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Implementing Dialectical Behaviour Therapy: Dissemination & Survival of DBT programmes

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Research Partners & collaborators

- Integral Business Support Ltd
  - Richard Hibbs & Victoria Colbatch-Clark
- Bangor University
  - Michaela Swales, Beverley Taylor & Prof Richard Hastings
- Knowledge Transfer Programme
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- US collaborator BTech LLC
- BRD collaborators Martin Bohus (Freiberg) Christian StigImayr (Berlin)

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The Implementation Problem

- University researchers are experts in developing and testing innovations to determine *efficacy*
- Health care professionals are experts in the delivery of care and are interested in *effectiveness*

Mind the gap

Transferring treatment innovation from university settings to healthcare settings presents a challenge

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Project outline

- Comparing rates of dissemination in UK, USA & Germany
- Retrospective evaluation of the dissemination & implementation of DBT in the UK
  - Survivability of DBT programmes
  - Retrospectively assessing factors that resulted in successful, partial & failed implementation

DBT

- Developed in USA in University of Washington, Seattle circa 1991 by Marsha Linehan
- Multiple RCTs demonstrating efficacy
- Training teams exist in USA, Germany, Holland, Norway, Switzerland, New Zealand & UK.
- British Isles DBT Training programme established in 1997
- Follow the US training model of training teams (minimum 4 staff) using the Intensive Training model

Comparing Rates of Dissemination

- To provide a mathematical description of the dissemination process designed to improve access to DBT in the UK
- To argue that a phenomenon of this kind can be modelled at the national level using quantitative techniques traditionally associated with commercial processes – the Product Life Cycle
- To demonstrate that the parameter estimates from this model are plausible, have predictive validity and are therefore useful for analysing implementation

Methodology for counting and analysis

- UK:
  - Data on the location of all DBT teams trained by British Isles DBT Training in the UK or abroad on open enrolment events is used as proxy for national implementation – we count only new programmes, not second teams
- US:
  - Behavioural Tech LLC assembled the same data in respect of DBT teams trained in the USA since 1993

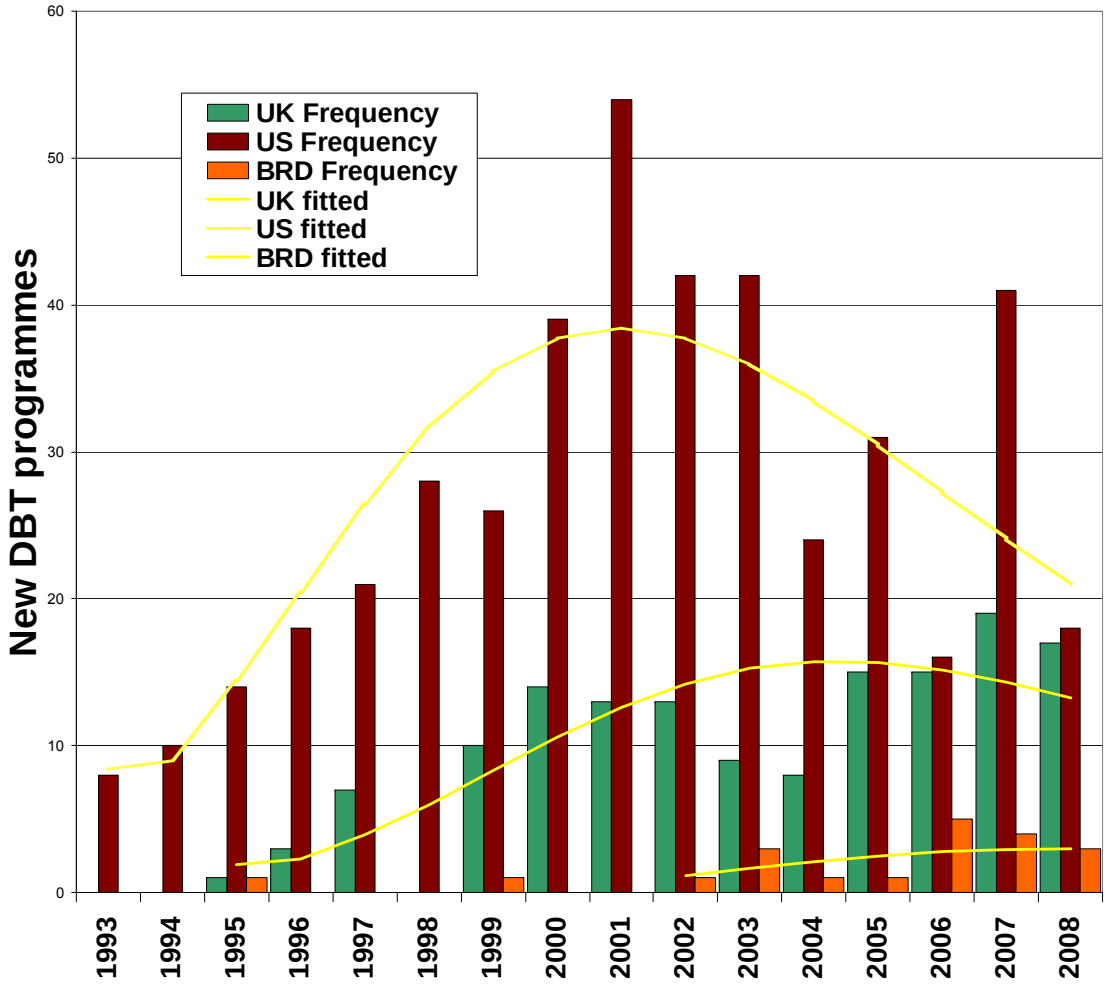
Methodology for counting and analysis

- Germany (BRD):
  - Trains individuals on a modular basis making counting data teamwise by location more challenging
  - For German data we analysed according to national definitions of completing training (2 individuals one completed up to and including Kompakt III and one up to Kompakt II in the same location) and by a proxy for DBT Intensive Training (2 individuals having completed up to and including Kompakt III in the same location)

The Gompertz model

- Having established there is no statistical difference between the UK/US empirical distributions, we fitted a common analytic curve – Gompertz and logistic curves are the two most commonly used ‘new product diffusion’ models (Tseng, 2008)
- The Gompertz curve is an asymmetric ‘epidemic contagion model’ - also crops up a special case of the Bass product diffusion model, survival model etc
- Require at least 6 datapoints for accurate prediction (Tseng 2008), preferably including the peak

Fitted Gompertz curves (all datapoints)



Parameters of the Gompertz Model

- Gompertz curves are defined by only 3 parameters:
  - α - the 'market saturation' point (i.e. total number of locations for DBT programmes across the UK)
  - β - when the asymmetric 'peak' occurs (i.e. year in which training programme needs to be at maximum capacity)
  - γ - the rate at which the market becomes saturated (i.e. the 'shelf-life' for national DBT Intensive training, and/or the number of years needed to improve access to DBT)

Comparative International Parameters

Parameter	Estimate	In favour	Against
β – 'peak' year for DBT Intensive at new locations	UK : 7 yrs after biDBT started	a) US : 8 yrs after BTech (BTTG) started b) BRD : 7 yrs after	a) multi-modal? b) we expected a later peak
γ – speed of diffusion of DBT to new locations	UK : 23 yrs to get to 90% access	a) US : 21 yrs b) BRD : 25 yrs (21 y †) c) the literature (Fixsen et al.) says 20 yrs	a) US < UK ? b) US < BRD ? Differences not significant p>0.6
α - 'market saturation' point* for new locations	UK : 240 DBT programmes*	a) 60% of the way b) US : 530 (480 – 820) c) BRD : 42 (45 †)	a) US / UK < 5 b) 240 seems low c) 42 seems low

* programmes started at national 'DBT Intensive' events

† German method of counting (1 @ KII + 1 @ KIII)

Issues

- Rates of dissemination
- Development of new training models
- Patient access to programmes
- Training first step in dissemination
- Sustainability issues

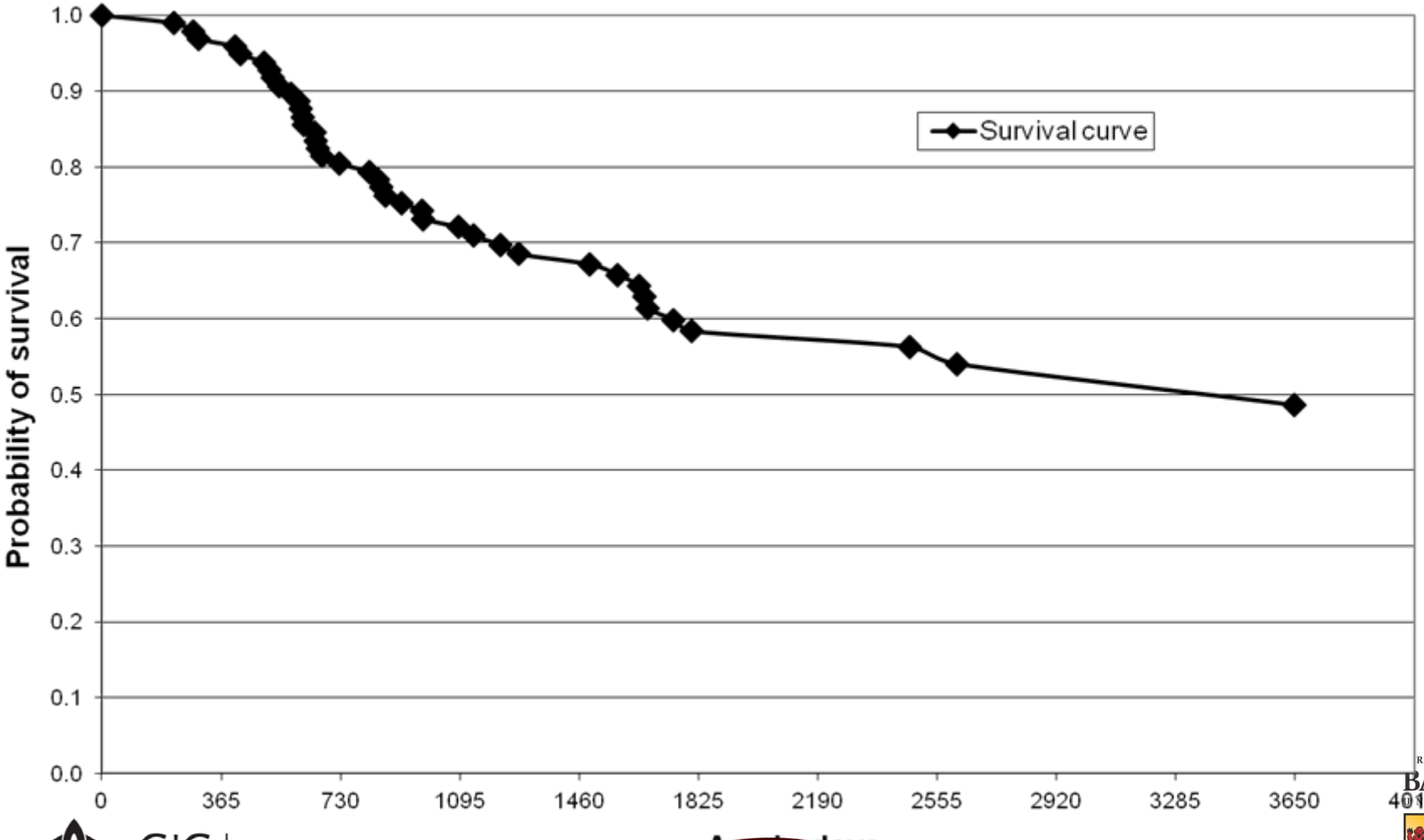
Retrospective evaluation

- 105 teams trained between 1994 and April 2007 on open enrollment Intensive Training
- All teams were contacted
- Telephone survey using elements of the DBT Programme Accreditation Questionnaire (Schmidt et al, 2008)

Survivability of DBT programmes

- All 105 programmes were successfully contacted
- Of these
  - 66 (62.8%) were ‘active’
  - 39 (37.1%) were ‘inactive
- For inactive programmes date of programme cessation established
- Survival curve calculation based on creating time lines for each programme, recalibrating to same start time, multiplying proportions of survivors up to and including failure time

Survival of DBT programmes from 1995 to 1 July 2009



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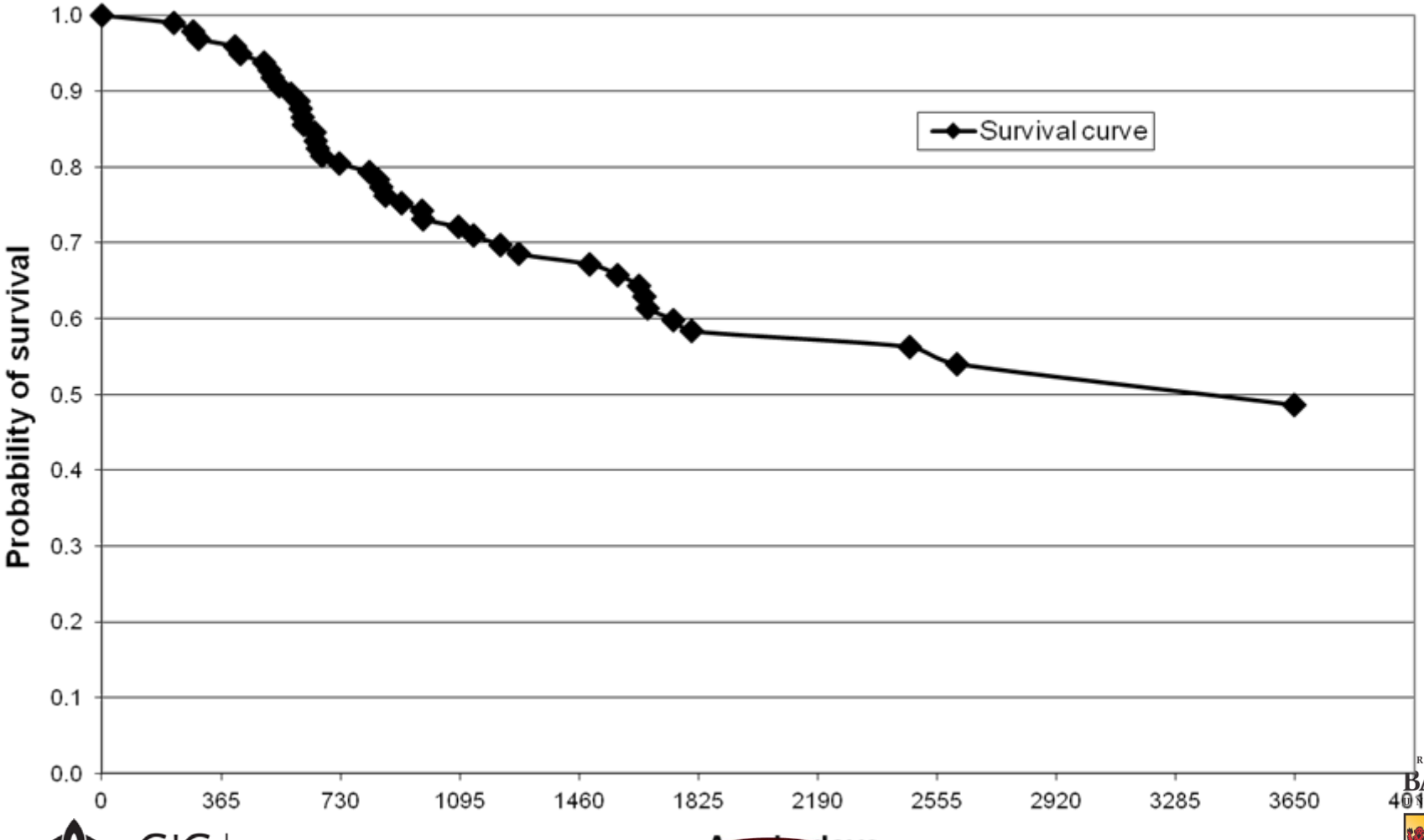
Survivability of DBT programmes

- 35 of the inactive programmes provided reasons for programmes ceasing to function:
  - Lack of organisational support (68% of cases)
  - High staff turnover (63% of cases)
  - Insufficient time dedicated to the treatment programme (53% of cases)

Survival of DBT programmes from 1995 to 1 July 2009



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Implementation

- 68 programmes provided more detailed implementation data (51 active, 17 inactive):
  - 49 (72%) were in the NHS, 15 (22%) non-NHS, 4 (6%) unknown
  - 36 (53%) were out-patient services, 29 (43%) were inpatient (including high security and prison settings) and 3 (4%) ran programmes across inpatient and outpatient settings
  - Of active programmes 57% of programmes were fully implemented
  - Generalisation modalities were the least likely to be implemented

Content analysis: Hindering factors

- 61% of comments related to absence of organisational support
  - Insufficient planning for implementation
  - Insufficient protected time
  - Absence of management buy-in
  - Multiple staff roles & competing priorities
  - Insufficient resources
- 20.3% of comments related to challenges of the model
  - Adapting to client setting
  - Generalisation modalities

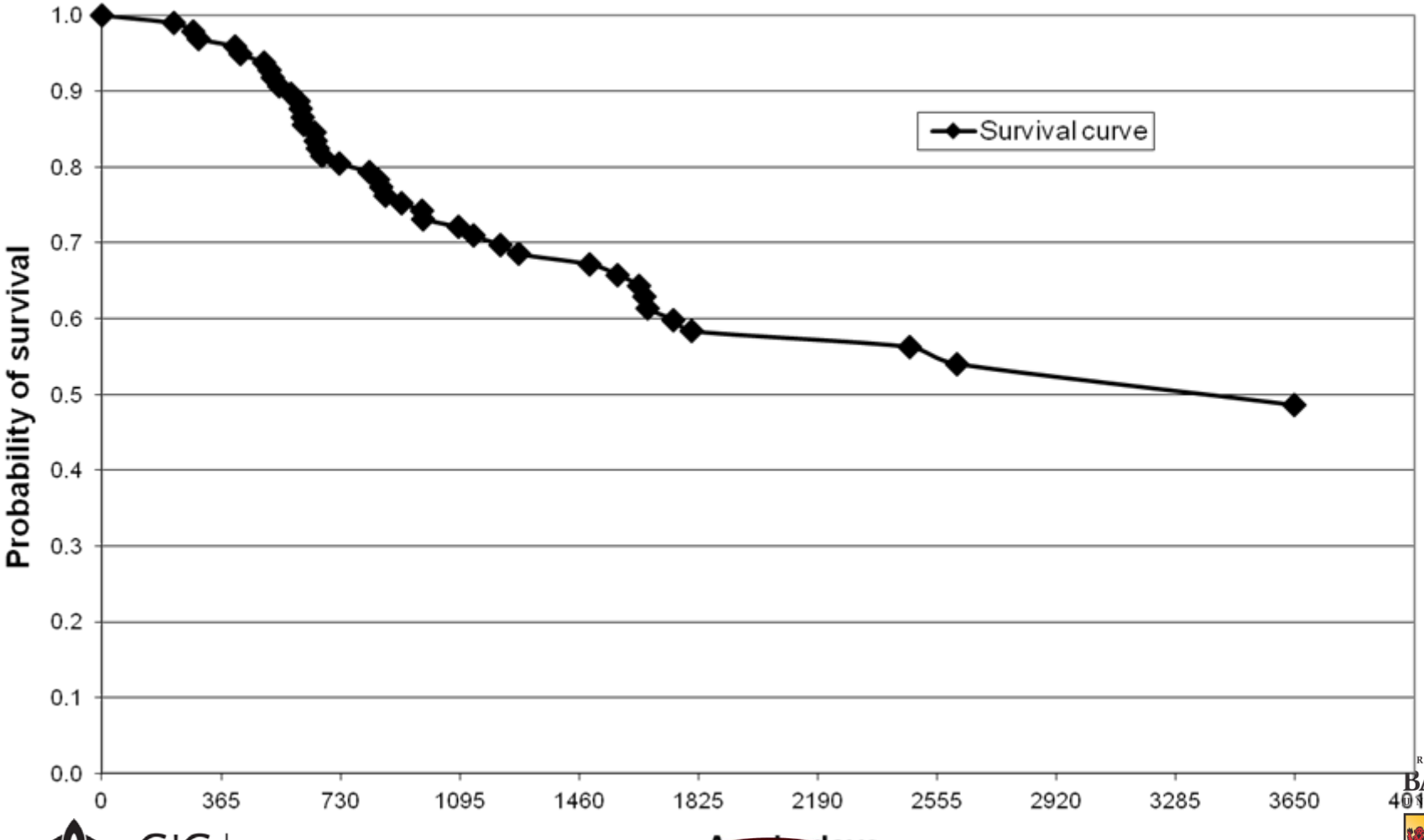
Content analysis: Facilitating factors

- 39% of comments referred to organisational support
- 34% further training and supervision
- 20% skilled clinicians / effective team leadership

Benefits of implementation

- 50% clinical benefit to clients particularly reductions in suicidal and self-harm behaviours
- 19% client engagement with treatment
- 14% benefit to practitioners both personally and professionally
- 11% appreciation of team support and cohesion

Survival of DBT programmes from 1995 to 1 July 2009



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Conclusions

- Interventions required to increase programme sustainability
- Shaping organisational support
  - Pre-treatment for organisations
- Treating programme interfering behaviours (staff turnover)
  - Reseeding the staff team