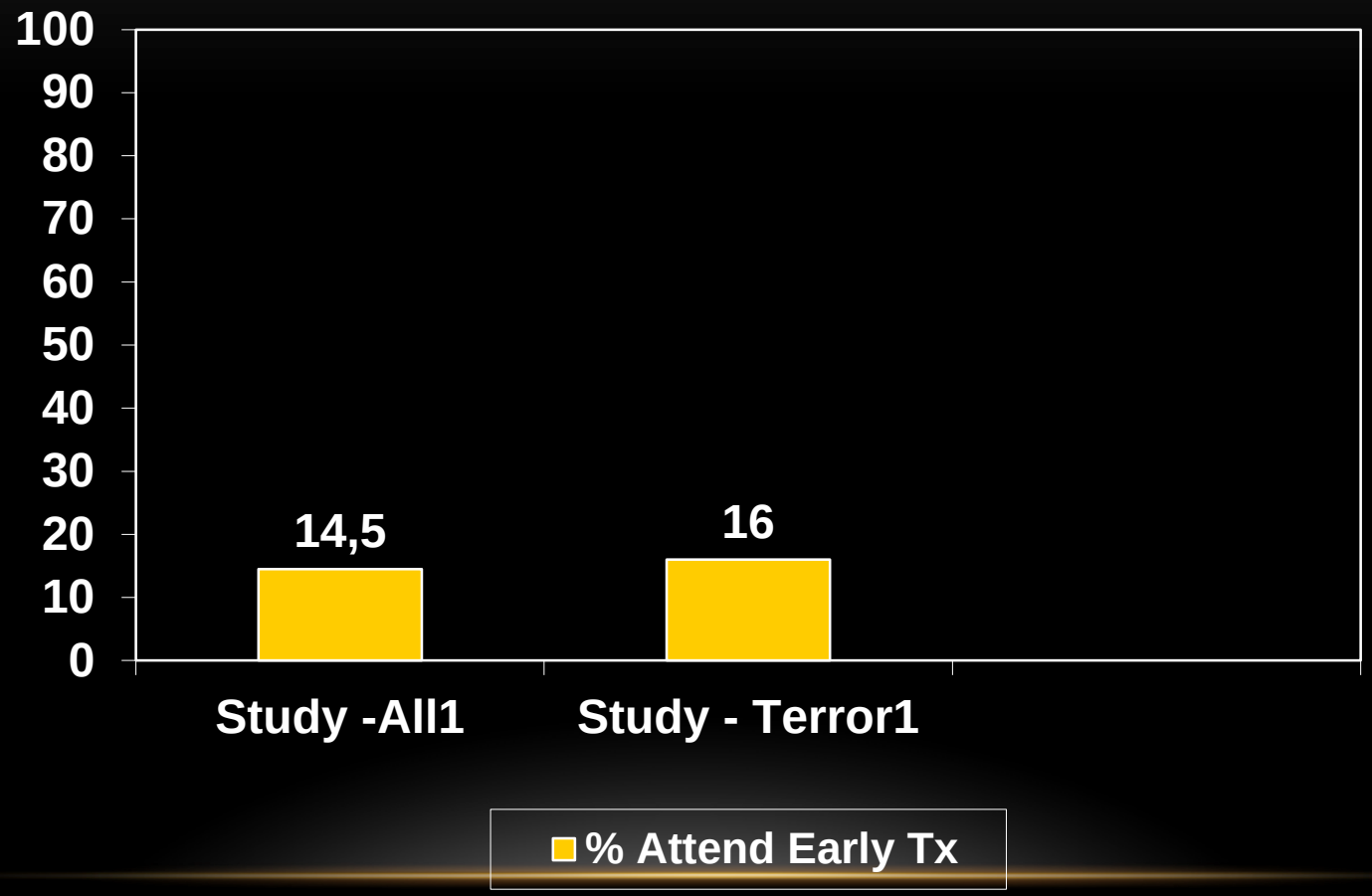
SERVICE REQUIREMENTS: UPTAKE OF EARLY TREATMENT

Of every 100 people who come to the Emergency Room following a traumatic event, how many actually need early treatment for PTSD, and come for that treatment?

SERVICE REQUIREMENTS: UPTAKE OF EARLY TREATMENT

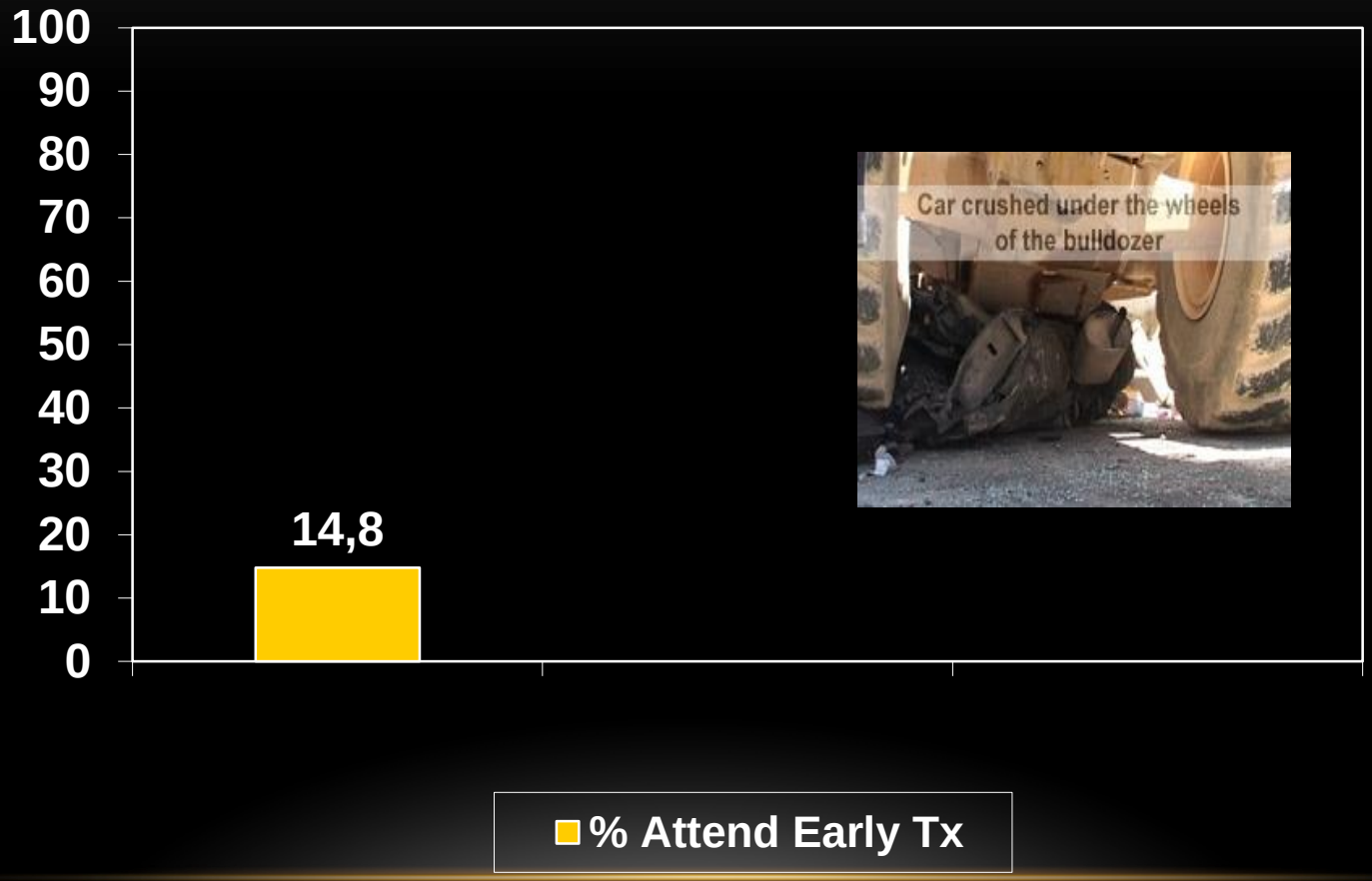


Shalev et al, 2011, 2012;

UPTAKE OF EARLY TREATMENT : REAL LIFE

- 2006
- National Insurance Institute – new policy
- Systematic outreach and early treatment
- Definitions

UPTAKE OF EARLY TREATMENT : REAL LIFE 2008



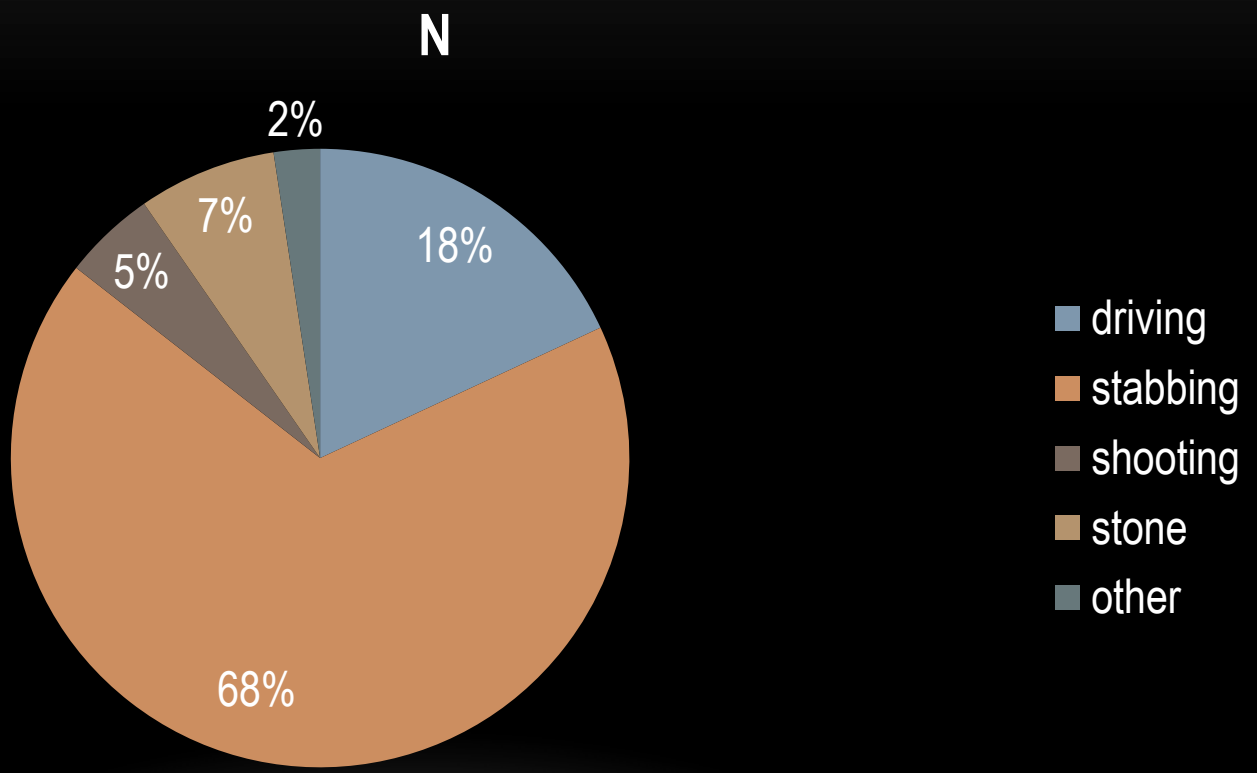
Freedman, unpublished data

ISRAEL: OCTOBER - DECEMBER 2015

- More than 2000 terrorist attacks
- 150 admissions to Hadassah Hospitals
- Admissions are ongoing
- Mass disaster vs. large numbers over time
- Implementation of National Insurance Law Trauma Program

- Systematic Outreach
- Telephone interview
- Clinical interview
- 12 weeks therapy

TYPES OF TERRORIST ATTACK

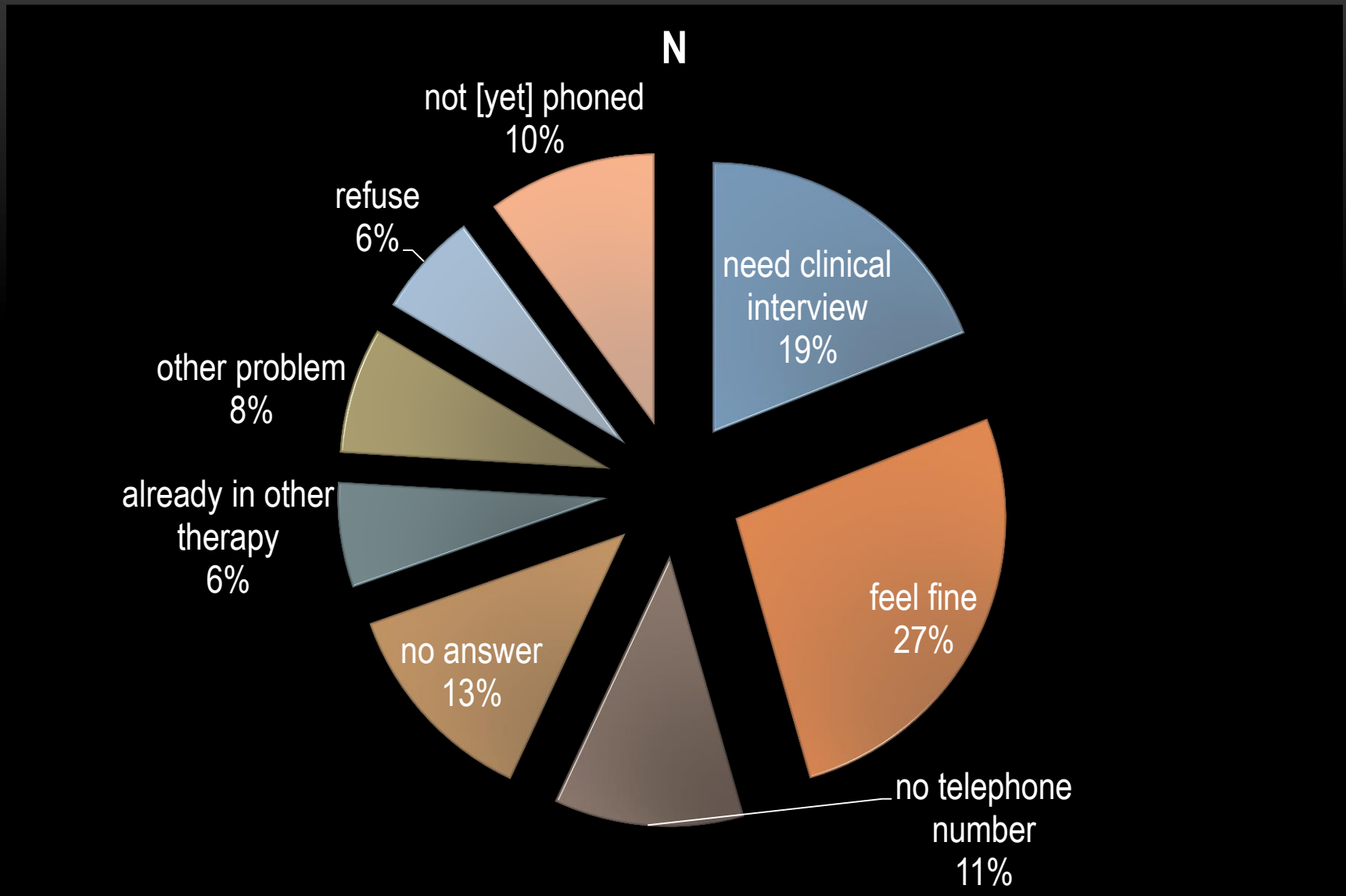


- 43 men (51.2%), 41 (48.8%) women
- Average age : 34

- ER only: 76%
- Hospitalization: 14%

INITIAL TELEPHONE CONTACT

- Approximately 2 weeks post trauma


N
not [yet] phoned
10%
refuse
6%
need clinical
interview
19%
other problem
8%
already in other
therapy
6%
feel fine
27%
no answer
13%
no telephone
number
11%

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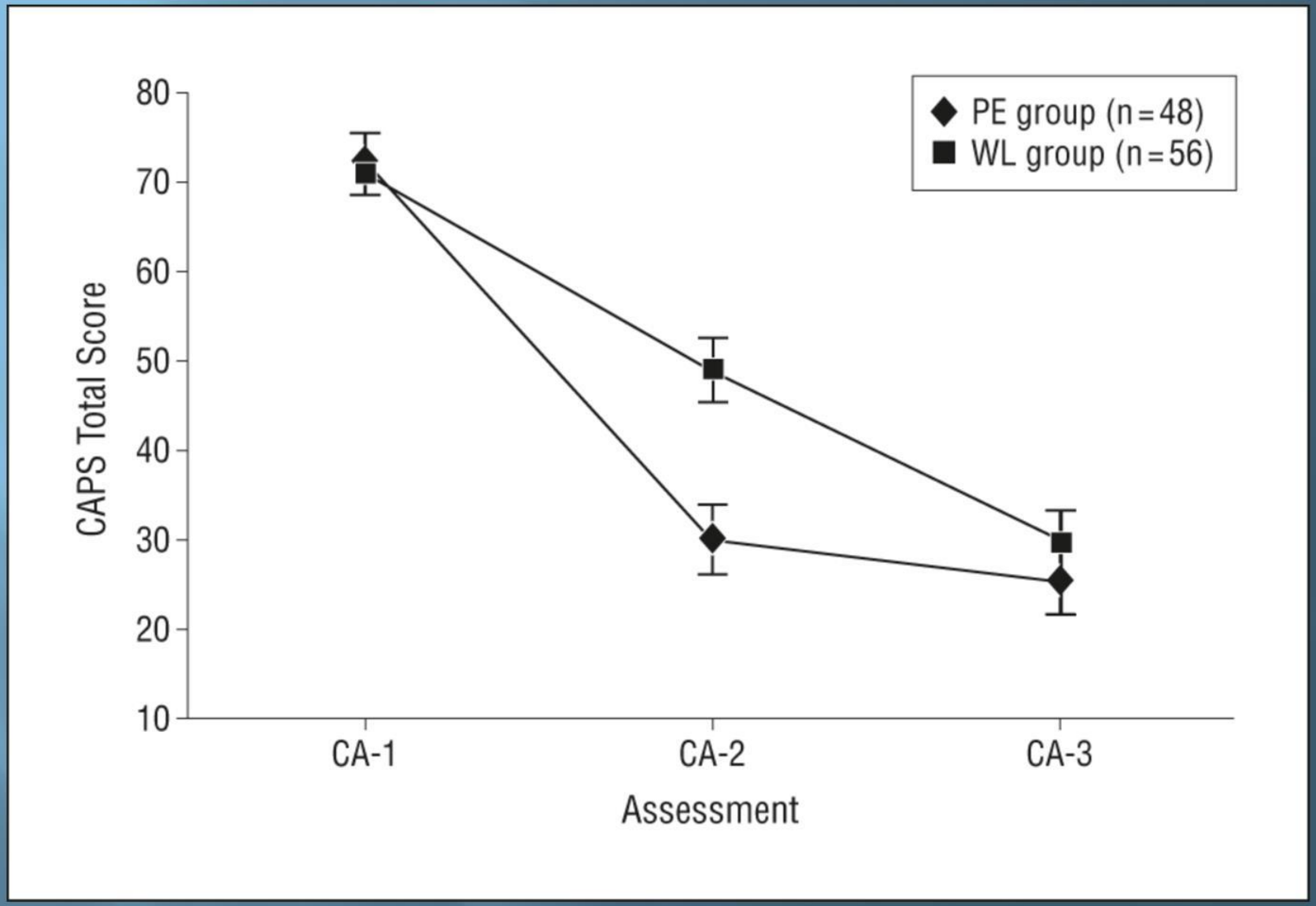
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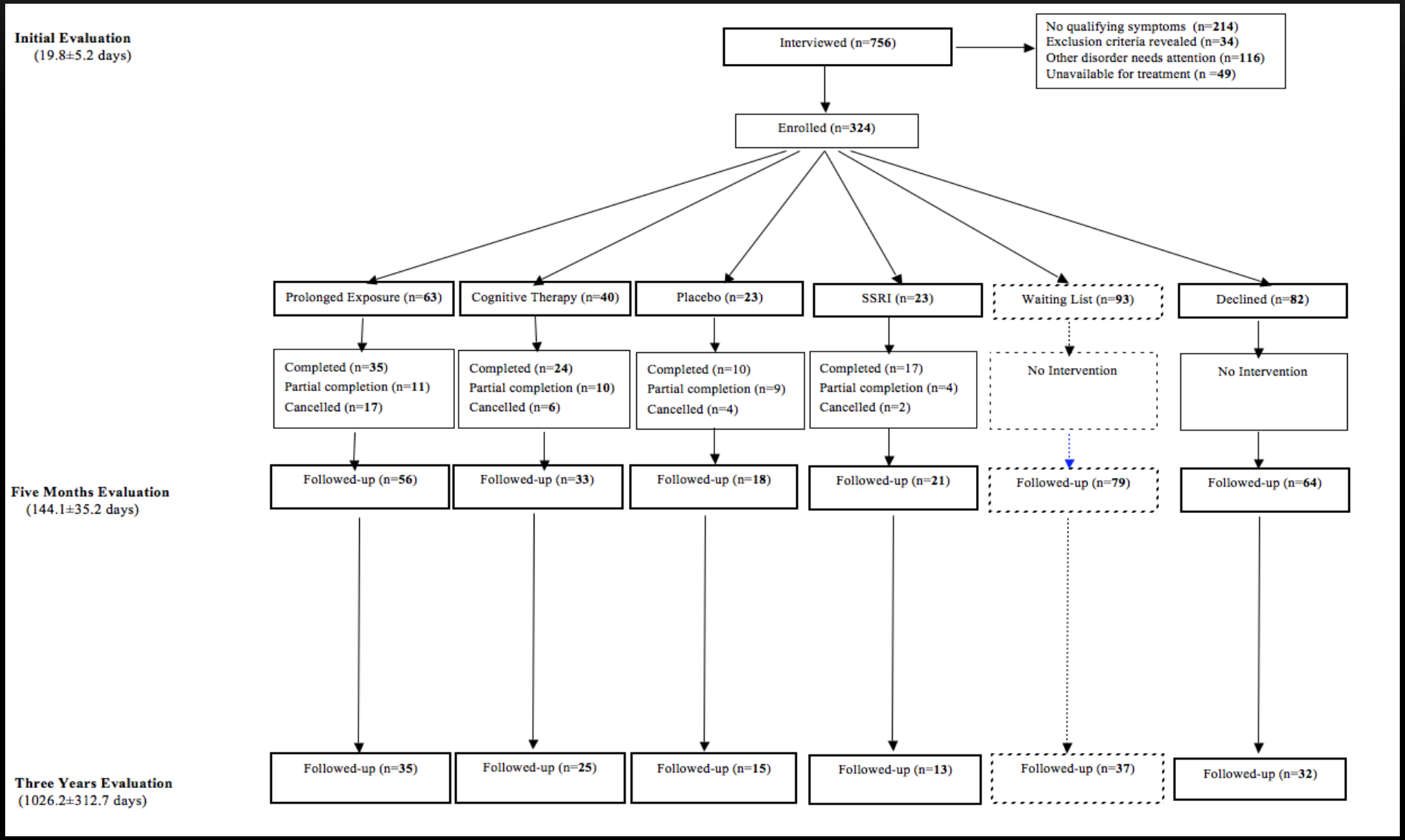
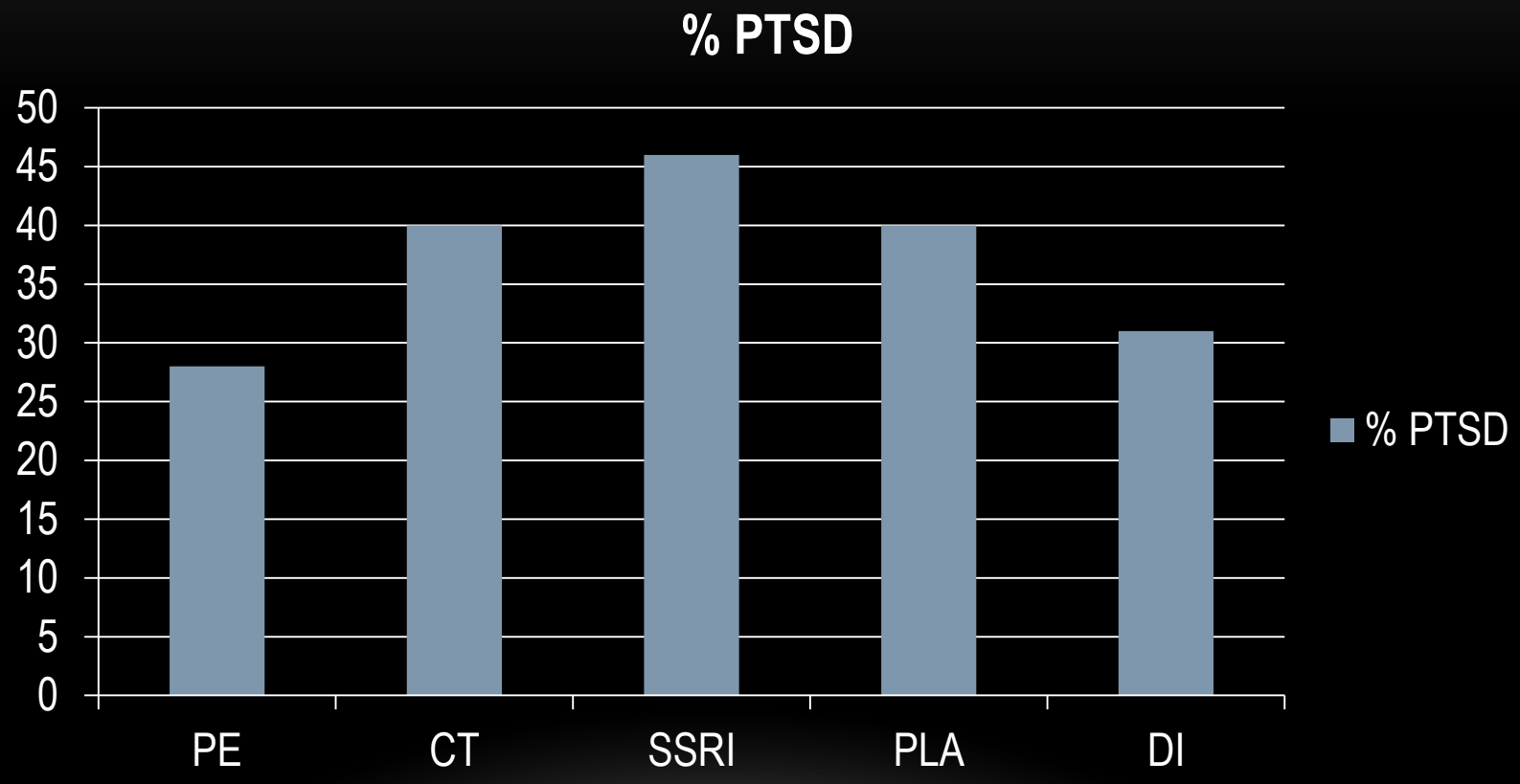
3 YEARS FOLLOW UP



3 YEARS FOLLOW UP



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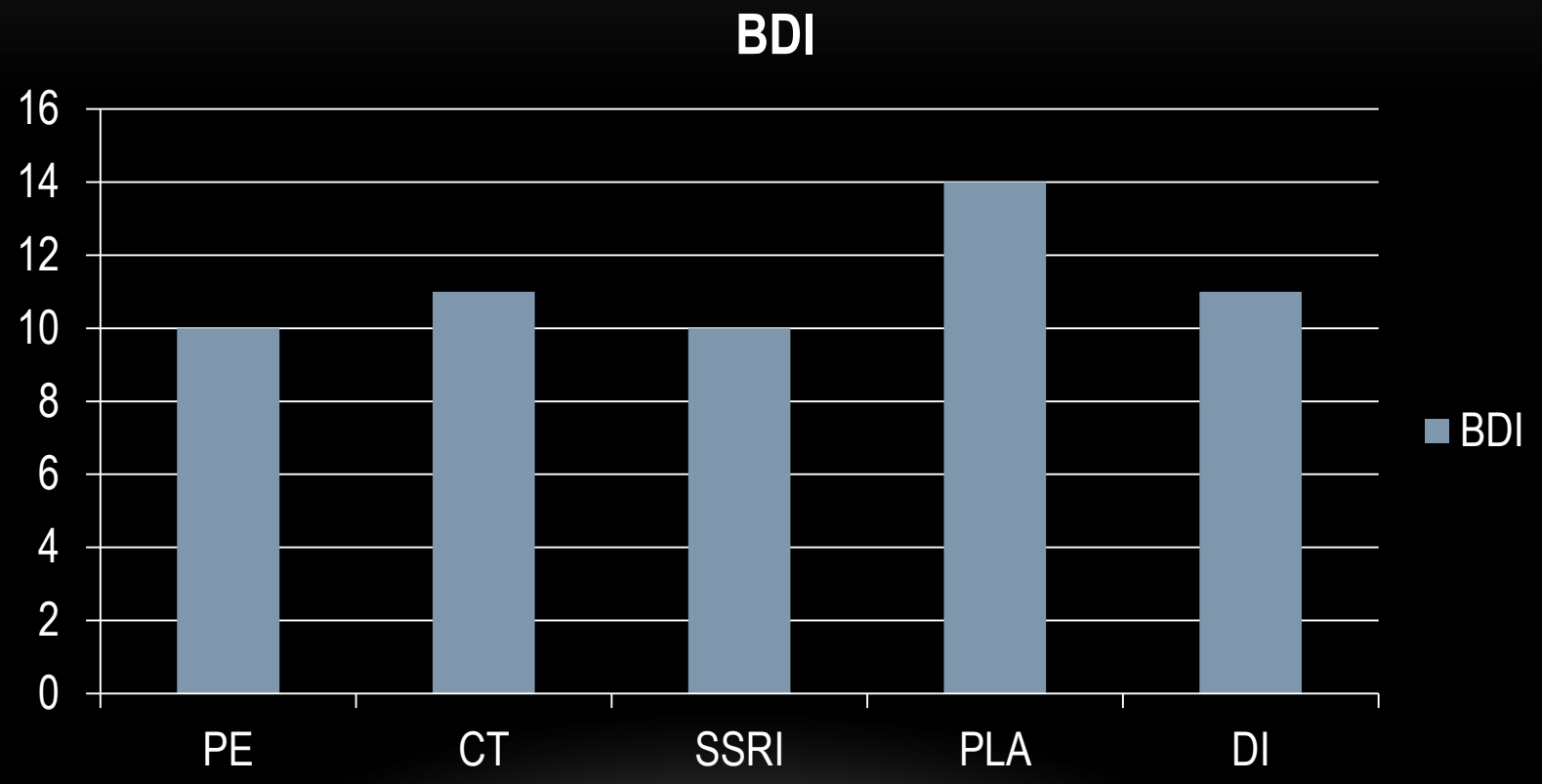
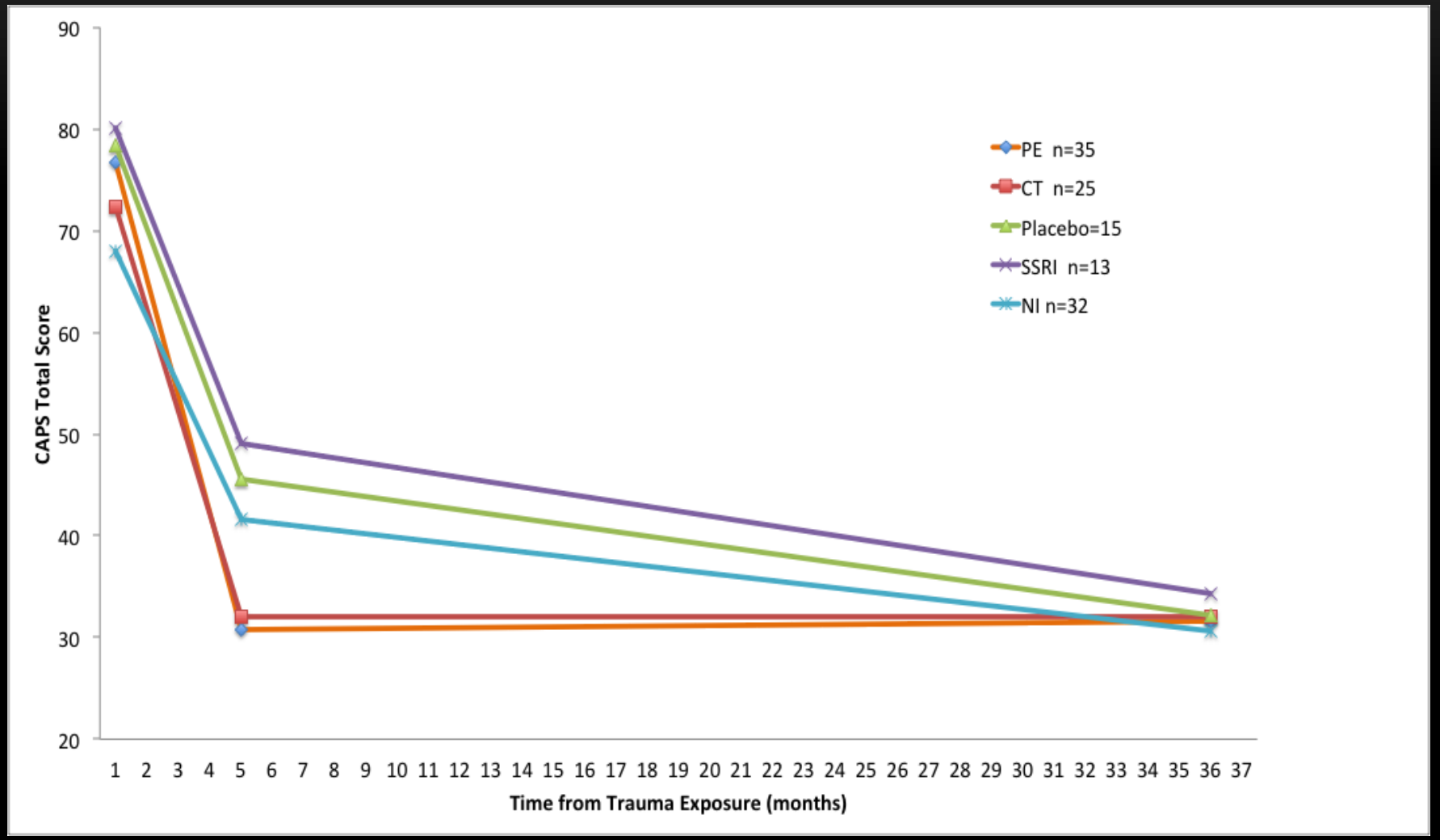
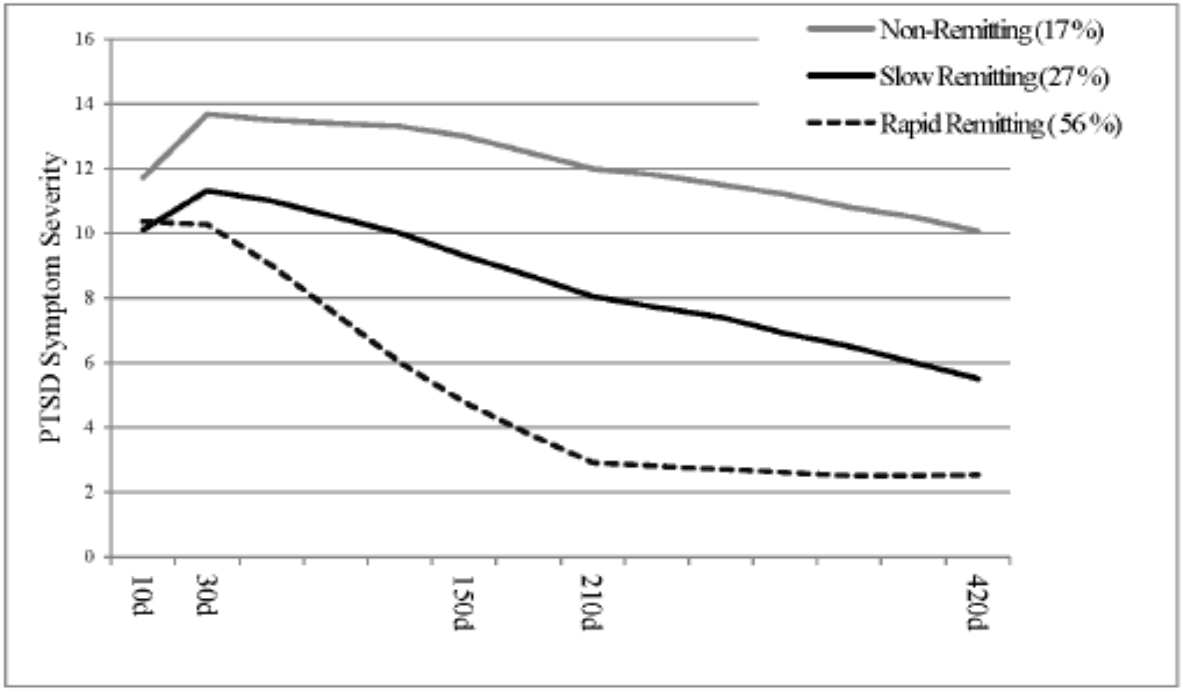


PTSD SYMPTOM TRAJECTORIES BY STUDY GROUPS



Shalev, Ankri, Israeli-Shalev, Adessky, Qian, Freedman, Long-term Outcome of Early Interventions to Prevent Post-traumatic Stress Disorder (PTSD) Journal of Clinical Psychiatry, in press



Note: x-axis indicates number of PTSD symptoms reported on the PSS-I. Y-axis represents time from 10 days to roughly 420 days Trajectories represent estimated marginal means.

Figure 1. Three Trajectory Model of PTSD Symptom Severity Recovery Trajectories (n = 957).

Galanter et al, 2013

- CBT help SLOW REIMITTING
- NON REMITTING – older, higher initial hyperarousal, ? Elevated avoidance

SERVICE PLANNING

Perception that

- PTSD is the focus
- Existing services cannot cope with a large disaster
- There is an urgent need to treat
- Outreach is key

SYSTEMATIC OUTREACH : EFFECTIVENESS

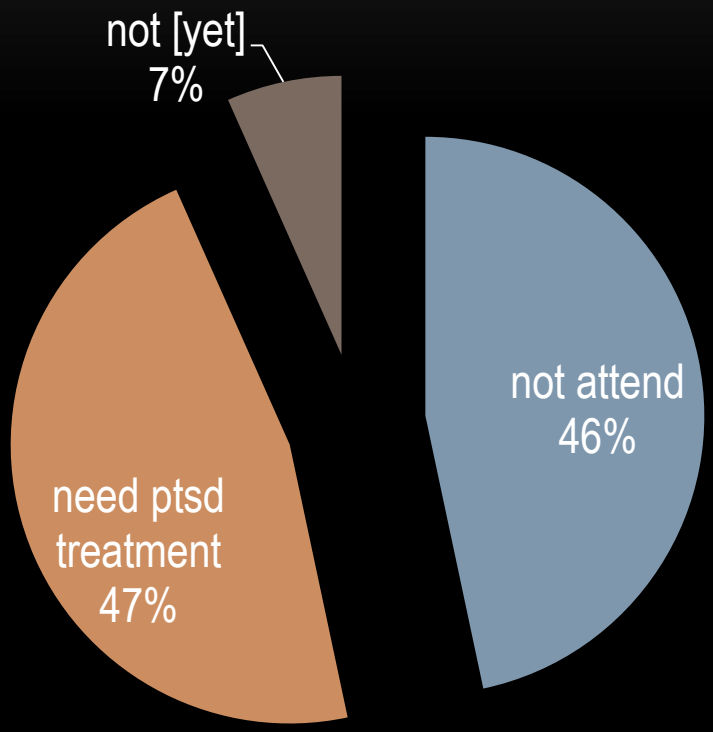
- Shalev et al (2011, 2012)

- Dedicated experienced highly trained team
- Ideal conditions – could work evenings, could back each other, no competing demands, off campus

Clinical Interview Attendance: 50%

Treatment Uptake: 74%

CLINICAL INTERVIEW



SERVICE PLANNING

Perception that

- PTSD is the focus
- Existing services cannot cope with a large disaster
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- Outreach is key

CONCLUSIONS

- What are we trying to achieve?

- Why is prevention so attractive?
  - Therapist wants to do something
  - Unique within psychiatry
  - Given population
  - Research re windows of opportunity + treatment resistant PTSD
  - Unique to large events?

WHERE DO WE GO FROM HERE?

- Perhaps no conclusions, more food for thought
- Research, research, research
- Very early response – not enough data
- Initial days – probably not PD, but….
- First weeks – no clear definition (time, population)
- ASD/PTSD – CBT
- But we are still unclear on best dose, timing, intensity, barriers to care

WHERE DO WE GO FROM HERE?

- Barriers to Care