Much more than outcomes

*It records agency activity as well as outcomes, is suitable for drugs or alcohol, can be customised, and outputs to the national drug monitoring database – it's **RESULT**, a new treatment monitoring system developed in Leeds.*

by **Duncan Raistrick**
& **Gillian Tober**

More than most, FINDINGS readers will be familiar with questionnaires and interview schedules designed to measure treatment outcomes such as the Maudsley Addiction Profile[1] and the Addiction Severity Index.[2] RESULT is different. First, though suitable for research projects,[3] it was designed for the routine evaluation of treatment outcomes in everyday practice, including audit. Second, it captures agency activity as well as outcomes and can be expanded into a complete data collection and client administration system.

Duncan Raistrick is Clinical Director and Gillian Tober Deputy Clinical Director at the Leeds Addiction Unit, 19 Springfield Mount, Leeds LS2 9NG, phone 0113 295 1306, e-mail duncan@lau.org.uk.

In other words, RESULT helps manage a service and improve its use of resources, not just (though it will do this too) document its outcomes. The same features enable reporting which matches the requirements of drug action teams, funders and the national drug monitoring database.

Flexible – but from a solid base

The ideal for a research tool is uniformity across different services and circumstances, and RESULT can be used that way. But primarily it aims to meet service needs, and these differ. Even the same service needs different data for different purposes. A flexible, modular design enables services to pick and mix to match their requirements as well as to engage in more in-depth customisation. For example, the outcome monitoring components allow users to select measures which best suit their agency or purpose.

However, flexibility is not the same as floppiness in scientific terms. RESULT draws on a variety of source material developed and validated by researchers. A strong evidence base for its key components gives the system its robustness and adaptability. RESULT is also grounded in a *theory* of addiction, in this case one which sees addiction as learnt behaviour.[4] Without such grounding, developers might be tempted to base a system on the current interests of politicians, the public, or commissioners, but these vacillate, are sometimes parochial, and commonly lack scientific support. Since despite adaptations, the underlying theoretical approach remains the same, a theory-based system also makes it possible to pool or compare data across agencies and treatment modalities.

Precisely because of its solid reference points, it is possible to add 'softer' variables to meet local or political interests without threatening the integrity of the system. For example, there is no scientifically acceptable method of determining a client's position in the popular 'stages of change' model. Nevertheless, if they wish, RESULT users can opt to incorporate one of the stages of change scales. Equally, they may wish to include 'problem' scores, for example, criminal activity or homelessness.

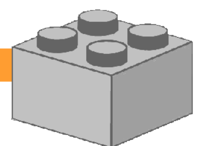
The flexible RESULT software can easily incorporate such data. It is written in the familiar Microsoft Access database program, a major benefit because agencies can develop their own modules to suit their purposes. Only basic IT competence is required to use the off-the-peg system but agencies with in-house IT expertise will get the most from the power of the underlying database.

Over the last 10 years RESULT has been refined and tested at the Leeds Addiction Unit.[5] The full version includes elements for screening referrals, comprehensive assessment, recording client contacts, and measuring outcomes. It also includes modules for administrative purposes such as writing prescriptions, recording professional development, and estimating service costs. All these will continue to be developed to meet new requirements of quality assurance reporting, drug action teams, and of the National Drug Treatment Monitoring Service. We have shown the full version to be manageable within a busy NHS addiction service, but a cut-down version has also been proved in a variety of Leeds agencies participating in the National Treatment Agency's Enhancing Treatment Outcomes project.

What RESULT measures

RESULT documents inputs and outcomes in areas traditionally seen as important to the evaluation of addiction treatment. *Substance dependence*, *psychological health* and *social satisfaction* were chosen as the key performance indicators. Their suitability arises partly from two special properties: *universal* applicability across services, clients and drugs; and *inde-*

Golden Bullets



Modular and customisable – two of RESULT's strengths

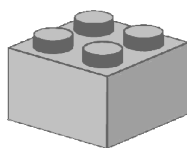
Essential practice points from this article

- RESULT is a computer program designed for the routine evaluation of treatment outcomes in everyday practice. Dependence, psychological health and social satisfaction are the key performance indicators.
- It captures agency activity as well as outcomes and can be expanded into a complete data collection and client administration system.
- RESULT can create reports which match the requirements of drug action teams, funders and the national drug monitoring database.
- A flexible, modular design enables services to pick and mix to match their requirements as well as to engage in more in-depth customisation.
- RESULT draws on validated measurement tools and is grounded in a theory of addiction as learnt behaviour.
- The program is freeware. Collaborators can submit developments for validation and incorporation in the software.

pendence – people can improve on one dimension but stay still or get worse on another.[6] Without such independence, it is difficult to establish whether outcomes in one domain change simply because of changes in the others. Independence also opens up the possibility of targeting treatments at particular outcome domains. RESULT generates an outcome profile which, as well as these key indicators, can be adapted to include measures which are not independent, such as criminal behaviour, quantity/frequency of drug use, deaths and so forth. There is no single or overriding indication of a 'good outcome' – it largely depends on the agency's objectives.

Demographic information is used mainly to profile caseloads. Demographic and *referral data* are also required for the national database and to record waiting times at agencies which offer appointments. Within an agency, the ability to link data on when someone is referred for an intervention to when they received it means waiting times for different services can be recorded. One complication is that the Department of Health recommends that clinics and patients arrange mutually convenient appointment times; a clinic may be able to offer one tomorrow, but the patient may opt to come later. RESULT can take this into account.

Information on *substance use* is collected at each client contact and can be used to monitor progress as well as to record outcomes. *Physical health* problems commonly accompany substance misuse. These should be recorded because it is important – at least for health-funded services – to undertake some simple health checks and to offer treatment and preventive care. Recording *agency activity* forms the basis of *cost* and *cost-effectiveness* calculations. It also provides data which helps monitor staff activity and informs their supervision.



Why 'RESULT'?

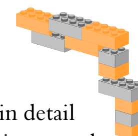
'RESULT' stands for *Routine Evaluation of the Substance Use Ladder of Treatments* – a reference to 'stepped care'. This approach is based on evidence which consistently shows how difficult it is to match a client in advance to a particular type or intensity of treatment. To avoid wasting resources, some agencies deliver what is referred to in the RESULT acronym as a *ladder* of treatments. The first step is the briefest and least costly intervention – such as handing over a self-help booklet ('bibliotherapy'); if this proves insufficient then a treatment on the next step of the ladder is offered, and so on.[17] Because RESULT enables services to document interventions and the consequent outcomes, it can be used to help decide when to move on to the next step and what that next step should be. However, while this is one potential use for the system, RESULT is equally suited to services which do not adopt this approach.

Which outcomes and why

Among the measures taken by RESULT, it is the outcome domains which required the greatest thought. RESULT's outcome measures were selected to meet the following criteria:

- compatibility with statutory requirements: RESULT can output to the national treatment monitoring database;
- universality: they are not constrained by substance or social group;
- validity and reliability demonstrated through standard scientific processes;
- sensitivity: capable of tracking clinically significant changes across the full range expected in the clients at a given agency;
- self-completion format for measuring key outcomes: this means therapists are not left to assess their own performance yet avoids the need for research staff;
- readability and neutral language: the wording has been subjected to a formal readability assessment and tested on patient groups from different cultural backgrounds;
- brevity: the self-completion items take about 10 minutes.

The next sections document how these criteria were satisfied in each of the major outcome areas.



Substance use

The initial assessment enquires in detail about a person's substance use history and current use – obviously relevant for a substance misuse service. Thereafter a 'snapshot' of current use is taken at every face-to-face contact. The data is compatible with the national drug treatment monitoring database but also includes some additional items:

- quantity used on heaviest use day;[7]
- weekly spend: gives some indication of the social impact of substance misuse on the user and their family and acts as a proxy for the amount of a drug being used;
- a medical diagnosis coded according to the *International Classification of Diseases* (ICD-10):[8] required by the health service for returns to the Department of Health and a useful way of categorising outcomes;
- 'talkback' – the client's subjective assessment of how well they feel expressed as a percentage of 'myself at my best'.

Substance dependence

Measuring substance dependence is clearly relevant to a service which aims to treat this condition. For this purpose RESULT uses the *Leeds Dependence Questionnaire* (LDQ),[9] a ten-item self-completion scale derived from a social learning theory of addiction. The LDQ is designed to measure dependence (and therefore to enable comparisons to be made) across a range of substances, even during spells of abstinence. It has been shown to be suitable for routine outcome evaluation,[10] technically satisfactory as a measurement tool, and to be a valid measure of alcohol and heroin dependence.[11 12 13] To interpret such scales it helps to have benchmarks in the form of 'normal' scores for different substances and different types of patients. This data is being collected and will be available on the Leeds Addiction Unit web site.

Psychological health

Poor psychological health is consistently associated with poor treatment outcomes, making changes on this dimension an important progress indicator. Some agencies may also want to screen their clients for mental illness. RESULT uses the *General Health*

How to get RESULT

Click on RESULT on the Leeds Addiction Unit web site, www.lau.org.uk, and order your CD-ROM. The program is freeware subject to the usual licence agreement, but there is a £50 administration fee. Alternatively, e-mail result@lau.org.uk or write to Leeds Addiction Unit, 19 Springfield Mount, Leeds LS2 9NG.

The web site asks for collaborators in developing both the software and the use of RESULT as a clinical research tool. Collaborators in software development are required to follow the conventions used by RESULT. Program extensions are submitted to the Leeds unit for testing prior to inclusion in a software update. Developers are fully credited for their contribution.

Alternatively, RESULT users can simply use the software in their agency as it stands. They can also develop it without restriction, though this may mean their customised version becomes incompatible with future software releases.

The idea of collaborative development of freeware has a commercially successful precedent in the Linux operating system. It reduces development costs; gives end-users control over how the product is implemented in their own agency and how it is developed overall, enabling it to be adapted to their needs; bolsters the justification for in-house IT expertise; and creates scope for collaborators to share knowledge and skills. Being developed by enthusiasts committed to a focused task may also enhance the quality of the product.

Questionnaire[14] for these purposes. It has well established properties as a measurement tool and, though originally intended for screening, can also be used to measure change in terms of degrees of psychological health. It can pick up transient disorders which may remit without treatment and is also said to usually detect functional psychoses such as schizophrenia or psychotic depression.[15]

Social satisfaction

Social stability is consistently associated with good outcomes, but huge personal and cultural variations in lifestyle make it difficult to measure directly across all client groups. As a proxy we selected the *Social Satisfaction Questionnaire*, itself adapted from the 33-item *Social Problems Questionnaire*.[16] It measures how satisified the client is with: their accommodation and living arrangements; employment and financial situations, time spent with friends and in social activities, and their relationships with partner, family and friends. These group into two constellations which broadly reflect satisfaction with life inside versus outside the home.

Physical health

Simple measures of physical health record:

- infectious diseases status;
- height, weight, blood pressure, and peak flow;
- use of health care resources.

Agency activity

Agency activity – the inputs it provides to achieve outcomes – is recorded as 'events', defined as any face-to-face contact between clinical staff and clients as part of a formal intervention. 'Events' are integral to the way RESULT meets the demands of the national database and to the way it calculates costs.

Each 'event' includes a brief snapshot of main substance use, client 'talkback', and the following administrative information:

- a broad categorisation of the client as: a new help seeker; seeking help with mental illness; in continuing care; a 'significant other' related to a substance abuser; or seeking advice and information;
- the nature of the contact: this equates to the intervention being delivered;
- treatment programme: usually equates to the funding stream or clinical team involved in the intervention;
- time taken and the location.

Agencies which categorise their clients into major groups can record this as an attribute of the client; the software automatically associates this attribute with 'events'. Data is recorded on a simple record sheet which clinical staff find easy to use.

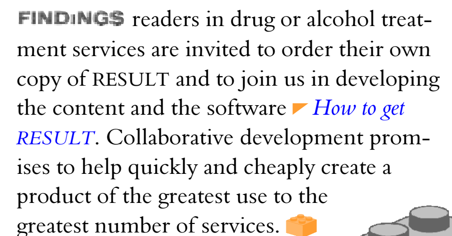
For some services (such as drop-in or outreach projects), recording contacts in this way would be inappropriate, while in primary care the data may duplicate routine record-keeping.

Cost and cost effectiveness

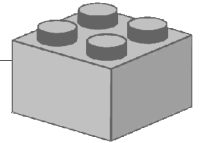
Agency activity data makes it possible to calculate the costs of the different elements of care provided to a client, to compare these with average costs, and to compare the cost-effectiveness of different types of treatment. In calculating costs RESULT takes into account the that different events involve different staff costs (eg, consultant versus nurse) and different overheads costs (such as those associated with interventions carried out in the community, on a domiciliary basis, or at a health centre).

Aggregated across a client group or a particular type of intervention, 'events' can also be used to estimate the costs of treating, for example, mentally ill clients, or of running a detoxification programme. By setting the costs against the outcomes achieved, RESULT can be used to calculate cost-effectiveness – how much improvement is gained per unit of expenditure on different types of clients, using different types of programmes, or by different clinical teams.

An invitation



FINDINGS readers in drug or alcohol treatment services are invited to order their own copy of RESULT and to join us in developing the content and the software *How to get RESULT*. Collaborative development promises to help quickly and cheaply create a product of the greatest use to the greatest number of services.



1 Marsden J. *et al*. "The Maudsley Addiction Profile (MAP): a brief instrument for assessing treatment outcome." *Addiction*: 1998, 93, p. 1857–1868.
2 McLellan A.T. *et al*. "The fifth edition of the Addiction Severity Index." *Journal of Substance Abuse Treatment*: 1995, 9, p. 199–213.
3 RESULTS's outcome measures meet research standards, but can only be relied on for research purposes if the standard of data collection is also sufficiently high. This may not be the case if staff believe the data is being collected only for administrative purposes.
4 Raistrick D.S. *et al*. "Development of the Leeds Dependence Questionnaire: a questionnaire to measure alcohol and opiate dependence in the context of a treatment evaluation package." *Addiction*: 1994, 89, p. 563–572.
5 Tober G. *et al*. "Measuring outcomes in a health service addiction clinic." *Addiction Research:* 2000, 8, p. 169–182.
6 Tober G. *The nature and measurement of change in substance dependence*. University of Leeds, PhD Thesis, 2000.
7 Raistrick D.S. *et al*, op cit.
8 World Health Organization. *The ICD-10 classification of mental and behavioral disorders*. WHO, 1993.
9 Raistrick D.S. *et al*, op cit.
10 Tober G. *et al*, op cit. .
11 Raistrick D.S. *et al*, op cit.
12 Heather N. *et al*. "Leeds Dependence Questionnaire: data from a large sample of clinic attenders." *Addiction Research*: 2001, 9, p. 253–269.
13 Tober G. op cit.
14 Goldberg D.P. *The detection of psychiatric illness by questionnaire*. Oxford University Press, 1972.
15 Goldberg D.P. *et al*. *A user's guide to the General Health Questionnaire*. Windsor: NFER-NELSON Publishing, 1988.
16 Corney R.H. *et al*. "The construction, development and testing of a self-report questionnaire to identify social problems." *Psychological Medicine:* 1985, 15, p. 637–649.
17 Sobell M.B. *et al*. "Stepped care for alcohol problems: an efficient method for planning and delivering clinical services." In: Tucker J.A. *et al*, *eds*. *Changing Addictive Behavior*. New York: Guilford Press, 1998.

LINKS *Monitoring with MAP*, issue 5 • *Outcome monitoring must be made easy*, issue 3 • *How to show treatment works*, issue 1 • *Are we right to spend more?* issue 1

OFFCUTS

New studies suggest that the image of addiction as a 'chronic relapsing condition' is due to seeing it through the narrow slit of treatment populations. With a broader vision it seems that what is chronic is the lack of the physical, psychological and most of all social resources needed to lever oneself out of a bad patch, collectively termed **recovery capital**.[1,2] Some of this capital is lacking due to pre-addiction environment and upbringing or is lacking in the addict's current environment. Some is lost during addiction as the support of friends and families and employability are eroded and doors close behind the addict due to criminalisation and social stigma, blocking a return to normality. In societies where use of a particular drug is heavily stigmatised its regular users will nearly all be socially alienated and need to turn to treatment for help, giving the impression of a chronic condition which requires professional intervention. In the same societies, where use of a different drug (such as alcohol in Western societies) is more acceptable, most over-heavy users will still retain social links and be able to recover without formal help[3] by drawing on their recovery capital,[4] usually at the first try.[5] Addicts of the kind who resort to treatment services typically lack recovery capital and repeatedly relapse. This vision suggests that if treatment is to have a lasting impact it must (re)create this capital by providing supportive social relationships (eg, with treatment staff or through mutual aid groups) and improving the life chances of the client.

1 Cloud W. *et al*. "Natural recovery from substance dependency: lessons for treatment providers." *Journal of Social Work Practice in the Addictions*: 2001, 1(1), p. 83–104.
2 Klingemann H. *et al*. *Promoting self change from problem substance use. Practical implications for policy, prevention and treatment*. Kluwer Academic Publishers, 2001.
3 Hasin D. *et al*. "DSM-IV Alcohol dependence and sustained reduction in drinking: investigation in a community sample." *Journal of Studies on Alcohol*: 2001, 62, p. 509–517.
4 Blomqvist J. "Recovery with and without treatment: a comparison of resolutions of alcohol and drug problems." *Addiction Research & Theory*: 2002, 10(2), p. 119–158.
5 Price R.K. *et al*. "Remission from drug abuse over a 25-year period: patterns of remission and treatment use." *American Journal of Public Health*: 2001, 91(7), p. 1107–1113.