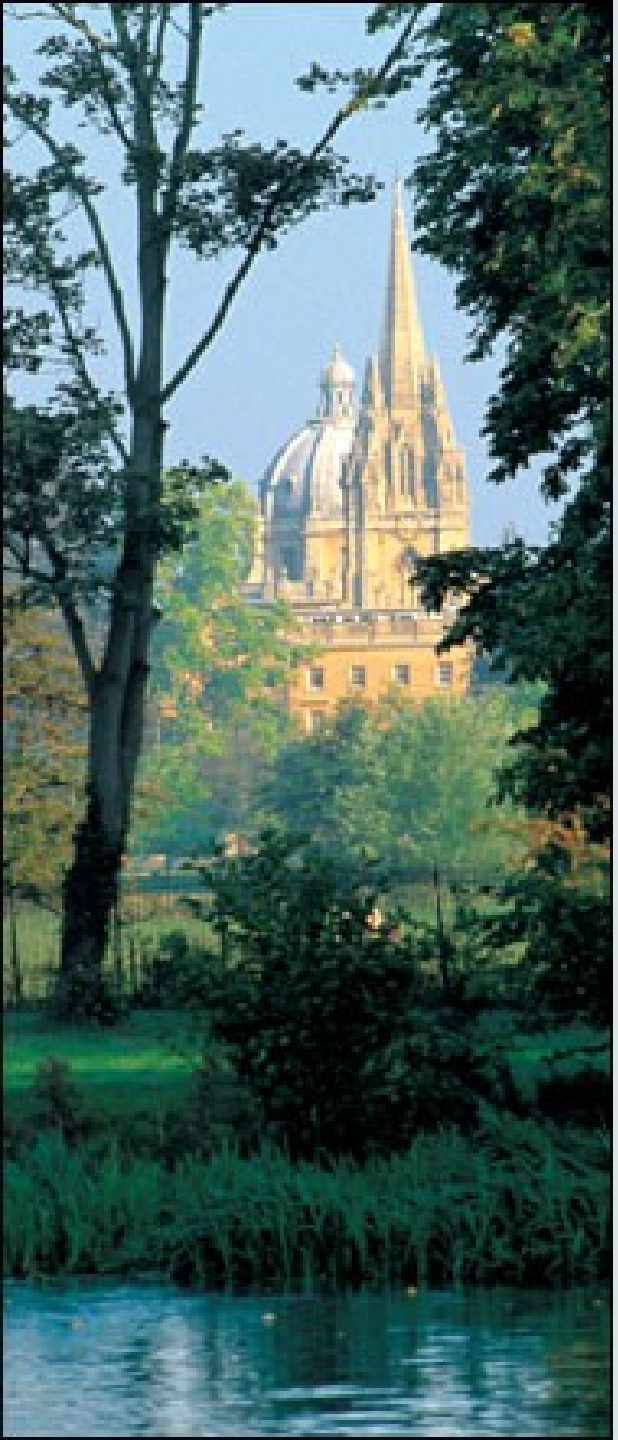


Community Outreach: What do we know about what works?

Tom Burns
University of Oxford

Long history to outreach

- Querido in Amsterdam in 1930s
- Worthing experiment in UK 1958
- Community psychiatric nurses established in 1953
- Passamanick's study of outreach to schizophrenia patients in US 1966
- Various initiatives in 1970s, Fenton in Canada, Falloon in UK etc
- Braun in 1981 listed 8 studies
  - Braun P, Kochansky G, Shapiro R, Greenberg S, Gudeman, JE et al. Overview: deinstitutionalization of psychiatric patients, a critical review of outcome studies. American Journal of Psychiatry 1981 June;138(6):736-49.

Modern phase of Outreach research

- Starts with Stein and Test's 1980 study of PACT
  - (Programme for Assertive Community Treatment)
  - Stein LI, Test MA. Alternative to mental hospital treatment. I. Conceptual model, treatment program, and clinical evaluation. Archives of General Psychiatry 1980 April;37(4):392-7.
- Replicated by Hoult in Sydney 1983
  - Hoult J, Reynolds I, Charbonneau-Powis M, Weekes P, Briggs J. Psychiatric hospital versus community treatment: the results of a randomised trial. Australian & New Zealand Journal of Psychiatry 1983 June;17(2):160-7.

Central principles of AO practice

- Self-contained team responsible for providing the full range of interventions.
- A single responsible medical officer who is an active member of the team.
- Treatment provided on a long-term basis with an emphasis on continuity of care.
- Majority of services delivered in community.
- Emphasis on maintaining contact with service users and building relationships.
- Care co-ordination provided by the assertive outreach team.
- Small caseload – no more than 12 service users per member of staff

UK Assertive Outreach Teams (ACT)

Adults aged between 18 and approximately 65 with the following:

2. A severe and persistent mental disorder (e.g. schizophrenia, major affective disorders) associated with a high level of disability.
3. A history of high use of inpatient or intensive home-based care (e.g. more than two admissions or more than 6 months' inpatient care in the past two years).
4. Difficulty in maintaining lasting and consenting contact with services.
5. Multiple, complex needs including a number of the following:

   - History of violence or persistent offending
   - Significant risk of persistent self-harm or neglect
   - Poor response to previous treatment
   - Dual diagnosis of substance misuse and serious mental illness
   - Detained under Mental Health Act (1983) on at least one occasion in the past two years
   - Unstable accommodation or homelessness

DH Department of Health

ACT research takes off

- Over 50 studies in Meuser's 1998 review
  - Of which >30 ACT like
  - Mueser KT, Bond GR, Drake RE, Resnick SG. Models of community care for severe mental illness: a review of research on case management. Schizophrenia Bulletin 1998;24(1):37-74.
- Over 90 studies in Catty 2002 review
  - Of which >60 ACT like
  - Catty J, Burns T, Knapp M, Watt H, Wright C, Henderson J et al. Home treatment for mental health problems: A systematic review.

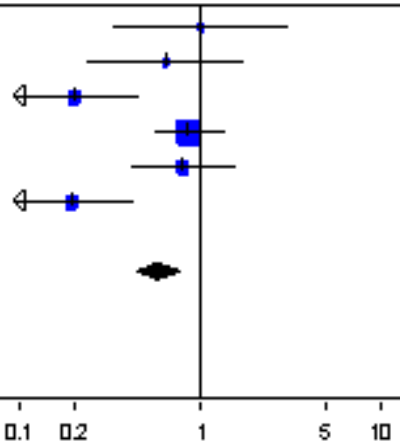
    Psychological Medicine 2002;32:383-401
-

ACT vs Standard Care
Hospital Admissions

Review: Assertive community treatment for people with severe mental disorders
Comparison: 01 ACT vs STANDARD CARE
Outcome: 03 Admitted to hospital during study

Study	Treatment	Control	Peto Odds Ratio 95% CI	Weight %	Peto Odds Ratio 95% CI
Audini-London	9 / 33	9 / 33		6.5	1.00 [0.34, 2.93]
Bond-Chicago1	32 / 45	34 / 43		8.2	0.66 [0.25, 1.72]
Bond-Indiana1	12 / 50	33 / 53		12.6	0.21 [0.10, 0.47]
Chandler-California	49 / 252	57 / 264		41.5	0.88 [0.57, 1.34]
Lehman-Baltimore	42 / 77	45 / 75		18.4	0.80 [0.42, 1.52]
Test-Wisconsin	15 / 75	26 / 47		12.8	0.21 [0.10, 0.45]
Total (95% CI)	159 / 532	204 / 515		100.0	0.59 [0.45, 0.78]

Test for heterogeneity chi-square=18.78 df=5 p=0.0021
Test for overall effect Z=-3.74 p=0.00



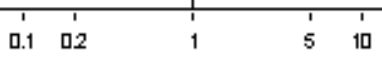
Marshall M, Lockwood A. Assertive Community Treatment for people with severe mental disorders (Cochrane Review). The Cochrane Library [3]. 25-2-1998.

Case Management vs Standard Care Hospital admissions

Review: Case management for people with severe mental disorders
Comparison: 01 CASE MANAGEMENT vs STANDARD CARE
Outcome: 03 Admitted to hospital during study

Study	Expt n/N	Control	Peto Odds Ratio 95% CI	Weight %	Peto Odds Ratio 95% CI
Curtis-New York	48 / 147	22 / 145		22.0	2.60 [1.52, 4.45]
Ford-London	17 / 39	14 / 38		7.7	1.32 [0.53, 3.26]
Franklin-Houston	62 / 213	38 / 204		31.4	1.77 [1.13, 2.78]
Macias-Utah	0 / 20	6 / 21		2.2	0.11 [0.02, 0.59]
Marshall-Oxford	17 / 40	10 / 40		7.5	2.17 [0.86, 5.44]
Tyrer-London	58 / 196	35 / 197		29.3	1.92 [1.21, 3.06]
Total (95% CI)	202 / 655	125 / 645		100.0	1.84 [1.43, 2.37]

Test for heterogeneity chi-square=12.88 df=5 p=0.0245
Test for overall effect Z=4.77 p=0.00



Marshall M, Gray A, Lockwood A, Green R.
Case management for severe mental disorders (Cochrane Review). The Cochrane Library [1]. 2001.

The intellectual puzzle

- ACT (AO) mandated by UK government
- Massive reorganisation initiated in 1999 National Service Framework
- >300 teams established nationally

The intellectual puzzle

No European study has replicated the reduced hospitalisation

Furore over UK700 study

- Demonstrated no reduction
- Poor study or poor model fidelity?
- Burns T, Creed F, Fahy T, Thompson S, Tyrer P, White I. Intensive versus standard case management for severe psychotic illness: a randomised trial. Lancet 1999;353:2185-9.

- MM – poor model fidelity
- TPB – high quality controls

Attempting to answer the question empirically:

Going beyond definitions

BMJ

Use of intensive case management to reduce time in hospital in people with severe mental illness: systematic review and meta-regression

Tom Burns, Jocelyn Catty, Michael Dash, Chris Roberts, Austin Lockwood and Max Marshall

BMJ 2007;335;336-; originally published online 13 Jul 2007; doi:10.1136/bmj.39251.599259.55

Inclusion criteria

- All randomised control trials (Cochrane Randomisation Category A or B) of intensive case management versus low intensity case management, standard care, or some combination of the two
- Intensive case management was defined as case management with a caseload of 20 or less
- Excluded if a majority of subjects were >65 yrs or not suffering from severe mental illness

How Meta-regression maximises data from the trials

- Skewed data included
- Data without SDs included where these can be imputed by statistical means
- Contacted trialists for missing information
- Used Independent Patient Data
- Split multi-centre trials

Model Fidelity

- Model fidelity assessed retrospectivelyfor all the study teams using a validated scale (IFACT)
- Assessment from published information and contact with researchers

Trials identified

- 29 included trials with 7817 participants
- 9 trials were multi-centre
  - 8 disaggregated into a further 23 eligible trials with fidelity data for each (total 52)
- Individual patient data obtained for 2084 participants in 5 trials
  - UK700 (n=708, 4 centres)
  - Rosenheck et al (n=873, 10 centres)
  - Drake et al (n=223, 7 centres)
  - Marshall et al (n=80, 1 centre)
  - McDonel et al (n=200, 2 centres)

Meta-regression used to test for impact on variation of:

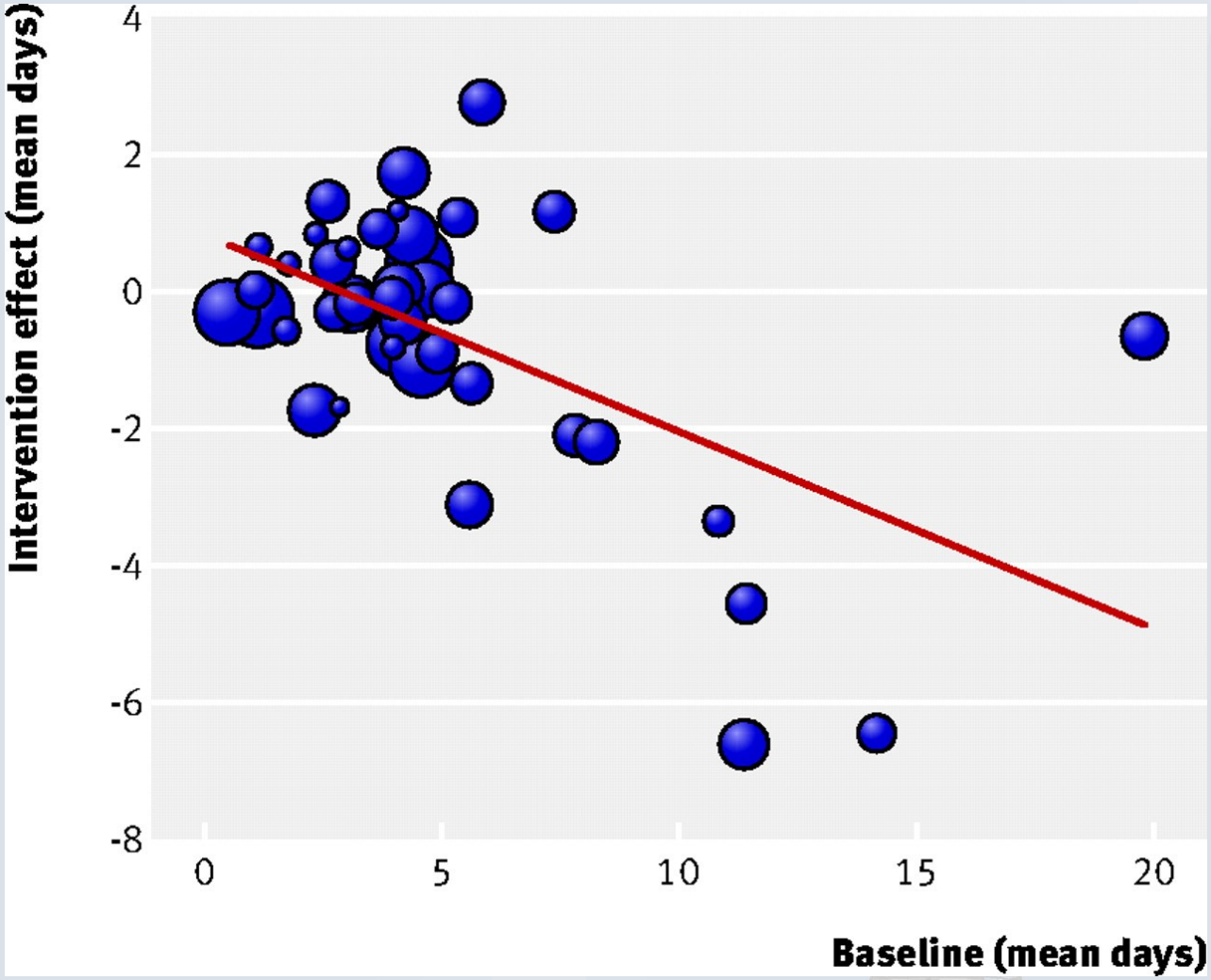
- Date of study
  - Earlier studies more reduction?
- Size of study
  - Smaller studies bigger effect size as evidence of publication bias
- Baseline hospitalisation rates
  - Higher rates permits greater reduction
- Model fidelity
  - Higher model fidelity greater reduction

Meta-regression used to test for impact on variation of:

- Date of study
  - Earlier studies more reduction? **No**
- Size of study
  - Smaller studies bigger effect size as evidence of publication bias **No**
- Baseline hospitalisation rates
  - Higher rates permits greater reduction **Yes**
- Model fidelity
  - Higher model fidelity greater reduction **Yes**

Impact of current bed usage

Metaregression of Intensive Case management studies
Baseline hospital use v mean days per month in hospital.
Negative treatment effect indicates reduction relative to control

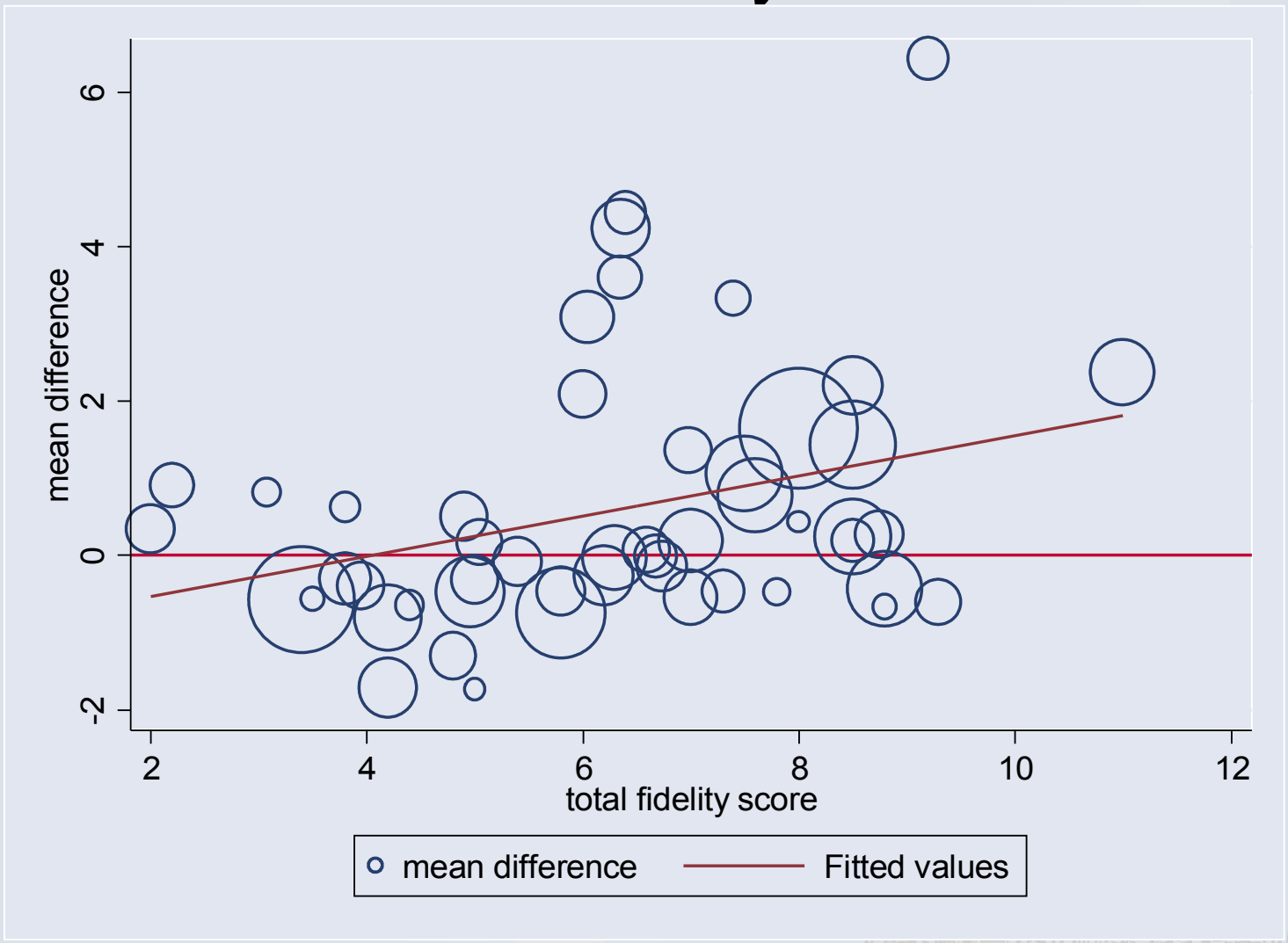


Burns, T. et al. BMJ 2007;335:336

Impact of model fidelity (ACT)

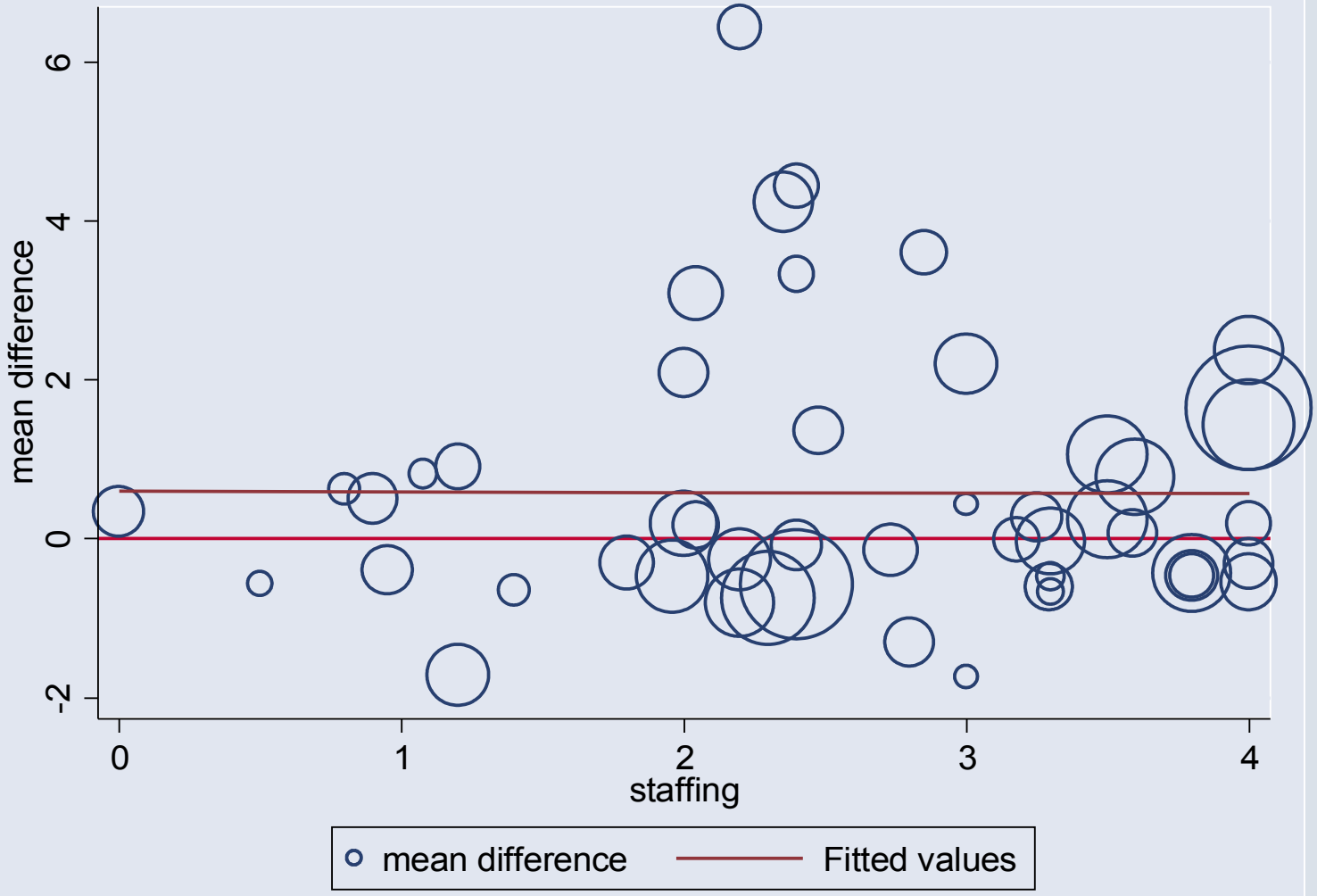
- Measured using IFACT
- Can obtain retrospectively
- 0 (low MF) -14(highMF) rating
- 3 subscales
  - organization
  - resources (staffing)
  - practice (treatments) not possible retrospectively

Meta-regression of Fidelity v Reduction in IP days

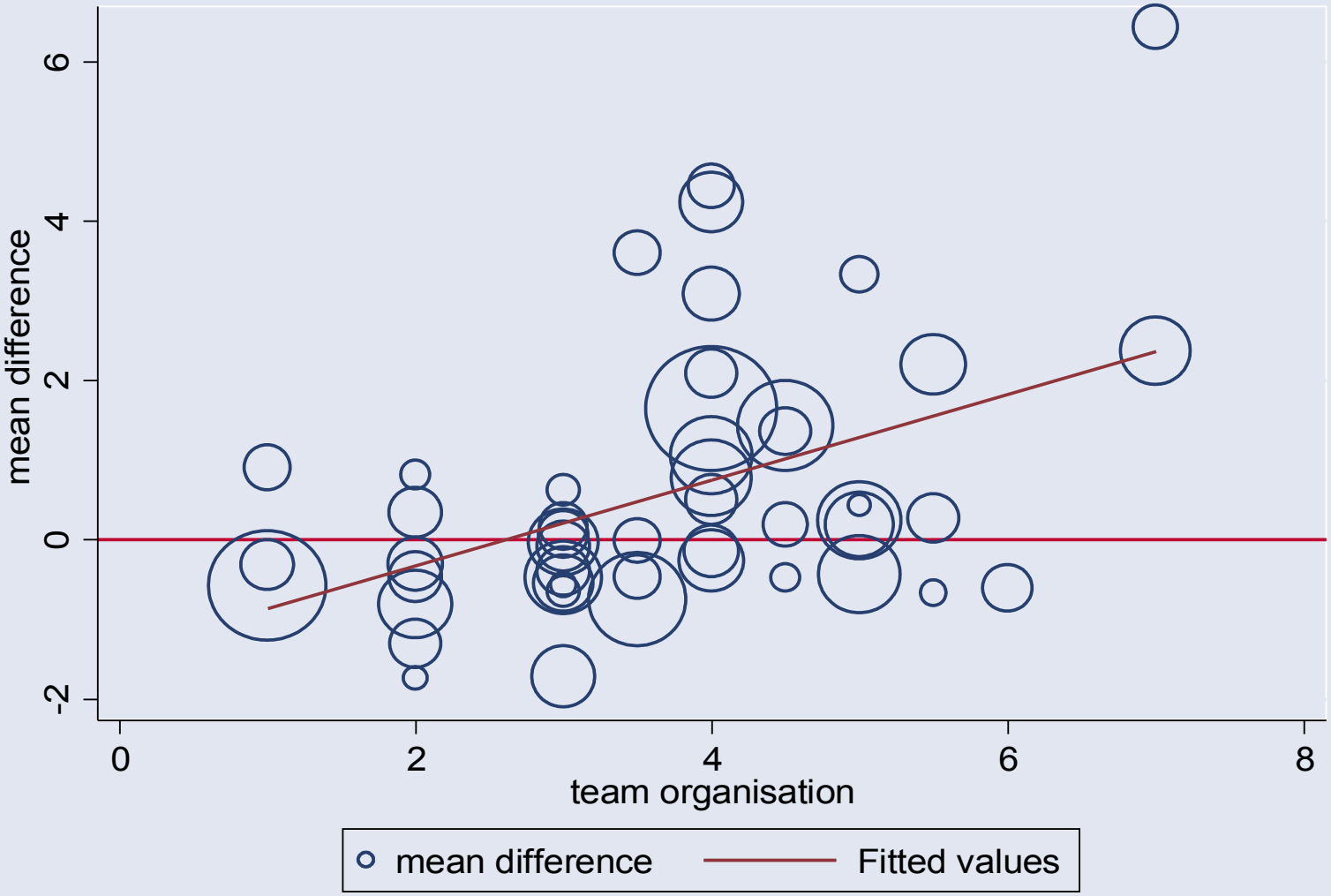


Separating the IFACT Domains

M-R of Team staffing v Reduction in IP days



M-R of Team organisation v Reduction in IP days



Conclusions

- Assertive outreach does not reduce bed occupancy if it is introduced to a service with:
- low baseline bed usage
- the core organisational features of ACT

Conclusions

- Assertive outreach does not reduce bed occupancy if it is introduced to a service with:
- low baseline bed usage
- the core organisational features of ACT

Can we identify those features?

What does work?

Testing for characteristics of home-based care using cluster analysis and regression

Soc Psychiatry Psychiatr Epidemiol (2004) 39: 789–796

DOI 10.1007/s00127-004-0818-5

ORIGINAL PAPER

Christine Wright · Jocelyn Catty · Hilary Watt · Tom Burns

A systematic review of home treatment services

Classification and sustainability

Home treatment for mental health problems: a systematic review

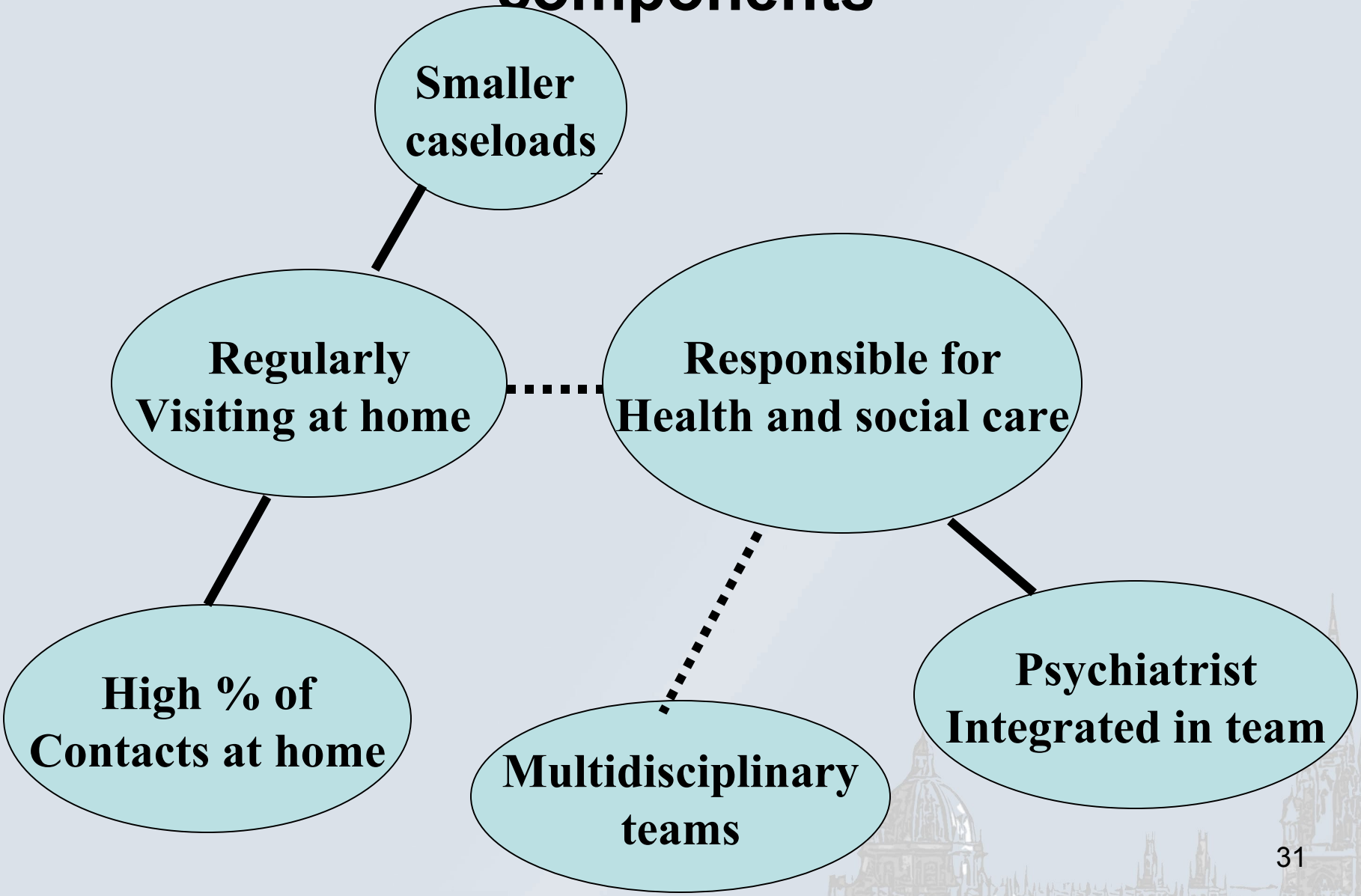
- Literature review with Cochrane methodology
- Broad definition of home treatment
- All authors followed up for service components

Identifying practice differences

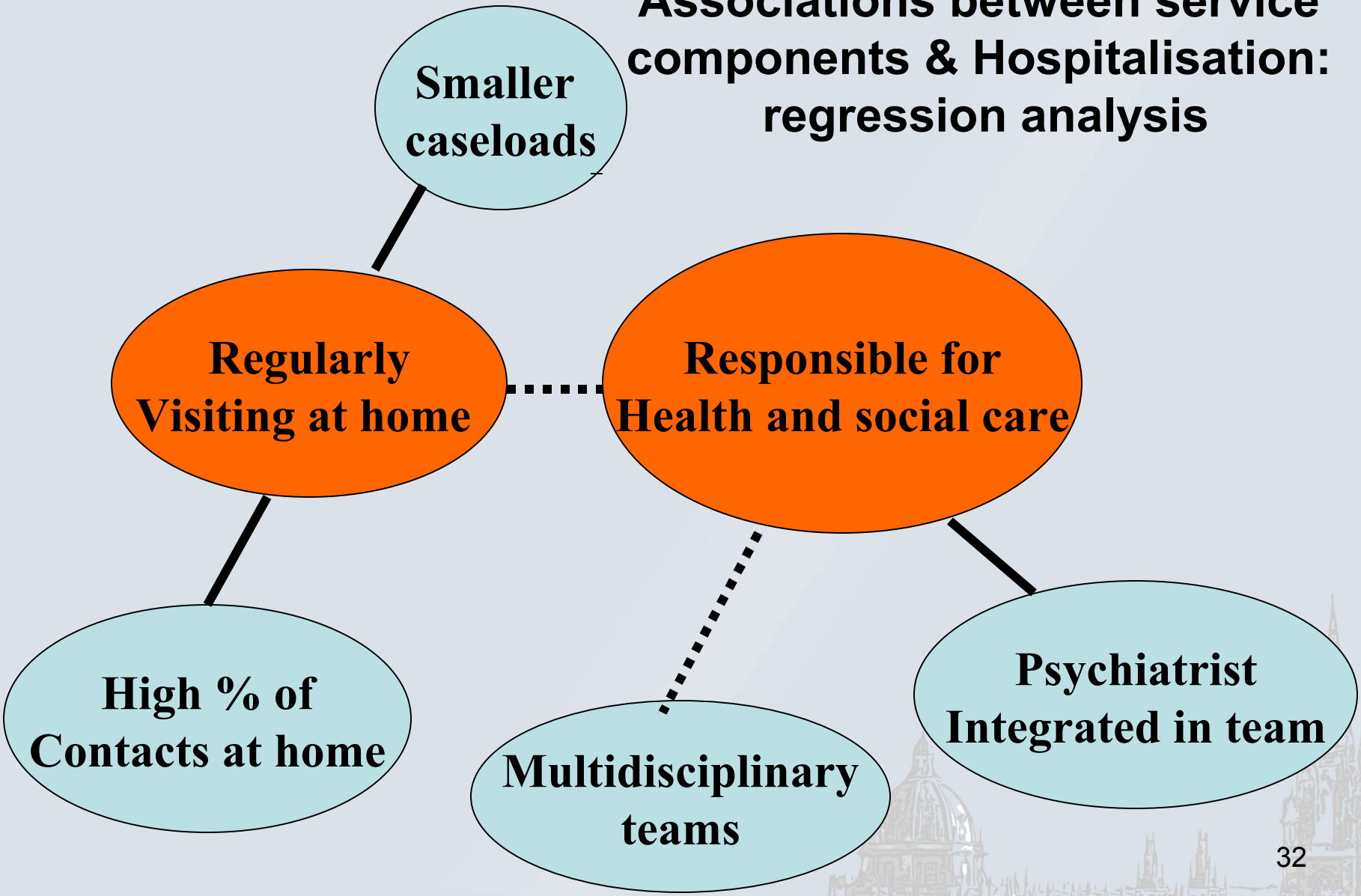
- 3 stage Delphi process to agree ‘essential’ components
- Develop service characteristics questionnaire
- Obtain information from researchers
- Describe service configurations
- Regress components against hospital reduction outcome

*Wright C, Catty J, Watt H, **Burns T** (2004) A systematic review of home treatment services. Classification and sustainability. Social Psychiatry and Psychiatric Epidemiology 39:789-796.*

Associations between common service components



Associations between service components & Hospitalisation: regression analysis



What community outreach needs

- Multidisciplinary team work
- Realistic caseloads
- Outreach and flexibility
- Integrated Health and Social care
  - A tolerant, positive and friendly approach
- Integrated, involved doctors
- A realistic focus on medication

What community outreach does not need

- Tiny caseloads (e.g. <1:10)
- 24 in-house rotas
- Shift working
- ‘Whole-team management’
- A wide range of specialised disciplines

Have we learnt anything else?

- Superficial interpretation of research costs society in real terms
  - Disruption and discontinuity for patients and staff
  - Cost ineffective use of resources

- Follow up of UK ACT teams demonstrates no reduction in inpatient care nationally
  - Glover G, Arts G, Babu KS. Crisis resolution/home treatment teams and psychiatric admission rates in England. Br J Psychiatry 2006 November;189:441-5

Something else I have learnt

- The Dodo Bird society

Treatment as usual studies

- The Dodo Bird society:
  - 'Dedicated to making Treatment as Usual studies history'

- Burns T, Priebe S. Mental health care systems and their characteristics: a proposal. Acta Psychiatrica Scandinavica 1996 December;94(6):381-5.

Proposed that journals should require adequate descriptions of control services in community psychiatry trials before publishing them

Mille Grazie