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Data supplement

Appendix 1
Avoiding 'perverse incentives' and 'gaming'

Payment by results attempts to match funding to the 'amount of care' provided – the proxy for this in acute trusts being the number of procedures carried out. There seem to be implicit assumptions that there will be a correct procedure for each condition, that the number of patients requiring each procedure will be finite and that the average costs of care procedures will be fairly consistent. Under those circumstances there will be a match between payment and results. However, if the business model is flexible so that a team can choose to alter those parameters, a number of unintended secondary consequences can arise which are commonly referred to as 'perverse incentives' (financial pressures that tend to produce unwanted effects). A number of examples from differing funding models illustrate the need for caution.

Setting funding against 'case-mix' groupings

Case-mix funding systems have used both groupings of procedures and diagnoses as a 'currency' in the past, but payment by results currently uses only procedures. A mechanism that funds 'X hip replacements at £Y each' will work safely so long as the clinical criteria for hip replacement are well defined and adhered to, the procedures themselves are standard and can be reliably costed, and variations in quality (such as postoperative complications) can be easily monitored. However, in our domain (using cognitive–behavioural therapy (CBT) as an example) we must take into account that a course of treatment can be variable in length and intensity, used in simple or complex cases and carried out by staff of various professions, with varying degrees of competence. So if a commissioner were to try to improve CBT services by increasing funding in the same way as they might for hip replacements, then the effect could be to increase the number of inadequately short courses given to patients with complex problems by incompetent practitioners on high salaries, or to encourage staff to go on seeing the same patients for a very long time without significant benefit, and so on. The latter seems to have happened in the USA for many years when health insurance payments were not adequately managed. Furthermore, individual outcomes will be affected in mental healthcare by uncontrolled external factors such as life events, as well as by the type of therapeutic effect that can be proven in research trials. The strength of effect of such factors may not be equally distributed between geographical areas, since adverse life situations are more common in socially deprived areas – where there is both a higher prevalence of disorders and maintaining factors. Therefore, varying funding to match prevalence alone would not in itself be expected to lead to equity of 'results'.

Solution. To prevent such 'perverse incentives' attempts have been made to define very specific groups using data on both the condition of each patient and the intervention(s) used. At its most refined such a system would set a unique tariff for common groupings such as 'short term CBT for mild to moderate depression, anxiety, obsessive–compulsive and eating disorders' or 'acute hospital care for paranoid and schizophreniform psychoses'. These care groupings represent the end-point of attempts to define 'iso-resource groupings' for mental health (Carthew et al*, 2003), which was reached in the last round of development work commissioned by the Department of Health, but then effectively shelved. Such an approach is not wrong in its assumption that tariff-based funding in mental health requires simultaneous use of more than one care parameter at a time. However, it seems better in the present environment to introduce a simpler funding mechanism for the time being and to develop more sophisticated secondary measures to forestall unwanted consequences.*

Setting funding against 'care packages'

It is not always clear what is meant by care packages, but I assume here that patients would be assessed and then allocated to one or more of a finite selection of protocols, which would have to be sufficiently circumscribed to be costed separately. The risks of this approach may be inferred – the system could only work reliably if the criteria used for allocation can be rigorously and unequivocally applied (automatically). Moreover, it would only be worth the effort if the costs of the various packages are different enough in value either financially or to the service user.

There are similarities between this approach and the position reached by the National Health Service Information Authority in its case-mix research work, in that it relies upon the identification of relatively homogeneous types of mental healthcare work that can be defined in terms of the problems being addressed (and their severity), and the interventions performed (and their intensity and duration).

Setting funding according to activity levels

In hospital care

If funding were to be varied upon the basis of bed use (for instance, the number of occupied bed days in a previous year), what would prevent a trust from relaxing its admission and discharge policies, running wards at 100% occupancy (the most financially cost-effective level) and claiming the need for increased bed allocation?

Solution. Overt targets must be set each year both for the number of occupied bed days within each subspecialty and for ward occupancy percentages. Commissioners should be able to examine statistics for both parameters and set controls, including penalties if necessary. To set tariffs in this way is not an entire solution, but will begin an iterative process. Predictable issues within the trust would be informed by comparing intended admission criteria and the actual severity and risk measures on admission, statistics on delayed discharges, readmission rates, analysis of diagnostic mix, serious incident reports, staff sickness and other measures.

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Community and out-patient care

Funding mechanisms reacting solely to numbers of 'contact hours' or 'days in care' would not rigorously match resources to population needs. Potential unwanted effects of such a mechanism might include the lowering or raising of thresholds for acceptance into care and for discharge.

Solution. As for hospital care, there is no option in a care system with so much inherent variability but for commissioners to ensure that there is adequate monitoring within the trust of parameters such as threshold criteria and clinical outcomes. This requires a new approach and cultural change which will take time to implement. The measures used will be different in various services and for each profession. There is a difference between mental health hospital care and many acute specialties, in that thresholds for admission are effectively set by resourcing levels and service models, rather than by unstoppable clinical necessity. Similar principles apply to the funding of community care. Therefore implementing a 'cost per care day' model would not introduce new risks but merely make the present mechanisms more visible. To go beyond that will require the use of new quality measures, which should be specific to care settings. These need not be collected in every case or at each contact, and if necessary can be used in a census or cross-sectional study.

All settings

There is a risk that if definitions of care settings are not sufficiently consistent across the country, as for instance between competing providers in the same locality, it may be possible for a specialist provider to adjust their caseload by including less costly service users.

Solutions. So far as possible, the care setting definitions should follow undisputed boundaries such as in-patient or community care, or the age of the service user. Where that is not possible the best solution is to actively monitor multi-domain criteria for both entry and exit using a standard, validated scale.

Appendix 2
Service types used in the Durham mapping classification

Adults of working age

Access and crisis services

- Community mental health team
- Homeless mental health service
- Emergency clinics/walk-in clinic
- Psychiatric liaison service
- Mental health crisis intervention service
- Crisis accommodation
- Approved social workers not employed in adult mental illness services
- Emergency duty team

Clinical services

- Psychiatric out-patient care
- Acute in-patient unit/ward
- NHS day care facility
- Perinatal mental illness service
- Mother and baby facility
- Local psychiatric intensive care unit
- Personality disorder service
- Independent hospital – mental health establishment

Secure services

- Local low secure service – high-dependency unit
- Local medium secure service
- High secure psychiatric hospital
- Regional medium secure unit

Continuing care services

- Residential rehabilitation unit
- Rehabilitation or continuing care team
- NHS 24-hour nurse staffed care
- Registered care home (with nursing) for adults (18–65 years)

Services for offenders with mental illness

- Criminal justice liaison and diversion service
- Community forensic services
- Prison psychiatric in-reach service

Therapy services

- Psychological therapies and counselling services (statutory sector)
- Specialist psychotherapy service
- Voluntary/private psychological therapy and counselling service

Home care services

- Home/community support service

Day services

- Day centres/resource centre
- Drop-in
- Employment scheme
- Education and leisure opportunity

Support services

- Self-help and mutual aid group
- Staff-facilitated support group
- Service user group/forum
- Befriending and volunteering scheme
- Advocacy service
- Advice and information service

Carers' services

- Carers support service
- Short-term breaks/respite care service
- Self-help, mutual aid group for carers
- Carers support group
- Carer support worker

Accommodation services

- Registered care home (18–65 years)
- Hostel
- Staffed group home
- Unstaffed group home
- Supported housing
- Adult/family placement scheme
- Board and lodging scheme

Other services
- Other community and/or hospital professional team/specialist

Primary care services
- Primary care mental health service
- Graduate primary care worker
- General practitioner counselling service

Service development
- Gateway worker
- Community development worker – Black and minority ethnic

Key services
- Crisis resolution team
- Assertive outreach team
- Early intervention in psychosis service
- Support time and recovery worker

Mental health promotion
- Mental health promotion initiative

Older persons

Care for people in general hospital
- Psychiatric consultation liaison service

Primary and community care
- Primary care mental health service
- Graduate primary care workers
- General practitioners with special interest in mental illness in older adults

Intermediate care
- Intermediate care

Primary and community care – homecare
- Home care service
- Assistive technology and telecare

Primary and community care – day services
- Day hospitals/treatment services
- Specialist day/resource centre
- Day care at home

Primary and community care – specialist housing
- Sheltered housing schemes
- Extra care housing

Primary and community care – residential
- Care home (with nursing)
- Care home

Other specialist mental health services
- In-patient care
- Psychological therapy services for older people
- Memory assessment service
- Integrated community mental health team

Special groups
- Service for young person with dementia
- Service for older people with learning disabilities and mental health problems
- Service for older people with mental health problems in prisons

Emergency services
- Accident and emergency mental health liaison
- Rapid response service

Support services
- Self-help and mutual aid group (for older people)
- Older persons group
- Befriending and volunteering scheme
- Advocacy service
- Advice and information service
- Lunch clubs

Carers services
- Carers support service
- Carers support group
- Sitting service

Other
- Care and repair schemes

Child and adolescent mental health services

Generic multidisciplinary teams
These are usually known as locality or generic teams providing for a wide range of types of problem within a defined geographical area. Only generic teams with staff from more than one profession should be listed here.

Generic single disciplinary teams
These teams are staffed by only one clinical profession. They provide for a wide range of problems within a defined geographical area. You should only enter psychology and psychiatry teams where these staff do not act as members of integrated multidisciplinary teams.

Targeted teams
These teams provide for children with particular problems or requiring particular types of therapeutic intervention.

Dedicated staff
Dedicated staff posted in teams that are not specialist mental health teams. These are specialist child and adolescent mental health professionals working in teams or settings that have wider functions.

Tier 4 teams
Tier 4 is for those patients whose treatment or care requires more than can be provided in weekly or twice-weekly sessions. This may take the form of whole- or half-day activities, in-patient care, or outreach support (such as emergency care or after-care) as an alternative to in-patient care. Day, in-patient and intensive fostering services will always fall into this category, as will intensive home visiting and/or frequent and unscheduled attendance at day care to avert the need for residential care. Some may provide more than one of these types of care.