

Reducing Plague by Drowning Witches: Locating the Real Mechanisms of Change in Social and Health Interventions

"It makes intuitive sense that better working conditions would improve productivity. In the same way it is clear that street lighting or closed circuit television should work by increasing surveillability. Plague reduction should work by drowning witches, and fever should be reduced by the extraction of overheated blood. We have been too ready to assume that how crime prevention *should* work is the way that crime prevention *does* work." (Smith, Clarke and Pease, 2002)

Introduction

Evaluation research bestows credit on interventions. It is often defined as the systematic determination of the merit, worth, and significance of programmes. This essay concurs with the epigraph above in pondering whether evaluators always give credit where credit is due. Smith et al's suspicion, and it is one that applies well beyond crime prevention, is that the way interventions are conceptualised in evaluation often leads research to assess and valorise only a small portion of the active ingredients for change. Indeed, sometimes, entirely the wrong agent is designated as possessing causal powers. Note that the thesis, engagingly put as it is, is not about intervention content. The remedy to the problem does not lie in the enlightened escape from simplistic, medieval thoughts about the benefits of garrotting, leaches, oracles, witch drowning and blood letting. The argument is a methodological one, namely that social and behavioural change happens slowly and painstakingly, that a series of measures is required to bring about profound and lasting change, and that methods of evaluation research are not always up to scratch in being able to identify the crucial concatenations.

This paper seeks to develop this thesis by throwing light on the presence of an overlooked set of programme mechanisms, so deeply buried that they are almost invisible. We are not chasing shadows here. We are not dealing in exotica. The processes I have in mind are missed because they are tacit, mundane, over-familiar, and taken-for-granted. They stare evaluators in the face and as result they are often overlooked. And yet, as I will attempt to show, they are often responsible for a goodly part of the impact of a goodly number of interventions.

To obtain a first glimpse of some of these subdued corners of interventions, it is worth considering in very general terms, how programmes are put together. Policy-making is energised by the hot new idea. Attention is thus drawn immediately the unique properties and powers of the new 'measure', 'treatment', 'therapy', 'mechanism of action', or 'theory of change'. To be sure, other eyes are also on the prize, namely impact on the intended outcome. Accordingly, interventions find support and are brought to life if there are persuasive reasons to believe that a new-fangled idea might have a significant leverage on a long-standing problem.

But what happens next? The machine takes over. The intervention and its evaluation are assembled in a series of standard procedures. The programme has to be organised and delivered – sites are mulled over and selected, resources and staff roles are allocated, subjects are recruited and processed. The evaluation, too, has a rhythm – cases are sampled, base line parameters are assembled, processes are inspected, outcomes are assessed. The working hypothesis here is that these routine features, the

generics of programming and evaluation, often have as profound an influence on programme subjects as do the big ideas. People enter programmes at the margins and sometimes quite tangentially; they have an existing life outside programmes; there are always other programmes; life offers many new opportunities besides programmes. And once within the ambit of a programme there are many opportunities to quit or stay, and even within the camp-followers there is a range of commitments from passing interest to abiding passion.

There are many such collateral pathways for so-called ‘programme subjects’ to consider, and the manner in which participants choose to navigate their way in and around interventions has been overlooked in evaluation research. These strategies for mulling over, rather than responding to, interventions deserve a sustained programme of research and the paper sets out a brief agenda for such inquiries.

1. The first part of the paper provides some examples, some sightings of these shy creatures. Quite deliberately, the illustrations journey across the policy waterfront and cover prisoner education, psychotherapy, body massage, crime prevention, youth mentoring and corporate regulation.
2. The purpose of this Cook’s tour, fulfilled in section two, is to build a general, sequential model of the totality of choices, which take the typical intervention participant from programme outsider to programme adherent. The model is completed by formulating a parallel sequence of support mechanisms that interventions need to supply in order to prompt and sustain positive momentum in the participant’s decision chain.
3. The third section of the paper contains discussion of the ramifications of the model for policy making and evaluation. The core argument is that programme builders often fail to cater sufficiently for the anticipatory elements of change and should build more preparatory work into interventions. Likewise evaluators, with their fixation on outcomes, tend to undervalue the latent preliminaries.
4. Part four considers the implication of this sequential model of behavioural change for healthcare interventions. In clinical interventions the aim is to heal bodies. Treatments act at the biological and physiological levels. And yet they are delivered in complex social encounters, which are shown to betray many of the anticipatory and expectancy characteristics discussed throughout the earlier sections of the paper. A perplexing problem is thus broached – how and to what extent do these social and behavioural models of change need to be incorporated in medical models of intervention efficacy?

1. Latent procedures in implementation and evaluation

Here begins the Cook’s tour (i.e. swift but wide ranging) around these preliminary, peripheral, contemplative quarters of interventions. All of the examples examine findings from initiatives put to evaluation, but often my focus is to look beneath at what programme participants have made of their experience. Where and when do latent mechanisms begin to reveal their inscrutable faces?

... Behind bars

Long ago, whilst still sporting my evaluation ‘L plates’, I came across a simple chart that caused me to puzzle. It is reproduced as figure 1. These are data from a pilot investigation of a so-called ‘cognitive skills’ programme aimed at reducing recidivism in a group of inmates in Canadian federal prisons (Porporino and Robinson, 1995). Even within this captive population one cannot require subjects to attend programmes. Subjects are volunteers and the conventional way of evaluating impact whilst countering the associated ‘self-selection’ effect is to run a trial comparing treated subjects with those who have also volunteered but are kept, often surreptitiously, on a ‘waiting list’.

Figure 1 about here

What is revealed in these data? Let me offer two readings.

- The conventional interpretation of these findings is that the treatment indeed offers benefits, as can be seen from the lower rates of return to prison of the experimentees (20%) as opposed to the waiting-list controls (32%). The fact that we are dealing with a reasonably well-disposed group is also demonstrated by the gains in the untreated volunteers as opposed to the baseline rate, where the revolving door of reincarceration revolves at over 50%.
- Consider for a moment a second, and seemingly bizarre reading, of the histograms. Since the waiting list control group registers considerable improvement over the norm, might this suggest that an efficacious and cost-effective way of reducing recidivism is to promise many such initiatives and opportunities but not bother to get round to delivering them?

Attractive as they might be in value-for-money terms, I’m not suggesting for a moment that ‘decoy interventions’ are a real solution to the spiral of recidivism¹. The second proposition does, however, reveal a flaw in the orthodox interpretation of these data. What should be taken seriously about it is the specific suggestion that the raising of expectations, the management of aspirations and, perhaps, the promise of eventual resolutions to longstanding difficulties are mechanisms for change in their own right.

Let us return to the standard interpretation. It has only two ingredients. The treatment with its power to change and the fixed and given predispositions of volunteer subjects. But neither of these factors explains fully what is going on in the control group. What are the inmates doing and thinking whilst waiting? Are they growing impatient or are they leaning forbearance? Are the shelved prisoners fuming: “I applied effing five months ago. Same bloody gain. They pretend to be interested in your well-being but they couldn’t organise a piss up in a brewery. What’s the point of trying to change?” Or does fortitude win out? Are the jilted detainees calculating: “Yer, they’re always playing mind games, keeping you waiting, testing you out, trying to see if you are really serious about trying to change. I’m gonna bide my time and keep my nose clean.”

¹ Disappointed readers will be pleased to know that I return to ‘decoy’ interventions later in the essay.

The answer, of course, is that we do not know. As far as I'm aware no serious research attention has ever been directed at the folks on hold. But what should at the very least be contemplated are the powerful and potentially life-changing emotions represented by our two imaginary outbursts above. And as such, ladies and gentlemen, they represent our first sighting of invisible mechanisms.

I am trying to suggest, via the inmates' notional thoughts, that the members of the 'control group' are hardly in the state of repose that is suggested by that term. Dispositions are never fixed, even in the side-wash of the intervention. This location in itself can trigger impatience or forbearance. If this data on the welcome progress of the middle group is to be believed, it would seem that fortitude rather than anger is in the ascendancy for the men held in line at this particular time. The lack of anticipated support does not turn them significantly back to the pack. At the very margins of a programme, we witness a complex calculation. A future course of action is contemplated, an opportunity along the way is spotted and then stymied, and other ways of continuing in the direction of travel are apparently discovered. Here then is a brief glimpse of the latent action of a programme – if all this reckoning and re-reckoning happens to subjects supposedly twiddling thumbs in the control condition, what other thought permutations transpire over the life-course of an intervention?

We stay within prison walls for my next illustration. The theme, however, continues – programmes are not things, not dosages but complex social situations opening up a potential menu of choices within choices. What else might entice the subject to take a seat at the intervention table? What other imperceptible offerings might be served up? Duguid (2000), a practitioner, researcher and theorist of 'prisoner education', comes up with the following counter-intuitive recipe – offer education as a rehabilitative therapy and it will fail; offer education for its own sake and it will carry over into rehabilitation.

The idea was made manifest in the Simon Fraser Prison Education Programme. This campus-in-the-prison programme ran for two decades in several Canadian penitentiaries. Amongst its 'non-prison programme' features were the following:

- *External affiliation:* The programme is as avowedly 'mainstream' as the difficult conditions of imprisonment allowed; on offer were degrees and diplomas from Simon Fraser University; faculty crossed between university and prison; credits were transferable to outside institutions
- *Participatory control:* The education block was separate and for the most part self-policed; provision was rolling and year-round; prisoner 'graduates' could become course tutors.
- *Open Access:* The choice to enter, stay or leave the programme was that of the students and perhaps above all, talk of therapy, counselling, reform and rehabilitation was 'off-limits'.

Note that none of these features describes programme content. And it is perhaps useful once again to make Duguid's primary proposition clear. He does not dispute the idea that other and perhaps more tangible aspects of prisoner reform, such as the improvements in employability or cognitive ability or social skills, are brought into play via such programmes. The contention is that these gains are facilitated because of a culture, and it is this unadulterated, enduring and authentic taste of a learning environment that also offers the inmates a second chance.

This is a difficult claim to substantiate and interested readers can make their own judgement on its veracity by consulting Duguid's monograph (2000). Before we exit the prison walls, however, I want to call on the direct testimony of some prisoner students, for whom the significance of the non-remedial remedy shouts out loud. For this, I return to some interviews of my own (reported in Pawson 1996) conducted in a UK prison, but on the same topic of how education might promote change in inmates. These were hardly cosy chats. Indeed the exchanges were somewhat fiery as the men clarified who called the shots in determining their futures. A common theme was that education was not rehabilitative but that the 'hands-off' approach deepened a process of self-scrutiny that was already underway. Let me boil these sentiments down a couple of examples:

"It's not the course that's changed you as such, it's you've developed an interest inside you, you know. By and large you've got your own way of working. And you can work in a number of directions ... you're sort of given advice on which way to go and that, but at the end of the day it's your own choice."

"I feel that education is a civilising process ... it could well be a contributing factor in the adjustment to acceptable behaviour. Change is something that comes within you but you would be taking on board education ... it's a catalyst ... more than a catalyst, as I've said before, it's a civilising process."

Listen again to these words of wisdom – a 'catalyst to action' and a 'civilising processes'. If I recall my O-level chemistry, catalysts are substances that increase the rate of change without taking part in the reaction. Civilising processes are a classic 'emergent process' in the sociological literature (Elias, 1978). They are a long-term outcome of collective action without necessarily being part of the volition of any individual. Here, and stemming from direct experience, are a couple more admirable ways of expressing the notion of the latent forces embedded in programmes.

... On the therapist's couch

For our next case study, we turn from the province of 'Nothing Works' to the domain of the 'Dodo's Verdict'. Alice, during her adventures in Wonderland, comes across a curious competition officiated by a dodo bird. It is a simple enough contest, a race around a lake. The twist is that no one bothers to measure times, distances, placements and so on. Instead, the dodo explains: "Everybody has won and all must have prizes."

This same unflattering verdict has been bestowed on psychotherapy. There are many, many different therapeutic schools. One count, made forty years ago (Parloff, 1986), estimated the number at 418. A thunderous and longstanding critique argues that the specific techniques associated with specific schools (e.g. Freudian, Jungian, Rogerian, Adlerian, behavioural, cognitive, gestalt, existential, etc. etc.) serve very limited purpose and that most of the positive effect is gained due to therapeutic *relationship*. This hypothesis known as 'common factor theory' associates positive change with 'non-specifics' emanating from purposeful, warm, respectful, tailor-made, one-to-one relationships between practitioner and client.

Psychotherapy has always been a hot topic for evaluation. As these inquiries grew, they evolved a comparative component in which the efficacy of rival or alternative treatments was investigated. These are known as ‘active treatment comparisons’. Instead of randomly placing patients in treatment and control conditions, they are assigned to one of two treatments (e.g. cognitive vs. behavioural). This ensures ‘fair’ comparison on a matched population. And as these studies gathered pace it became possible to conduct meta-analyses of the efficacy of ‘x versus y’. Systematic reviews of this ilk by Luborsky and colleagues in 1975, and repeated in 2002 with a much larger sample of primary studies, came down heavily in favour of the dodo bird verdict. Very few primary studies demonstrated the superiority of one treatment over another. In the round, the meta-analysis estimates that the effect size attributable to specific therapy techniques weighs in with a Cohen’s *d* coefficient of only 0.2 (small and insignificant in lay parlance). By this interpretation all therapies are more or less equal – and almost all should win prizes (or perhaps be amalgamated, simplified and demystified!).

It should be said at once that this interpretation is not without problems. Meta-analysis works at a high level of aggregation (Pawson 2006: ch. 3), tending to pool together diverse medley of programme characteristics in order to calculate a mean effect. Chambless (2002) picks up this criticism, pointing to the dangers of examining ‘average differences between all sorts of treatments for all sorts of problems’. It remains possible that specific techniques may well be shown to be effective – if examined in specific respects by specific measures, and if one differentiates particular subgroups of subjects in particular circumstances.

There is no need for us to referee this particular dispute. Whilst debate continue to rumble about the precise arithmetical contribution of the common factors in common factor theory, few seem to deny the significance of the ‘non-specifics’. It is much more useful for present purposes to look at attempts to discern and itemise their collective content. A number of researchers have attempted to locate precisely what is common in common factor theory. Following an extensive review of the client’s experience, Tallman and Bohart (1999: 106) conclude: ‘In sum, from the client’s perceptive, the most important aspects of therapy are the non-specific factors – the personality of the therapist; having a time and place to talk; having someone to care, listen and understand; having someone provide encouragement and advice; having someone to help you understand your problems’.

Strupp (1986), from an earlier generation of research into ‘non-specific factors’, pinpoints a different causal mechanism, namely the guiding force of ‘theory’ in galvanising the psychotherapeutic process. The argument here is not about the distinctive thoughts any of the 418 (or more) schools of thought. Rather it focuses on the very existence of ‘a theory’ in underpinning and guiding the intervention. The theory provides therapists with a resource capable of organising and planning the treatment. It also provides them with intensity and depth of purpose to keep them engaged over a long time. Finally, the theory may be said to certify and legitimate their particular approach. These capacities are no small matters from the point of view of the client, a point made engagingly in the following passage:

“The very fact that the therapist has a *theory* of human difficulty encourages the patient to recognise the possibility that whatever is bothering him may have happened

before, to someone else. This is a powerful idea for someone suffering mightily with serious depression, or is experiencing a divorcee, or the loss of a loved one, or similar emotional pain. This guy who seems to know about such things, doesn't appear to be in nearly as much agony as me ... And the guy keeps listening. Maybe the sixth or eighth time you say it, it won't hurt so much ... Not only that, even though I have been crying like a baby, he takes it seriously – he seems to think that my unhappiness *means* something. He's willing to take it seriously and interpret it with me. We work out an understanding ... which makes sense of the inchoate, the anomalous the unapproachable.” (Moerman, 2002; 95)

Whilst the enactment of programme theories may not always be played out to such a dramatic effect, once more I make the point about the potential ubiquity of the process described here. Generally speaking, people who volunteer for programmes are seeking to ‘work out an understanding’. They are always on the look out for theories – the operative issue being that it is not only therapists who trade in theories. When it comes to implementing programmes – cops have theories, teachers have theories, big brothers have theories, ward sisters have theories, and safety inspectors have theories. All of them may gather adherents.

... On the floormat

We are not yet done with the non-specific effects, for there is another important conjecture claiming that they kick in before treatment even begins. Rather than garnering lessons only from academic research let us once again hear it from the horse's mouth. In this case, practitioner wisdom emanates not so much from the couch but the floormat. Latey is author of *Muscular Manifesto* (1979) and his thing is ‘movement therapy’. Whilst specialising in so-called ‘bodywork’, he has clearly spent time reading the minds of his clients. In the following passage (2001: 149) he goes well beyond the customary recognition that patient ‘self-motivation’ is crucial by going on to describe how this vital spark might be encouraged and enhanced by creating certain preconditions to receiving treatment.

“ I believe it helps if patients have had to surmount some difficulties in order to get to see the practitioner, as follows:

- a wait for an appointment at a time that may not be easy for them
- some directions to follow if practitioners are off the map of their usual movements
- the effort of organising their account of the problem
- preparing to be questioned, examined and treated in the first session

The fact that they are willing to pay for treatment, however small the fee, makes a considerable difference ... people expect to pay and do not count the cost when their health is at stake. Timeliness is also crucial. So it helps if patients have understood the problem is not going to clear up by itself, and they have reached a point where it must simply be sorted out. All the better if they have also abandoned previous attempts at treatment with enough time for it to be obvious that they have failed.”

Here then is another raft of invisible mechanisms that may contribute crucially to programme efficacy. We have already encountered perverse effects with prisoner subjects on waiting list controls and, interestingly, Latey also recommends being positively artful with the ‘keep ‘em waiting’ rule. However, this is but one of a number of other *pre-intervention* strategies that may be transferable – intensive

openings, speed off the mark, quick wins, immediate active role for client, arrival in the last chance saloon, and not forgetting a nod to the old advertising slogan, ‘you’ve tried the rest now buy the best’.

... In Fagin’s Den

The roll-call of invisible programme mechanisms continues as we revisit the opening salvo from Smith et al (2002) in a paper entitled, ‘Anticipatory benefits in crime prevention’. This is a useful variation to our thinking about the tacit powers of interventions because the goal in this policy domain is to control and constrain potential action. Previous examples covered attempts to fire and facilitate fresh thinking and behaviour. Latent mechanisms can operate both ways.

The authors commence their case with the stunning quotation, used as the epigraph to this paper, comparing present and latter day certainties about how programmes work. Their central argument is that we should never jump to conclusions about the ‘self-evident’ causal powers of interventions. Crime reduction, for the most part, works by persuading potential offenders that the risk of apprehension and arrest increases under a newly installed programme. Perception is the key and thus it may be that the *threat* of action of an intervention is as powerful of as the *specifics* of action.

Many programmes appear to show improvement (crime reduction) before the programme is up and running. Indeed, some seem to work without them being fully implemented. This hypothesis is forwarded on the basis of a review of the crime prevention literature. A search was undertaken locating studies containing time series data sufficiently powerful to distinguish crime fluctuations before, during and after the introduction of prevention programmes. 52 such reports were uncovered that revealed an unexpected pre-initiative drop in crime statistics. Of these 22 had strong prima facie evidence that allowed causal attribution to ‘something’ occurring within the early inception of the scheme. For instance, a study of the effects of security cycle patrols on parking lot crime showed that announcing the scheme was followed by a reduction in crime before ‘foot was ever laid to peddle’. Ending the scheme, moreover, did not result in an immediate increase in crime. Further examples relating to the pre-installation of CCTV cameras, security devices, alcohol testing, physical layout improvements and so on are assessed and corroborated in the review (Smith et al, 2002: 73-76).

So what is the ‘something’ that could account for these unanticipated, anticipatory effects? Smith and colleagues (p78-79) list ten possible mechanisms, which I abridge thus:

- *Evaluation artefacts*. These include some time-honoured measurement headaches such as regression to the mean, difficulties with calculating moving-averages, and the perennial problem of seasonal shifts in recorded levels of crime.
- *Practitioner and subject effects*. These include improvement in knowledge and motivation of the local population and police officers on the announcement of a new scheme, which translate into increased determination, greater diligence and better performance in advance of the initiative.
- *Offender effects*. These include both the ‘over-anticipation’ effect, in which equipment is supposed to be operational before it actually is and the

‘disinformation’ effect in which publicity and hearsay carry the impression that a powerful, covert programme is already in place.

Again we see a catch-all description, in this instance ‘anticipatory effects’, netting a miscellany of possible mechanisms. The point for emphasis is that none of the above are part of the intended measure; all are part of the implementation and evaluation apparatus – and all are open to further and more mindful manipulation by programme planners. And, it is in this respect that the latter item in the list excites attention. If we think of crime, at least some crime, as an ‘intelligence-led’ operation then ‘counter-intelligence’ becomes an option in its curtailment. There is probably an element of this idea in all policing. Smith et al consider the example of so-called ‘informants’. These characters lurk in the underworld prepared at a price to tell the police of the plans of putative offenders. Just as beneficial to the strategy of risk enhancement is for them to confide to the criminal classes about the cunning campaigns of the cops in their community.

How could such a mechanism be embodied in a formal intervention? The active ingredient in all the cases reviewed appears to centre on the circulation of information – getting the word out on the street. The optimal working example is probably the action of ‘decoy vehicles’ in reducing car theft. Cars and vans, similar to those, favoured by thieves, are parked in high vehicle crime locations. They are fitted with technical devices making it possible to track or, sometimes, trap the intruder. Whilst this immediate and tangible mechanism is what does the job in apprehending offenders (successful patrol car chase permitting), there is good evidence that hearsay buttressed by media campaigns is the latent mechanism that really brings down overall rates in a locality (Sallybanks, 2001). The scheme makes would-be offenders ponder precisely at the point when they normally sense an easy-picking. And that rumination is deepened if they have in mind television pictures of the speculator and embarrassing failure associated with being so outwitted. Whichever impulse wins the day, it seems that rumour and counter-rumour, intelligence and counter-intelligence about programme potency join our list of their latent mechanisms.

... At the mentor’s knee

As a final example I turn to another famous chapter in the world of interventions, namely mentoring programmes aimed at disaffected young people. As ever, the tale has broader ramification in that it follows a pattern much observed in programme evaluation, namely – the shining success of major demonstration project followed by the failure of subsequent ‘replications’. Why is this misfortune familiar?

The best known programme in this domain is the venerable Big Brother Big Sister Programme (BBBS). The best known study (Grossman and Tierney, 1998) reports: ‘Taken together, the results presented here show that having a Big Brother or a Big Sister offers tangible benefits for youth. At the conclusion of the 18 month study period, we found that Little Brothers and Little Sisters were less likely to have started using drugs or taking alcohol, felt more competent about doing school work, attended school more, got better grades, and have better relationships with their parents and peers than they would have if they had not participated in the programme.’

Alas, such optimism has not survived many replications in the US and UK (Colley, 2003; Philip et al, 2004). There, a more familiar sequence for the mentee is progress and setback, progress and setback, with the mentor having to spend considerable time ‘firefighting’ family feuds, drug relapse, gang violence and so on (Shiner et al, 2004). The obvious explanation for this contrast between the originator and the imitators is to look for differences in implementation and context. But what are they? A close look at Grossman and Tierney’s description of BBBS reveals some vital clues and lifts the lid on another important set of latent programme mechanisms.

The study footnotes a clear set of eligibility requirements, and some vital clues on the participants’ aspirations lie here. We commence with a familiar sighting. BBBS is indeed a venerable programme, having existed for a hundred years, and thus sufficiently cherished to require a waiting list. Admission to the programme thus requires screening, which involves: an assessment for a ‘minimal level of social skills’; ensuring that youths and parents actually ‘want a mentor’; gaining the ‘agreement of parent and child to follow agency rules’; successful completion of ‘orientation and training sessions’; and the fulfilment of ‘residential and age limitations’. Once on the programme there is ‘close supervision and support of each match by a case manager who makes frequent contact with the parent/guardian, volunteer, and youth and provides assistance when requested’. The voluntary status of the mentors gives authenticity to their guidance but they also receive ‘training that includes communication and limit-setting skills, tips on relationship building and recommendations on the best way to interact with a young person’. In addition to these programme requirements, the research created exclusions of its own, namely for youths: with ‘physical and learning difficulties’ disqualifying them from a telephone interview; those on ‘special programmes’ in addition to the standard BBBS package; and those ‘serving a contractual obligation such as Child Protection Service contract’.

This welter of self, bureaucratic and investigatory selection is, of course, significant. It is not too brave an inference to observe that by the time they reach the evaluation, the programme is dealing with a relatively compliant and particularly persevering set of mentees. BBBS, unlike many of its counterparts, is able to create a progressive filter of motivational mechanism via a finely engineered set of parallel programme supports. In those conditions, mentoring ‘works’.

2. Unspoken mechanisms articulated

This section extracts the methodological moral from the above tales. Many other examples of invisible mechanisms could have been provided. Although there is no room for analysis, worthy of mention in this respect is the ‘benign big gun’ theory (Ayres and Braithwaite, 1992). The topic here is institutional regulation and it is of more than passing interest to note that latent mechanisms operate on institutions just as well as individuals (as in all previous examples). The authors note that regulating agencies usually have a range of injunctions at their disposal: publicity and persuasion, official warnings, civil and criminal penalties, licence revocation, and so forth. Rather than going immediately for the toughest sanctions, the benign big gun hypothesis states that ‘the bigger and more various the [available] sticks, the greater the success regulators will achieve by speaking softly’. Through scores of empirical examples Ayers and Braithwaite show that organisations, typically very keen to

protect their reputations, will respond better to quiet executive censure (we know that you know that we know) rather than public humiliation (you're nicked!). Just as in many of the earlier examples on anticipatory effects, it is the *process* (of being under close regulative scrutiny) rather than any specific *action* (such as a fine) that does the trick².

I hope to have shown evidence aplenty of the force of activities located in the preliminaries and at the edges and in the background and within the mundanities of conventional programmes. The fact that this evidence concentrates in examples that are often slightly dislocated from the 'main' programmes should come as no surprise. Travelling off-piste can reveal the built-in advantages of the regular runs. The rather overlooked sub-discipline of ethnomethodology (Garfinkle, 1967) demonstrates how the breaching of the taken-for-granted rules of social conduct can quickly create chaos and destroy social order. The apposite point is here is that social interventions are attempts to forge a new order and the lesson is that this is impossible without attention being paid to mundane organisational features.

This section attempts to produce an abstract model of the pathway of change describing the cumulative, progressive, iterative transformations that typify the vast majority of social interventions. I am already blue in the face with arguing that social programme do not work through Pauline conversions, divine deliverance, instant redemption or miracle cures. They work by persuading subjects to change. And subjects, from the very beginning, will be relatively recalcitrant or willing. Subjects on the threshold of a programme will ponder, wait, figure, investigate, and change their minds. Subjects over the threshold will dive in, tread warily, pull out, dawdle, support, sabotage, take over, malingering, proselytise and so on. Programme work to the extent that they can shift the tide, moving sufficient numbers of the marginal and refractory into compliance and commitment with the intervention goals.

Figure 2 attempts to map the pathway of subjects from first contact with a programme to exit. It assumes that a long journey is involved and that subjects will fall by the wayside in many an intervention. It contains eight staging posts, reflecting changes as subjects move from marginality to membership. Each stage is depicted as a decision point for the programme subject and at each stage includes a tailored intervention mechanism designed to propel the subject onwards.

Figure 2 about here

The top row of the figure depicts the decision chain through which contemplative subjects pass. At all stages programme participants are choice-makers. Their progress through the programme may be continuous and to plan. Or, it might stall, short circuit, or backfire. Or, to coin a phrase, subjects may move two steps forward and then one backwards. The bottom row reflects upon the opportunity for programme planners and practitioners to encourage and propel each choice in the right direction.

The figure begins right at the beginning with 'lost souls', aware that they have a problem but not sure about identifying it or owning up to it. Programmes respond by naming it, publicising a generic label recognising the widespread incidence of

² This hypothesis, by the way, is not damaged by regulatory failure during the recent banking collapse. Credit bundling became so complex that neither bankers or regulators were remotely in the know.

predicament. Forearmed with some (buzz) wordage on their now-specified difficulty, the subject ponders on solutions, to which the programme responds by naming one, promoting a potential way forward for people who now reckon they may labour under the specific, remediable problem.

Step two keeps faith with the idea that subjects always have choices. Even though our tyro subjects are coming to terms with a diagnostic label (unemployed, illiterate, overweight, carbon wasteful, drug susceptible etc.), life will offer more than one way of tackling the problem. Another crucial intervention preliminary is thus required, drawing subjects into the aegis of its particular programme theory. They need to recognise the benefits of opportunity X as opposed to opportunity Y. This is particularly important for subjects who have lingered at this stage and have, perhaps, flirted with other solutions. Contrastive publicity is the solution, another subtle prompt that emphasises the benefits of the programme for subgroups of potential programme subjects who possess particular sensibilities and susceptibilities.

There is no need to rehearse verbally all the further stages of the model, which are spelt out figure 2. It should be noted, however, that the model assumes there will be refraction and hesitation, rather than stately progress, and that the best programmes anticipate this with periods of resilience building. Along the way, a whole repertoire of carrots, sticks and sermons will be deployed. At the risk of repetition, it should be noted that the model is stretching deliberately the orthodox understanding of what counts as ‘the programme’. The tendency of most evaluation is to concentrate attention on the tangible activities (the magic bullet) designed to address the behavioural problem³. The argument here is that one needs to draw the horse to water purposefully before there is a remotest possibility of making him drink.

The paper now moves on to use the model as the basis for a series of proposals on evaluation and programme planning. Methodologically speaking, figure 2 is an ideal-type, middle-range model (Weber, 1964; Merton 1967; Pawson, 2000) and it is important to clarify what this does and does not entail.

It is simplest to begin with the potential misapprehensions. The most obvious point is that the model is not meant to be applied mechanically. For instance, I am not claiming that the eight phases, no more and no less, is the exact number and sequence of steps that must occur for programmes to coalesce. Recruitment, selection and preparation may be automatic in some programmes and exhaustive in others. Subject contact with the scheme may be momentary or long-lived. Outcomes sought may be singular or multiple, they may be deep-seated or near-to-hand. Accordingly, whilst all interventions encounter each phase, the model may seem to elongate or compress the activities in any one.

The next point of clarification is to note that the model, whilst wide ranging, is not designed to portray all possible types of interventions in all possible policy domains. The building blocks of figure 2 are drawn mostly from programmes providing new opportunities for individual subjects entering on a voluntary basis. These features mark its approximate scope. Middle-range theories are middle range in that whilst they attempt to ‘conjoin different spheres of social behaviour’, they do so in respect of

³ This dilemma is heightened in clinical evaluations in which the intervention (prescribe pill, swallow pill) could not be more tangible. As we shall see in section 4, the waters turn out to be just as muddy.

a ‘delimited aspects of social phenomenon’ (Merton, 1967). Thus figure 2 may have to be reconfigured had we tried to model, for instance, mandatory (legislative) programmes with generic subjects. And whilst I have suggested that some of its features are present in crime prevention programmes, it may be wise to develop a different core model when the goal is social control rather than opening up choice. In short, it is a general model for a particular class of programmes.

Returning to the positive intentions of the model, one notes first of all that it is a distillation of the many, many latent, preparatory and anticipatory processes captured in the spread of cases explored in previous section. The model recognises that programme subjects, across many, many settings are ‘unsure of the next step’ and notes also that this is anticipated in many, many successful initiatives. Comparison across cases allows one to recognise common solutions and the model expresses these in an abstract language that captures the core, underlying process. The model is thus operates at a middle-range level of abstraction (Merton 1967) in the classic sense that uses concepts able to confederate a range of distinct empirical instances into the single schema. The model is also imitates Weberian ‘ideal type’ method in its accentuation of key stages in the process of change. Any real subject passing through a real programme would likely make twenty pragmatic decision *per day* on what to do next. The model condenses and emphasises some of these in order to come to a general picture. Once we have begun to see the wood from the trees, the model then provide an explanatory ensemble for understanding, predicting and planning other implementation pathways in other programmes.

More concretely, one can say that the model already embodies the actions of a prisoner wondering how to go straight, an osteopath seeking to drum up more business, a cop spreading intelligence about a new crime reduction gizmo, a tearaway thinking about whether it is time to talk things through with a mentor, and so on. All of these activities and more are captured by the abstract formulation of the model. And when the continuity of constituent, underlying processes is fully appreciated, the expectation is that model will be transferable. It may be able to teach us something about the choices of programme stakeholders thus far unconsidered such as: a family wondering whether to bother with green-bin recycling, a young bicyclist reluctant to don a safety helmet, an HR manager of a company schemes struggling to attract more minority applicants, a patient pondering whether to follow a prescription for long-term medication, and so on.

In its next sections, the paper goes to consider such applications of the model, with section three considering more general ramifications and the final part deliberating its utility in health settings.

3. Applying the model

If the model is correct, what are its implications?⁴ The basic objective is to reconceive the action of programmes. In realist parlance, the lower chain in figure 2 is an iteration of programme mechanisms. And mechanisms, recall, are the resources on offer within programme that, if triggered successfully, work their way into subject’s

⁴ Note the way that the task is set up here. It cannot, of course, be assumed at this stage that the model is correct, valid, compelling etc. It gains authority only if it has broad explanatory power and the paper has the scope only to commence that test. The proof of the pudding is in the long-term eating.

reasoning. By these lights, the entire lower sequence should be understood as ‘the programme’. This representation, of course, is designed in vivid contrast to those research strategies that perceive and portray ‘treatments’ in glorious singularity. Simply replacing the idea of ‘prompting behavioural change’ by ‘managing deliberative choices’ has substantial consequences for:

- I) programme building and
- II) evaluation design.

I) Let us begin with some brief remarks on the former. The co-ordination of whole series of ideas and agents is required to create durable change. Programmes need to construct runways rather than springboards for change. The problem raised here is that tempo of construction of modern programmes often rides roughshod over the realisation of the vital preparatory interlinkages. Perhaps the key change in policy architecture in the UK recent years is the dislocation of interventions and services. Once upon a time it was the task of the big public agencies (schools, hospitals, local councils, police, etc.) to tackle generic and longstanding issues. This often left them weak at responding to new challenges but with a strong organisational capacity. Nowadays, the tendency is to design made-to-order programmes aimed at specific and pressing problems. The upshot, already dubbed ‘interventionitis’ (ref), is that reform is led by a constant stream of pilot programmes, demonstration projects, new deals, modernisation initiatives and so on. With so many interventions created from the egg, it is little wonder that many end up broken. In the haste to assemble new interventions, the policy maker’s pen, the practitioner’s hand and the evaluator’s eye tend to hasten over the latent requisites for change.

This is a brave, not to say grandiose thesis. There is only room to begin testing it with a couple of examples drawn from my own evaluation experiences. The working hypothesis is that the persistence and continuity demanded in our model of durable change is often put at risk in newly assembled programmes.

As a first illustration, consider the curious case of ‘invisible programmes’. I have had some involvement in the evaluation of the endless run of initiatives struggling to deal with young people who are NEET (Not in Employment, Education or Training). Most of them (‘Connexions’, ‘Educational Maintenance Allowances’, ‘Learning Agreements’ etc.). The basic idea is to supply a modest financial incentive plus the services of a personal advisor to guide the young person back into EET. An unexpected feature cropped up during interviews. Several of the participants on these programmes did not even realise that they were ‘on the programme’.

The fact that they could not ‘name’ their programme is not itself fatal, for the label alone does not have causal powers. It does, however, indicate that referral to these programmes often does not and often cannot pay close attention to the initial motivation building and anticipatory affects required in the ideal-type model. The interventions in question involved assembling or reassembling a mighty delivery apparatus hastily and, in some instances, from scratch. In the first of the above mentioned programmes, the worthy desire to better integrate aspects of youth work and career advice provision led to the wholesale reorganisation of these agencies – re-branded on the high street as the *Connexions* service. The affiliations of the advisors responsible for the delivering one-to-one support were often indecipherable amidst institutional turmoil. Clients arrived in the midst of the intervention simply by dint of

referral from one part of the educational and welfare system to another. A high proportion found themselves on the scheme without any buy-in to the scheme. There is a brutal contrast between this example and the careful, managed initiation involved in bringing young people to the Big Brother Big Sister schemes.

For my second exhibit, consider a preliminary decision in the set-up phase of a national programme like the *New Deal for Communities* (ref). The goal here was the elusive one of regenerating ‘sink communities’. Step one in such a programme was the identification of pilot localities suitable for such provision. Logic might dictate that policy-makers look for inspiration at the demographics of deprivation. In actuality, the partnerships were chosen through a process of competitive bidding⁵. How was potential merit demonstrated? What constitutes a worthy community programme? Applicants had no option but to make a case by pre-specifying a package of potentially productive local initiatives and, of course, a list of ambitious targets. To assemble such requires resources well beyond the ambit of a distressed, impoverished estate. Accordingly, most bids were assembled by a consortium involving local authorities, agencies and universities. And, no doubt, a touch of consultancy gloss also helped in the winning campaigns.

The opposite point is not really about political injustice. The consequence of interest here is that the initial architecture, the programme planning is all loaded towards the end of the intervention chain, without any ground building though the steps of awareness raising, programme promotion, quick wins and so on that are the foundations for dependable change. The escape ladder is designed in detail without knowledge of how it will sit in the local community. Following our model, this suggests that when it comes to implementing the programme back in the community, there will be delay, disagreement and procrastination as different stakeholders fight over and remake programme priorities. And so it was (ref). Compare the discontinuity here with the calmer evolution of another escape ladder in another sink community, namely the Canadian prisoner education programmes. To be sure this scheme depended on the injection of external resources. Indeed, the scheme rests on a highly conventional programme theory about educational mobility. The crucial difference is that whilst the programme apparatus is fixed, it allows subjects to engage in their own time and on their own terms. Energy is expended in pursuit of the programme rather than in debate on its form.

I make these two examples do rather a lot of work here, but they do begin to signal a broad lesson for the architecture of programmes. That is to say, programme building should follow the dynamics of figure 2. Interventions should stop thinking of programmes in terms of their ultimate propellants for change. A series of clear and stable mechanisms need to be established to pull in and pull along subjects in different states of preparedness for change. To re-use a metaphor, programme planners need to design runways rather than springboards.

II). Our basic model of gradualist change also has profound implications for the conduct of evaluation. The sweeping interlinkage of mechanisms described above *is* the programme. Evaluation strategies that attempt to excise, minimise, partial out, or control for latent effects are missing the point. In social programmes it is impossible

⁵ This is surprisingly common practice in UK government supported initiatives. Institutions or localities compete for the privilege of mounting a demonstration programme.

to scrape away to the kernel agent for change, because change is always gradual and must be prompted gradually.

If the model is correct, its most significant implications apply to the experimental and quasi-experimental modes of evaluation research. The venerable logic of these approaches follows a remorseless plan. One tests whether a treatment ‘works’ by applying it to an experimental and control group, the sole difference between them being the application of the treatment. If a difference in outcomes follows, one is left with a single, unimpeachable explanation – it is down to the treatment. This strategy has come in for endless criticism, especially when it is applied to social interventions, which depend for their action in changing the reasoning of subjects. One of the many problems is that ‘treatment’ in such cases is a normally complex social interaction located in a complex social situation. And because the delivery of programmes depends on the judgement of many stakeholders, they are never implemented in the same way twice. Under implementation and contextual disparity, the programme-on / programme-off comparison is an arbitrary, one-off description rather than a solid, law-like generalisation (Pawson, Another).

Figure 2 adds to this malaise, for it elongates the notion of ‘an intervention’ to include all the vital preliminary work in alerting subjects to and preparing them for. Rather than seeing these as confounding factors disguising the real effect of the programme, they are properly understood as necessary precursors for change. As in real life, the model renders problematic the moment when the subject can be said to have ‘commenced’ the intervention. Does it begin on their recognition of the ‘problem’? Does it begin with the decision to look for a solution? Does it begin when the subjects are actually ‘signed on’? What if they are signed on without commitment? What if they are signed on with redoubled commitment having signed off from a failed treatment? What if they are signed on for the wrong reason? What if they sign-on and then sign off?

There are dozens of such permutations and this penumbra of choices has always played havoc with the experimental method. The gut instinct in clinical trials is always to eliminate any traces of human volition by double blinding, the creation of waiting-list controls, the choice of intention-to-treat analysis, and so forth. A core thesis of this paper is that perfect ‘volition control’ is impossible and that understanding choice-making should be the point rather than the curse of evaluation. We will come to a fascinating test of this thesis in the next section when the paper turns finally to medical treatments. For now, let me reinforce the message about ubiquity of choice making by returning to attempts to control for it in social programmes.

Consider in this respect the timing of the experimental test and the ‘right moment’ in which to evaluate a programme. For an illustration let us return to the Big Brother, Big Sister example which, the reader will recall, had an extensive ‘pre-qualification’ phase. We decide to try to control for so-called selection effects by comparing an experimental group on the programme versus a control group placed on a waiting list. The question is – when to instigate the trial, when to make the cut?

- Should it, as in the actual research, be at a point at which volunteers have been pre-sorted, pre-qualified and undergone a programme taster? In the case, it could

be argued that the test is too late. The programme has already significantly run its course, the awkward squad has been discarded progressively from the trial, and the resulting experiment confronts docile rather than renegade youth?

- Alternatively, should the BBBS control group have been formed at the very moment a subject had volunteered and the ‘filter’ be considered part of the programme? In this case, the trial would contain subjects with a much greater range of motivations, including skiving and time-wasting and worse. Should the experimental group really contain the very substantial sub-group that do not pass initial muster? Is this then an unfair trial subjecting to programme to a population for which it was not designed?
- Alternatively, should the test, as in many of the UK youth mentoring programmes, be applied as soon as the first crop of subjects is forgathered, regardless of how they are referred to the scheme, including those blissfully unaware that they are on scheme? Under this scenario the test may be declared premature on the grounds that neither the programme nor the subjects has matured sufficiently to constitute a fair test.

The answer to this question, of course, is that neither option is best. One needs all these vantage points, as well other intermediate ones, to appreciate the gradualist model of change that underpins all social programmes. Remember that the comparison in all of these cases would be with a waiting list control. As we have seen, there is nothing ‘null’ about waiting lists. Waiting is an agitator of thoughts. Waiting is playwright’s muse. In the above cases we don’t know whether waiting involves cruel frustration of high ambitions or that permanent state of hanging around in which many young people dwell. In reality, programmes always run with a ragged boundary of subjects and at different stages of maturity. A useful evidence-base requires we know something about progress through entire process in order to understand how many subjects, of what type, and from what circumstances, pass from ‘problem’ to ‘solution’. Trying to remove volition or standardise it at any moment is merely to camouflage the dynamics choices-making, which are the genuine propellants of change.

I turn finally in this section to a brief list of some positive recommendations of the consequence of the figure two for evaluation practice. The basic idea is to push the study of these latent mechanisms for programme efficacy higher up the research agenda. Such a call does not involve the rejection of existing methods and strategies; it is an argument for widening the research portfolio. In the case of all four suggestions, the proposed inquiry could be undertaken using primary research capturing these latent processes as they unfold, or by secondary review trying to piece together their imprint across a variety of programmes and services:

1. More research attention should be paid focusing on the specific stages in the above model – they and theories involved should become objects of inquiry in and of themselves. This would automatically bring to the surface the importance of latent mechanisms. For instance, it would be quite possible to investigate the pros and cons of ‘waiting lists’ for a variety of different procedures, revealing no doubt different tipping points when their function changes from proving ground to detention bloc. Elsewhere in the model, the significance of ‘quick wins’ could be investigated across, say, regeneration programmes, getting a measure of the importance of early, visible change for hard-to-reach populations.

2. More advantage should be taken of natural variation in programme delivery. Programme ‘adaptation’ is an inevitable feature of popular, widely instigated interventions. For instance, in health care systems the same innovation will be trialed across a number of wards or units or hospitals. In regeneration programmes a number of different localities are often created to test bed the latest ideas. In drug harm-reduction schemes there is often ‘roll-out’ across many schools and youth centres. Such comparisons are important not only for what they might reveal about the responsiveness of different intervention sites. They will also open to scrutiny many subtleties of programme induction and throughput management. How has access been managed differently between case 1 and 2, and did it involve that same subtle mix of the red carpet treatment and rug pulling? Was there a difference in opportunities for programme participants to learn from each other and influence the direction and content of the initiative? In general terms, cases should be compared along the journey rather than at the destination.
3. More evaluation effort should be targeted on anomalies, outliers and unexpected consequences in explaining programme progress. Programme evaluation is littered with tales of failure. Without going into detail, I’m thinking of some youngsters who end up toughened rather than ‘scared straight’ by prison visit schemes, of householders who dump rather than recycle as the result of pay-per-throw schemes, of NEETs who skive rather than train under payment incentives, of patients who ‘self-experiment’ in seeking the optimal drug dosages that they deem effective. If we begin here, with the notion that subjects always undertake interventions in ways that ‘seems right for them’, another line of inquiry is opened. Inflexibility of provision may well be a general problem in what is predominately a top down game. According to the model, subject inspired ‘distortions’ will always occur. The crucial task for evaluation then becomes: how and to what extent can such forms of resistance be anticipated and calmed, in ways that allow the programme to resume to its original goals?
4. Rather than always chasing after the newly-minted programmes, more long-term evaluation of existing interventions should be conducted. What happens upstream clearly conditions what occurs downstream. Most obviously, a poorly recruiting programme or one that recruits the ‘wrong’ type of subject is already on the highroad to failure. But one suspects that flows and blockages occur throughout the life of a programme, with equal significance for its fortunes. There are always refractory phases in the intervention pathway and longstanding programmes stand longest because they are likely have deciphered the optimal routes. They will have tinkered; they will have cracked the recruitment problem; they will have learned how to promote reliance and stubbornness in mid phase; and so on. Learning about the ways and means is crucial to understanding ends. The evaluation of programme history is maddeningly absent in programme planning.

4. Applying the model to health interventions

Our exploration of the significance of latent mechanisms ends with a modest look at the massive field of health interventions. Let us commence with the critical case, namely clinical interventions. In the orthodox medical model, the causal powers of

such treatments reside at the physiological level, allowing medication to attack viruses, kill cancerous cells, relax blood vessels, heal bacterial infections, boost the immune system and so on and so forth. The crucial mechanisms of actions identified here are cellular and not social. What counts is the capacity of pharmacological ingredients act on biological systems.

There is no denying this absolute difference between clinical interventions and social programmes. Much of what we know to be true about medical treatments is won in basic science. Because of research in the laboratory and under the microscope there is a significant sense in which we know how treatments work before we put them to test in the field. That test is, so to speak, confirmatory – to discover to what extent and how safely the treatment works in the general population of sufferers. And there's the rub. Any field test of a drug's efficacy has to cope with the real contingencies of treating real people. To deal with these modalities, to try calm the potential contribution of human volition to the treatment process, clinical science has evolved the methodological wonder known as the placebo controlled trial. It is thus appropriate to end our tour of invisible mechanisms with the most famous of all, namely the 'placebo effect' in medical trials. Despite Moerman's ironic quip (2002: xiii) about how easy it would be to write a book on placebos – 'because it would have nothing in it' – it turns out that there is a massive literature on the said topic.

There are many variants of randomised, placebo-controlled trials but the one that offers the most promise in trying to differentiate treatment effects from placebo effects operates with three groups of trialists, namely 'experimental', 'control' and 'untreated'. Subjects are randomly assigned to the three conditions. The first two receive a 'treatment' without knowing whether it is pill or placebo. The third is simply 'untreated'. The idea is that this strategy will perform the hat-trick – differentiating real effects from placebo effects from the null condition.

It turns out that the logic of the 'three-arm trial' is not as tidy as it first appears. One significant problem is all too familiar from our previous exploration of social programmes, most especially in relation the protracted overture to the Big Brother Big Sister mentoring schemes, namely – at what point should one consider that an intervention has begun? In the case of clinical trials Moerman (2002: 26) ponders the same issues – at what point does treatment commence? And on this basis he goes on to make a powerful claim: 'It logically and conceptually impossible to have a 'no-treatment group' in which disease runs its natural course'.

He asks us to consider more closely the experience of subjects in the non-treatment group: 'In order to do a trial, people have to be recruited and diagnosed for the condition under study: they receive some sort of examination, maybe an intensive and dramatic one. They give informed consent, perhaps after reading a long and complex document describing the study, the various treatments under review, and so on. They are they randomly assigned to three conditions: drug treatment, placebo treatment, and no treatment. It's not clear what one will tell the group getting 'no treatment'. Certainly their participation can't be blind to them: they know they aren't getting any drugs or placebos; a reasonable inference might be they are healthy enough not to need any. And after that there has to be a follow up, an assessment of the condition of the subjects after some period of time, or a diary of symptoms has to be kept. While these people have not had pills, they have had a great deal more than nothing.'

The same argument has been made earlier about subjects on ‘waiting list’ controls in social interventions. They are not in a state of repose. Waiting in the wings of a trial can provoke a range of responses, which have never been properly examined. Moerman in the quotation above makes a ‘reasonable inference’ about how ‘non-treatment’ may be interpreted. But the notion that such patients will figure out that they will get by without treatment is only one of a number of plausible conjectures. At the opposite end of the scale, it is possible that dearth of treatment in the null condition could promote despair about absence of hope rather than optimism about marginality of need. Alternatively, some members of this group might seek out additional therapies completely beyond the ambit of the trial. Many, many other conjectures might intervene according to condition and circumstance. The crucial point is that it is impossible to design out human volition by experimental manipulation.

Note that this same stricture applies to the contrast at the heart of the clinical RCT, namely those getting the drug and those receiving the placebo. These groups are responding to ‘whatever it is’ without knowing ‘what it is’. However well the latter is concealed, indeed if it is concealed perfectly, this leaves the subject swallowing the pill in a quite different state of mind, and a curiously apprehensive state of mind, from a subsequent patient talking the medication in the safe knowledge that it is the approved treatment. Moreover, Moerman’s point about the conditioning force of the entire experimental paraphernalia applies to these groups as well. That is to say, the difference between the experimental and control group is not simply that one receives real treatment and one receives inert treatment. The latter group is also diagnosed and recruited to the trial. They learn something about their condition and possible remedies. They are put through a battery of tests which are followed up. To paraphrase, they receive ‘a great deal more than nothing’. A whole battery of such treatment modalities squirrels into the trial rather than being designed out.

The sensible inference to draw from the above is that clinical treatment is a long and complex business capable of attracting diverse inferences in the minds of inference-making subjects, that it is impossible to prevent them cogitating on their role in trial, whatever it is, and that it is impossible to assign perfectly some part of treatment effect to the drug and some part to the placebo⁶. Moreover and perhaps more significantly,

⁶ In the first and still the most famous review of the placebo effect, Beecher (1955) made the claim that in 15 trials he examined there was a general pattern whereby both experimental and control groups tended to show improvement, with one third of the membership of control group typically responding to placebos. Kliene and Kliene (1997) reject these findings arguing that Beecher had cherry-picked the studies, had used heterogeneous outcome measures and had confused two-arm and three-arm trials. A later major review of three-arm trials by Hróbjartsson and Göttsche (2001) claimed that ‘compared to no-treatment, placebo had no significant effect on objective and subjective outcomes’. A rejoinder by Einarson et al (2001) pointed out that many of the no-treatment groups in the original studies did in fact maintain some form of treatment. A further complication is based in the point that placebos do not work as strongly in clinical trials because subjects do not know whether they might be getting the real or the sham treatment. Studies made in which patients think they are receiving the actual treatment rather than its possibility are claimed to show a stronger placebo effect (Vase, 2003). Finally, note that there is scattered literature indicating that the placebo effect varies considerably by condition (coughs versus cancer) leading to the claim that the large-scale, meta-analytic reviews fail to differentiate treatment modalities. Kirch and Sapirstein (1999), for instance, maintain that the placebo effect is particularly large in antidepressant treatment (75%). The moral of this tale for this author is that it is

these attempts to corral such anticipatory effects in the ‘controlled experiment’ bear little relation to how these latent mechanisms escape into all aspects of real, ‘uncontrolled’ treatments. Here, patients arrive in the clinic in quite different states of readiness and anticipation – for which they receive pills and potions *and* consultation and care. A rather different strategy is called for to understand these complex pathways.

This proposition provides the theme for the remainder of this section, for the history of placebo research is a story of how the core idea of ‘placebo’ has, by dint of close empirical research, been broken down into a number of component social and psychological process. Rather than being defined by default as the improvement attributable to inert pills, sham procedures, snake-oil salesmanship and so on, a whole range of ‘active’ placebo mechanisms have been unearthed, including spontaneous remission, symptom fluctuation, experimental subordination, evolved self-healing, brain changes, conditioning, expectancy, motivation change, regression to the mean, serotonin release and double entanglement! I will not attempt total disentanglement here but concentrate on the patients’ interpretative process throughout treatment. What we learn about these ‘meaning effects’, operating in clinical conditions where they tend to be considered marginal and a nuisance to boot, may be informed appreciably by the previous lessons from social programmes where they are much closer to centre stage.

Accordingly, the purpose of the remainder of this section is build a model of clinical treatment (Figure 3) by drawing parallels with the model of social programmes as in Figure 2. The argument is the same – change happens slowly and painstakingly, that a series of measures is required to bring about profound and lasting change, and that the orthodox methods of clinical evaluation are not always up to scratch in being able to identify the crucial concatenations. The new model portrays treatment as a sequence, a patient pathway with the equivalent stages from arrival at the threshold of an intervention to graduation and exit. It also makes use of the same scaffolding, matching the subject’s decision points and the practitioner’s facilitation opportunities (in this case, the patients’ many hesitant choices and the many teachable moments during diagnosis and treatment). Throughout, the model tries to capture what Brody (2000: 649) calls the ‘sustained partnership between physician and patient’ and a dynamic described by Skrabanek and McCormick (ref) as the ‘mutually reinforcing effect [of] the physician’s belief in the treatment and the patient’s faith in the physician’.

In order to stress the family resemblance between the models, Figure 3 is presented at this point using the same matrix structure. The substantive content of each cell will now be described sequentially, building commencing at the stage one – the decision to seek treatment. The overall implications of the model will be put to consideration once the full sequence is set down.

FIGURE 3 ABOUT HERE

1. Interpreting symptoms, seeking help (and its delay)

unwise, indeed impossible, to pin an overall number on the placebo effect without a more thorough dissection of its many forms.

Our model of social interventions began with subjects having some awareness of their ‘problem’ but in state of puzzlement about its exact nature and perhaps ignorance about how to deal with it. Successful social programmes, it was argued, respond by publicising the message that the subject is not alone in their predicament and promoting a specific way forward. The parallel process whereby patients find their way into medical treatments can be equally fraught, even though services provision for health problems is comparatively vast, as is folk wisdom about appropriate remedies.

In the case of acute and life-threatening conditions the stakes may be particularly high should there be delay in coming forward for treatment. The effectiveness of some therapies (angioplasty, thrombolytic agents etc.) for coronary heart disease diminish by the hour following a severe attack. Delays of diagnosis in breast cancer of three months or more is reported to lead to 12-19% drop in 5-year survival rates (ref). In general, clinical efficacy is highly susceptible to pre-intervention differences in seeking treatment as they are distributed across a trial population. Careful stratification of the risk levels associated with alacrity or delay is therefore needed to understand the outcomes of RCTs. Average success rate for a treatment can hide significant individual differences associated with the history and progress of disease (Kent and Hayward, date; Kravitz et al 2004).

Against this background, a body of research is gathering with the aim of understanding ‘treatment seeking delay’, both in terms of its causes and potential solutions. The picture emerging from evaluations of campaigns encouraging people to seek early treatment is of the need for ‘tailor-made invitations’, closely fitting the patient’s condition, circumstances and prior expectations. Gone are the days where one-size-fits-all, ‘educational’ campaigns are deemed sufficient.

For instance, the REACT (Rapid Early Action for Coronary Treatment) campaign was shaped by the evidence on known ‘limiting factors’ conditioning response to acute myocardial infarction (AMI). The manner and timing of response to such attacks is ragged because: i) AMI symptoms are diffuse, ii) AMIs, unlike other conditions, offer no opportunities for behavioural rehearsals, iii) the presence of bystanders and family members is vital in avoiding delay, iv) clinician advice for those displaying earlier symptoms is crucial but difficult to organise equitably and systematically. The REACT programme sought to address each constraint in a multi-factor campaign, including actions aimed at at-risk individuals, their families, their communities and their professional providers. Each component was ‘theory-based’, perceiving symptom recognition as a communication problem rather than a clinical issue. Raczynski et al (1999) can be usefully consulted on the evaluation of efforts to mount the initiative flexibly to mirror the experience of different communities and individuals. The programme is noted here not because it cracks the problem but rather for its careful articulation of the social dynamics at the inception of treatment and their significance for long term outcomes.

The reasons that women give for seeking or delaying treatment for breast cancer are much studied (Ramirez, 1999; Burgess et al 2001) and also demonstrate vividly the significance and variability of choice making at the threshold of clinical interventions. Facione and Facione’s (2006) inquiry examined the ‘cognitive structure’ of this decision in minute detail. They compared the thinking of 13 women seeking

‘immediate’ diagnosis with a group of 15 ‘delayers’ who had had symptoms for at least 3 months (8 for more than a year). The authors describe the inhibited progress along the decision tree as follows ‘People form early preferences for how they would like to respond to a high stakes dilemma. They structure their arguments for the value of one chosen alternative while minimizing the values the other alternative not to be chosen. They may seek selectively for facts that support that choice’ (2006: page).

Coming to details, the authors note that the reasoning of both groups was permeated by fear. However, ‘Women who sought diagnosis used the fear to motivate seeking a diagnostic visit and described the visit as relieving uncertainty and anxiety. Women who delayed described experiencing anxiety, sadness and depression ... associated with concerns about biopsy and breast loss. They voiced no expectation of emotional control or expected relief from a provider visit ... concluding that these negative emotions were best avoided by delaying’ (2006: page). Borrowing on the experience of others led to a similar bifurcation. The recalcitrant ‘claimed that friends’ or relatives’ experiences with biopsies were relevant to the own decision to delay: “My lump is just like hers, benign”. In women who sought diagnosis, positive stories of well treated cancer and benign biopsies were used to explain the advantages of seeking diagnosis’ (2006: page).

As with social interventions, this example confirms the need to commence interventions by meeting the subtleties of subject choice with meticulously targeted facilitation. In this instance, final clinical outcomes may be shaped drastically by the urgency of these initial decisions on seeking treatment. The studies highlighted here demonstrate a need to abandon the notion that resolution lies in information campaigns for the unformed. Facione and Facione (2006: 3147) go so far as arguing that the providers’ responsibilities extend to ‘challenging, correcting and reframing’ many of the commonly used justifications for treatment delay. Our model thus commences with the dynamics of symptom interpretation as its first element. It is impossible to rid subject choice from the decision to enter programmes or seek treatments, the point is to make it better informed but also more reflexive and self-critical.

2. Diagnosis is treatment (and a teachable moment).

The sub-title here follows a famous paper by Brody and Waters (1980) who claim that providing a diagnosis is itself a miniature treatment carrying its own effect and one that can shape the long term outcomes of an illness. The authors argue that the mere act of giving an authoritative name to the symptoms and identifying a time-honoured, clinically-approved treatment can itself have a therapeutic effect. Doing so gives meaning to symptoms which the patient feels are hard to pin down and describe. Clarification on the ‘true meaning’ of the ‘warning signs’ begins to develop reassurance. In the context of research on diagnosis of non-specific abdominal complaints, van Dulman and Bensing (2002: 295) describe the process more closely: ‘Physicians perform cognitive interventions by explaining to the patients the connection between the meaning and the perception of their complaints, encouraging physical and psychological relaxation, identifying negative ideas and replacing them with patient-specific positive ideas. After a visit to their physician, patients frequently modify their ideas about the cause of their complaints and often already feel less concerned once they have been reassured that they have not contracted a life

threatening disease. This reassurance can manifest itself in a reduction both in physical complaints and in the accompanying use of health services.’.

Diagnosis, of course, may not always act beneficently. A diagnosis is a label and labelling theory tells us that ascribed meanings can be both condemnatory and stubborn. Rodger et al’s (2003) retrospective cohort study of carriers of the hepatitis C virus (HCV) demonstrates this effect over a remarkably lengthy period. Serum had been stored and frozen from patients visiting the infectious disease clinic in Melbourne between 1971 and 1975. It was tested in 1988 and an attempt was made to locate carriers of the virus. Of the 34 chronically infected subjects 15 knew of their status before this follow up, with the remainder being unaware. A battery of quality of life (QOL) measures was administered with the following results: ‘those aware of their positive HCV serostatus had a significant reduction in QOL scores in 7 of the 8 scales compared with the population norm. These individuals had a subjective perception of extremely poor physical and mental health leading to limitation of daily activities, bodily pain, poor social functioning and emotional problems. In contrast, the group that was unaware of their HCV status had significantly lower QOL scores in only 3 scales (general health, vitality and mental health).

Since Brody and Waters pioneering paper, the idea of making use of special opportunities within the diagnostic period to influence the future direction of treatment has been broadened via the concept of the ‘teachable moment’ (McBride et al, 2003:156): ‘The label “teachable moment” (TM) has been used to describe naturally occurring life transitions or health events thought to motivate individuals to spontaneously adopt risk-reducing health behaviours. The occurrence of TMs is supported by accepted conceptual models that emphasise the importance of cues in prompting motivation for behavioural change ... The concept is appealing because timing formal interventions to take advantage of these naturally occurring events might increase the effectiveness of self-directed and low-intensity interventions that are also low in cost and amenable to widespread dissemination’.

McBride and colleagues (2003) go on to review the influence of TMs on smoking cessation and in particular the influence of the following events: i) office visits (to GPs); ii) notification of abnormal test results; iii) pregnancy, iv) hospitalisation and disease diagnosis. As with many social interventions, the shaping influence of context is profound. Studies of cessation rates after and across these events showed significant differences: i) 2-10% ii) 7-21% iii) 10-60% iv) 15-78 %. On the basis of a close inspection of the meanings associated with such changes, the authors go on to develop hypotheses about how formal interventions might be shaped and timed, the better to promote positive choices. This theory stresses that advice gets across more readily if it is able: a) to personalise risk (c.f. the studies on delay), b) to chime with ongoing emotional changes, and c) to stress the patients’ wider obligations to kin and to peers.

For obvious reasons, the first formal diagnosis of a health complaint is a significant turning point, the handling of which may prompt distress or confidence building, which reactions themselves may go on to impede or facilitate further progress of the condition and its remedy. The model now turns the next point along that chain.

3. Informed choice of treatment and decision aids

After diagnosis comes treatment and it is a rare condition these days that does not yield to a range of clinical treatments. This situation is sometimes described as ‘professional equipoise’ – the dilemma in which clinical science provides no definitive indication about which of two or more treatments may provide the optimal remedy. Accordingly, it is now a common cry that greater patient involvement in choosing their own treatment can lead to improved outcomes. One consequence of this trend is the promotion of ‘decision aids’, tools for patient’s consumption that explain treatments and their potential risks and benefits. According to one authority (O’Connor et al, 2008) decision aids were accessed more than 8 million times in 2006, mostly through the Internet – this datum itself being a stunning sign that treatment is played out in the public sphere as well as in the clinic. Decisions made at this juncture and on this basis may turn out to be wise or unwise. Any model of the treatment process

On closer inspection, the introduction of informed choice or shared decision making turns out to be difficult to manage. Stewart’s (1995:1422) pioneering review of experiments on patient choice reveals some subtle examples of dynamics that can help to clarify the latent mechanism involved:

“In one study (Morris and Royal, 1988) the fact that a woman was able to choose the kind of breast surgery to have [mastectomy or lumpectomy] was not found to be related to emotional health outcomes. In another (Fallowfield et al, 1990) going to a surgeon who permitted, but did not force the choice, *was* found to be related to positive outcomes. I would suggest, therefore, that it was not simply the decision making power of the patient that was effective but, rather, the provision of a caring, respectful and empowering context in which a woman was enabled to make an important decision with both support and comfort”. (References not claimed for this paper.)

The dilemma portrayed here, whilst horribly specific, harbours a striking resemblance with the lot of many recipients of social programmes. Subjects always choose but rarely choose the choices open to them, or know that much about them. Conversely, the deeper the contemplation of the choice, the more informed the choice, the more determined is the subsequent pursuit of the choice. It is no accident, for instance, that this process of narrowing and hardening of choices echoes earlier discussion on collaborative decision making on offer in some prisoner education and youth mentoring programmes.

Many patients, of course, still prefer to delegate decisions on treatment to their physician. Whilst there is some evidence that a ‘consumerist attitude’ grows more prevalent by the year, Ford et al’s (2002) synthesis shows that the desire for involvement varies by type, severity and longevity of a patient’s condition. Against this background, studies of the efficacy of shared decision making and decision aids tend to generate distinctly patchy outcomes.

Two studies from the review illustrate the dilemma. The decision whether to start, stop or continue with hormone replacement therapy (HRT) represents a good example of clinical equipoise. Murray et al’s (2001) study compared a group of women making the choice using an ‘interactive, multimedia decision aid’ versus those receiving

‘normal clinical care’. After three months decisional conflict was significantly lower for the experimental group, GPs felt that significantly more of their patients had led the decision, and significantly more of them had decided against HRT. These differences, paradoxically, shrank to non-significance at nine months. Goel et al’s (2001) study of decision aids returns us to the dilemmas of shared choice making in breast cancer treatment (lumpectomy versus mastectomy). This was a cluster randomised trial comparing outcomes for surgeon practices using an audiotape-and-workbook decision aid versus a simpler explanatory pamphlet. No outcomes differences were discovered between the main trial groups though, perplexingly, small subgroups of women who were ‘initially undecided about treatment’ or whose ‘first preference was for mastectomy’ reported a decline in decisional conflict in the decision-aid arm.

These studies require careful excavation to decipher the delicate balance of outcomes reported. No such attempt is made here, the point being that we find ourselves back in the classic social programme territory. Decision aids are no panacea. These schemes only work for certain groups in certain situations and in certain respects. Without understanding these contingencies the onward fate of the chosen treatment will remain uncertain.

Studies of physicians’ attempts at shared decision-making (Elwyn et al, 2000) reveal the some of the subtleties required in its implementation and also help explain its variable effectiveness should those nuances be absent. The first and significant hurdle is to test the patient’s appetite for participation rather than to assume its presence. This is demonstrated vividly in one doctor’s remarks on how *not* to introduce parity: “‘Hey this is shared decision-making time ... let’s do it” ... I think patients would think I have gone barmy if I did that’. Elwyn and colleagues go on to propose a sequential model of the stages or ‘competencies’ through and by which informed choice may come to full fruition, which can be summarised thus:

- Opening up the possibility of and opportunity for shared decisions
- Exploring the patient’s ideas and fears on their problem and possible treatments
- Portrayal of clinical equipoise, rather than indecision, and initial explanation of treatment options
- Identifying preferred format for patient to understand information on the various treatments
- Pausing the processes to check understanding and reactions to the data
- Rechecking the patient’s acceptance of their role as joint decision-maker as choices harden
- Offering a cooling-off period and follow-up before arriving at the final decision

Whilst this miniature model requires further testing before it can be endorsed as ‘evidence based practice’, it provides an elegant practical exemplification of the social dynamics in this third stage of the pathways model. It adds significantly to the general thesis wherein the singular notion of treatment is seen to dissolve into an array of social processes. Shared decision making cannot be accomplished in a highly mechanical and reproducible manner. Without further understanding, its increasing usage may add to the variability of treatment outcomes.

4. Treatment (pure and not so simple)

Thus far our model of healthcare interventions has been played out in the community, home, hospital and doctor’s surgery and, unsurprisingly, it carries many of the same dynamics as social interventions. As such, it yields comfortably to explanations from psychology and sociology. But at this point the model plunges under the skin and

arrives what many would regard as ‘treatment proper’, namely the application of therapies, remedies, surgical interventions, pills, unguents and potions. The mechanisms of action here, clearly and unequivocally, belong in the realms of the pharmacology, chemistry, genetics, biology, physiology etc. Investigation of why and whether such treatments work thus depends significantly on basic science, laboratory investigations, animal experimentation and clinical trials. This crucial difference in explanatory content is designated via the shaded arrow in figure 3. To make the distinction even clearer the voice of the covering proposition changes from active to passive. In all other phases of the model, the subject chooses, aided and abetted by the practitioner. Here, the treatment is applied and the body responds.

The issue to be confronted here concerns the extent to which this phase can be treated in isolation from other stages in the pathway. Evidence-based medicine has in the past tended to be fiercely protective of this arena, arguing that there is a hierarchy of evidence on treatment efficacy, namely that the aforesaid apparatus (of basic science, laboratory investigations, animal experimentation and, above all, clinical trials) is sufficient to answer the crucial question about ‘what works?’. This paper is not a critique of this apparatus. This is no anti-science tract. The question posed here is about the future direction of such trials. Where is this science going?

The great contemporary predicament of evidence-based medicine rests on something we all know – namely, that the same treatment produces different results in different people. Kent and Hayward (refs), express the ensuing dilemma as follows: ‘Because many factors other than treatment affect a patient’s outcomes, determining the best treatment for a particular patient is fundamentally different from determining which treatment is best on average’. Formally this problem is recognised in the trials literature as the heterogeneity of treatment effects (HTE): ‘When HTE is present, the modest benefit ascribed to many treatments can be misleading because modest average effects may reflect a mixture of substantial benefits for some little benefit for many and harm for a few’ (Kravitz et al, 2004: 661).

Such a proposition is horribly familiar in social programmes, where there are always winners and losers (with a horrible tendency for them to balance out). There are many different personal and contextual circumstances which leave patients with different levels of responsiveness to treatment (refs). In terms of the individual: their diet, age, lifestyle and general state of fitness can make a significant difference. Their medical history, the degree of the progress of the disease and the extent of co-morbidities are also highly significant. Social contexts, like work environment can increase susceptibility to disease and limit opportunities for the implementation and action of treatments. Even geography can make a difference with, for instance, the prevalence of penicillin-resilient bacteria varying considerably by region and country. Alongside all of these contexts stands difference in human genetics. The ability of the body to absorb and metabolise a drug varies considerably. The new discipline of ‘pharmacogenetics’ studies how our individual genetic inheritance endows us with a range of different drug transporters and receptors, which in turn are key in controlling the body’s response to treatment (ref).

Kent and Hayward (ref) have found a striking way of highlighting the significance of this mass of contingencies, boiling them down into stark vignettes. The following tells the tale about the contrasting benefits of endarterectomy (a straightforward but not

risk-free surgical procedure to remove blockages of carotid arteries to reduce risk of stroke). The original ‘ECST’ trial resulted in the recommendation that everyone with a blockage of over 70% should be so treated. But ...

‘Consider, for example, Cesario and Viola. Four days ago, Cesario – who is 76 years old – suddenly, though temporarily, lost control of his right hand and the ability to talk. A cerebral angiogram (an X-ray of the arteries that supply the brain) showed that his carotid artery was 90% blocked and the plaque has an irregular border. Based on this the trial, according to the ESTC model, his risk of stroke over the next 5 years is over 40%. Viola, on the other hand, is 59 years old. More than three months ago, she experienced transient loss of vision in one eye (suggesting a clot in the vessels supplying her eye rather than her brain). She has had no symptoms since. Her carotid blockage was 70%, and the plaque was smooth. Based on Viola’s characteristics, her risk of stroke in the next five years is less than 5%. Moreover, because Viola is female and has very high blood pressure, her risk from surgery is higher than Cesario’s. For Cesario the benefits are clear; for Viola, the risks of stroke from the surgery itself would outweigh the benefits.’

In the space of a paragraph we can see the analytic logic in construction. Factors conditioning the effectiveness of treatment are varied and multiple, and it is their multiplicative action that determines the ultimate efficacy of treatment. Having offered this briefest glimpse of the problem, we can return to question of the direction of travel of trial research. Rather than the traditional blockbuster trial, the move to a detailed risk-based, sub-group analysis is underway (Price Waterhouse Coopers, 2005). The key is to explore systematic difference within and well as between experimental and control conditions. This shift is somewhat reassuring to the evaluator of social programmes because it echoes a familiar mantra that their crucial task is the explain ‘what works for whom in what circumstances and in what respects’.

One should add that, even for enthusiasts, personalised medicine’s goal of ‘the right medicine for the right patient’ is decades away. Kent and Hayward’s (ref), survey of 4 major journals and 108 trials conducted in 2001 found only one that used risk stratification. Further difficulties emerge from the fact that constraining and enabling conditions vary from the macro (disease demographics) to the micro (individual genetics), requiring suites of national and cross-national of trials to explore all possible configurations. And then, of course, there is the leap into practice. Bodies arrive for treatment in quite different states of repair because they are controlled by capricious, wilful human agents. Not only does each patient represent a different medley of risk factors, the system for identifying and itemising them coherently is not yet remotely in place. Thus at any given point diagnosis still turns on the skill, judgement and experience of the individual physician. Even as we begin to learn more about the risk-stratified, sub-generalities of treatment, that knowledge still has to be translated to the specifics of the patient’s journey. None of this negates the worth of heterogeneity analysis, risk stratification, personalised medicine *et al.* Partial knowledge is better than no knowledge. The long climb, short of the conquest, is still valuable. But, rather as with the evaluation of social programmes, the everlasting battle with contingencies may often seem to leave us on the lower slopes.

Finally, note that the risk agenda also bring fuzziness to the notion of clinical outcomes for we also now have to reconsider what counts as ‘success’. Classically, within the RCT, the result that counts is whether ‘treatment provides the cure’. But the notion of a curative outcome has been massively stretched in modern medicine, which also concerns itself with prolonging life, improving its quality, reducing pain, providing succour, preventing secondary infections and side effects, and so on. Success on all of these fronts is also conditional on demographics, patient history, genetics, and so forth – bringing even more complexity to a future programme of risk-stratified trials.

But outcomes are also matters for human interpretation. For instance, a treatment for prostate cancer may have a given rate of success in slowing the disease but at the risk of incontinence/impotence. Only the patient, aided and abetted by post-treatment social initiatives, can calculate these relative utilities. These decisions are taken up (stages 6 and 7) as we complete the full model by returning to the ‘choice agenda’.

5. Interpreting the treatment (and the doctor’s theories).

Our model is perched at the point of commencement of treatment and we turn to the social side of its initial delivery. Pills are swallowed, shots are injected, instruments are inserted, salves are applied ... and the reason for the procedure is explained. The potential power of this explanation has long been acknowledged, a situation rather well exemplified in the muscular title of a landmark paper by Houston (1938) – ‘The Doctor Himself as a Therapeutic Instrument’. Nowadays, we would be more likely to cede that power to institutional arrangements, long internalised by a public availing itself of mighty levels of health service provision. Not only are we informed that the treatment does X, and it works by Y and that it should not be applied if one is already taking Z, all of that advice comes officially wrapped as an NHS prescription.

As documented earlier, social programmes work more sweetly if there is immediate evidence to participants of ‘quick wins’ and, just as significantly, the presence of some authority who is able to attribute the gain to the intervention. The early stages of medical treatment are prone to the same influences, but can be even more powerful in their reinforcing effects by dint of ‘institutional clout’. A doctor’s counsel is automatically more compelling than the youth worker’s advice. We all know, for instance and from the outset, that the drugs we will receive under the aforesaid prescription are ‘licensed’. They are more powerful and specific than the generic drugs we may buy for ourselves over the counter.

The literature is full of interesting examples of our latent assumptions about medication. Another thing that ‘we all know’ is that, given their potency, the more drugs one takes the more one comes under their influence. This ‘dosage effect’ has been studied in a number of experiments. Moerman (2002: 51) reports on a set of trials of ulcer treatments in which the frequency of application of the drug is compared (e.g. two-a-day versus four-a-day). A large study by de Craen and colleagues (1999) reports that 8% more patients became ulcer free under the second condition. The real point of interest, of course, is that these are placebo studies and the

patients are receiving either a doubling or quadrupling of nothing⁷. All that is changed is the mode of implementation of a ‘treatment’ regime.

Moerman (2002: 45) provides another example of the doctor-as-an-active-ingredient, which provides an explanatory glimpse into its operation. One routine context that prompts the ‘physician effect’ is the constant throughput of new drugs and treatments. These, of course, excite the interest and expand the knowledge of the physician. So much so that there is often a bizarre regression in which old drugs seemingly become less efficacious as new ones come along. Moerman reports on trials of drugs for ulcers. The original trials on the first (Tagamet) resulted in 72% of patients being healed. Seven years later a new drug (Zantac) came on the scene and its trials showed a slightly improved 75% rate of healing. A contemporaneous, second-wave trial on Tagamet were also performed and, curiously, the efficacy of the original drug across the same population had dropped to 64%. Enthusiasm, as they say, radiates and one explanation for the decline is that interest in the new drug was balanced by a cooling of enthusiasm for the old. These drugs are dispensed by injection and tested by endoscopic examination and there are opportunities at both ends for the subtle transfer of anticipation. The offer of a ‘new and improved’ regime may well have been contagious.

The significance of this transfer of anticipation at the point of prescription and first application of a treatment has been a constant source of dispute. It is the epicentre of the placebo debate. One of the methodological marvels of clinical experimentation is the double-blinded randomised controlled. Single blindedness deals with the problem of ‘suggestible patients’, whose enthusiasm is subdued when are no longer sure whether they are receiving treatments or placebos. A second layer of disguise, whereby those conducting the trial are also unaware of whether they are offering pills or inert placebos, is then taken to deal with ‘experimenter effect’. It is acknowledged that wisdom and experience about what works can be passed onto to patients though dozens of subtle cues within the diagnostic process. But this influence is removed when the research physician doesn’t know what they are prescribing.

Or is it? I’ve already argued out the outset of section 4, that placebo controlled trials operate with a simplistic understanding of expectancy transfer. In this second layer of blinding, the interpretation of the ‘contaminating’ influence is perceived as the interpersonal sway of doctor over patient (the influence of the ‘doctor himself’). But the doctor is merely an agent in a much wider array of institutional forces. And these all remain in place as the backbone to the trial. Thus, to repeat, patients in the trial have to be recruited and diagnosed for the condition under study; they will have received some sort of prior examination, maybe over a length of time; they give informed consent, perhaps after skimming a complex document describing the study and the various treatments under review. In short, they receive a great deal more than pill or placebo, something or nothing.

Take this scenario into the reasoning of the trial patient. There they are sitting in the midst of a hospital regime. A package has been handed over. They don’t know whether it contains pills or placebos. They also know that the research administrator doesn’t know whether it is pill or placebo. None of this empties their heads. None of

⁷ A mathematics primer for social scientists: $2 \times 0 = 0$; $4 \times 0 = 0$; etc.

this renders them a passive receptor of the drug. The additional news that the researchers is blind to the treatment may leave a fair proportion of trialists baffled and befuddled. At the other extreme, uncertainty may prompt patients to become investigators and try to figure out which arm of the trial they occupy (ref). In between they may be anything from trusting to wary. All we can be sure of is that the patient is left unsure.

The problem with the blinding remedy from the perspective of this paper is the basic logic – the attempt to purge a mechanism from the treatment process when the real point is to understand its functions, positive and negative. Whilst one can sap substantially the face-to-face authority of research physicians in trials, one cannot remove the influence of clinical setting and the research apparatus. And moreover, one cannot cancel out the doctors' influence in real diagnosis and treatment. Real doctors don't write prescriptions for 'X' or maybe 'Not X'. As long as there are medics, their convictions will play an active role that cannot but influence medical outcomes.

The conventional placebo controlled trial turns out to be a blunt instrument, hugely important in arriving at a ballpark figure of the efficacy of a somewhat artificial application of a treatment but of little use in understanding how to maximise that efficacy. But I must not throw baby out with the bathwater here for it is quite possible to convert the RCT into an instrument for investigating the different ways and means prescribing a treatment. There are, in fact, many ingenious and well conducted trials that help us understand the mechanism involved when treatment is first implemented.

One of the most noted is a trial by Pollo and colleagues (2001) on recovering patients following cancer surgery. It is significant because it investigates the most basic act of prescription, namely telling the patient what the medication is and does. The patients in the trial, following normal practice, were given analgesics (pain killers) shortly after surgery and then at intervals over three days. In addition they were put on an intravenous drip containing only a saline solution. This acted as the placebo and the experiment turns of the different explanation given for the IV. Group 1 were told nothing about the contents or purpose of the IV. Group 2 confronted the classic blinding routine of being told that the IV was either a further real analgesic or a placebo. Group 3 was told that the IV contained a further pain killer.

The outcomes of these different regimes were measured by charting requests for additional pain killers. These were real patients in real recovery and it was normal practice for them to be able to 'top-up' the standard dosages, if they wished to do so. Group 3 requested 34% less analgesics than group 1 and 16% less than group 2. This, of course, is one experiment on one portion of a treatment in a highly specific locality for a highly specific condition. But it does begin to show the power of 'mere' verbal instructions and it does indicate that the anticipatory effects of the blind condition are quite different from the normal condition in which the patient is given an unequivocal indication of the drug's action⁸.

⁸ As an aside here, note that this and other experimental demonstrations of the presence of expectancy effects do not explain how the mind produces that effect. How, in this instance, is pain blocked? For an explanation I footnote another stunning inquiry performed by other members of this Turin group (Amanzio, 2001). The experiment was a complex six-arm trial, worthy of several thousand words of explanation, the gist of which is as follows. If a placebo is able to reduce pain then the mind must

Thanks to further studies of this ilk (ref) the ground is solidifying under the claim that the social accompaniments to medical treatments can moderate the immediate clinical influence. Again, this prompts the idea that we can learn from social interventions in which, so to speak, the whole programme is a social accompaniment. The lesson here, however, is not just the need for further research on the tricks of the trade of physician-patient communication. It is important, from the point of view of theory building, to specify the mechanisms in operation at this point (stage 5) of the model. Once again, I charge Moerman (2002; 45) with helping us to locate the lasting lesson: ‘Doctors know lots of things. Many of the things they know they are unaware of knowing (as is true for many of us in this life). But it is the depth of their conviction which conveys to patients power of their treatments’.

What this suggests is that medical certainty in the knowledge that a treatment works provides considerable assurance to the patient, allowing them to interpret the very action of that treatment. Such powers of conviction, however, are not only in the gift of the self-assured physician. Much of the endorsement is tacit and institutional. The doctor provides a prescription and an explanation. But before that we already know that the drug has been licensed, quality-assured and safety-checked. And after that, when the drug is dispensed, there is a huge organisational scaffolding in which our identities are checked, we pay for the privilege of receiving the treatment (or are absolved from it) and we receive further detailed advice in explanatory leaflets. Social programmes often have to build this institutional base from scratch (c.f. section 3) and can never, ever match such levels of reassurance.

6. Secondary and tertiary treatments (and more teachable moments)

Some social programmes, based for instance on education or training or community building, continue over many months and years. And what is taught, trained or built varies over that time. A mentoring programme, for instance, might start by concentrating on interpersonal relationships, move on to raising ambitions, then to coaching and finally to help with finding education or career opportunities. Whilst the content of the progressive steps is entirely different, clinical treatments typically evolve over time adding a range of supplementary interventions. For example, Demark-Wahnerfried and colleagues (2005: 5826) note that practitioner strategies with cancer survivors may include strategies at the ‘three levels of prevention’: primary messages about exercise and better diet; secondary measures about continued

produce something that blocks actual pain. The experiment tests whether the brain under the prompt of a placebo is able to produce a pain numbing opioid. We can show whether this is so by introducing selectively, across the experimental groups, a further agent that blocks the action of such opioids. The experiment measured pain tolerance. As in the first experiment, groups who were told falsely they were receiving an analgesic (i.e. given in placebo form) had more pain tolerance than groups receiving no treatment. The crucial comparison in this case was with another placebo group, falsely told they were receiving an analgesic but who in fact received an opioid-blocker. They had significantly less pain tolerance than the ‘pure’ placebo group. Inference? The placebo works, in this instance, though an expectancy effect that switches on a biochemical mechanism in which the body produces its own pain killer. This automatic reaction was substantially switched off in the group that received the opioid blocker. Put more graphically, ‘the mechanism is none other than the body’s own poppy field’ (Bausell, 2007: 161).

screening for associated problems and neoplasms; tertiary measures on the management of long-term and palliative care’.

The onset of each modification lengthens the opportunities for patient choice and introduces a secondary array of ‘teachable moments’. The dynamics and difficulties here are much the same as described at stage two of Figure 3, and so only one example is required to populate this subsequent step. Survival rates in cancer sufferers continue to grow, with Demark-Wahnerfried and colleagues (2005:5814) reporting current rates of 64% at 5 years. Attention has thus been drawn to what is termed the ‘sequelae’ or the long-term associated conditions of the disease and its treatment. The following selection of quotations from the authors’ (2005: 5819) review of post-diagnosis health promotion demonstrate both the opportunities and the recalcitrance, and then go onto describe a teachable moment and a lost opportunity.

‘Data regarding physical activity and cancer survivors is somewhat mixed, with some studies suggesting higher levels of physical activity, some suggesting no difference, and some suggesting less ... Consumption of a healthier diet is reported by 30% to 60% of survivors, with the majority indicating reduced intake of meat and increased consumption of fruits and vegetables ... Although a substantial proportion of cancer sufferers spontaneously initiate positive behavioural changes, many do not. Males and those who are less educated, over the age of 65 or who live in urban areas are less likely to either undertake healthful changes in behaviour or maintain them ... Data originating from the area of mammography screening clearly show that physicians are amongst the most powerful catalysts for promoting behavior change and therefore may be optimally positioned deliver guidance regarding health promotion. Indeed a recent randomized controlled trial ... of breast cancer patients randomized to an arm receiving oncologist’s recommendations to exercise reported a mean increase of 3.4 Metabolic Equivalents per week compared to those not receiving a similar message’ Current reports, however, suggest only approximately 20% on oncology care physicians provide assistance in this area’.

7. Compliance, concordance and agreement to differ

Healthcare choices cease only on death. Decisions made well after diagnosis is completed and a course of treatment is underway may still influence its efficacy. Just as the subjects of social programmes ruminate persistently on their continuing utility, patients have ultimate liberty to choose whether or not to not follow prescription (medication or advice). Here, in the final step of our sequential model, we confront another large body of research on ‘compliance with treatment’.

Lack of adherence to the experimental condition is another methodological bugbear of the RCT. Dracup and Meleis (1982) conducted a pioneering inquiry attempting to fathom the reasons for an initially successful and subsequently unsuccessful trial of the same drug for reducing blood pressure. It turned out the hypertension regimen was followed by 80% of patients in the former trial compared to only 50% in the latter. Since these early studies, research has turned to the reasons for non-compliance and that rationale, once again, lies in the ubiquitous choices and beliefs of the patient (McGavock, 1996). As seen throughout the earlier stages of our model, people confronted with an illness try to deal with it through their own experience, resources and folk wisdom. Later, when they arrive at a consultation, diagnosis and choice of

treatment, patients still bring with them a set of ideas and expectations about health and illness. There is no fixed point at which lay knowledge concedes to professional expertise, with the result that adherence to treatment can wobble throughout the entire intervention.

Donovan (1995), for instance, reports on patient's self-experimentation in modifying the prescribed drug intake to diminish the risk of side effects and in order to discover the lowest drug dosage that seems effective for them. Even more subtle is the discovery of 'drug holidays' and 'white-coat adherence', in which compliance is timed to meet medical check-ups and consultations (Raynor, 1992). Complicated treatments result in some of the most informative evidence on the compliance problem. In a study of adherence with physiotherapy regimes for osteoarthritis, Campbell et al (2001) note: 'Initially, all informants complied with the physiotherapy regimen to some extent, usually citing loyalty to the therapist or an altruistic desire to help the research. The reasoning underlying compliance in the longer term was more complex. While most understood and acknowledged that they should undertake the exercises and taping often and regularly, many only managed a restricted programme, usually those easiest to accommodate into daily routines or which seemed to convey the most benefit.'

Turning now to how practitioners might respond positively to the subtleties of compliance, we come to the much vaunted 'concordance agenda'. The rationale is to rethink the problem from one of failure to enforce and reinforce treatment instructions to one in which patients and health professionals viewpoints should be merged on mutually agreed goals. In the words of a Royal Pharmaceutical Society (1997) report: 'Concordance is based on the notion that the work of the prescriber and patient in the consultation is a negotiation between equals and that the aim in the consultation is therefore a therapeutic alliance between them. This alliance in the end may agree to differ. Its strength lies in a new assumption of respect for the agenda and the creation of openness in the relationship, so that both doctor and patient can proceed on the basis of reality and not of misunderstanding, distrust and concealment'.

A randomised controlled trial (Grunfield, 1999) on satisfaction with 18-month follow-up arrangement for breast cancer check-ups provides a simple example of how long-term concordance may be advanced. Patients were randomised into two groups – i) continuing routine follow-up in outpatients clinics or ii) routine follow-up with their own GP. Tellingly, the response rates to the inquiry in the hospital group fell 10% more than in the GP group. The study concentrates, however, on patient satisfaction with specific arrangements. In this respect the GP group outscored the outpatients on almost all of the 15 items in a satisfaction survey as they related to the quality of service, consultation and continuity of care. Such a pattern suggests some important levers to improve concordance, though the authors are keen to stress that the results go well beyond a simple message about optimal settings for follow-up. Patients value the importance of 'seeing a doctor you know' and perceive a clear and unsurprising advantage in this respect of GP follow-up. However, 'receiving a thorough examination' is also deemed vital for staying on the programme and in this respect both situations cater equally well.

Not surprisingly however, given such an ambitious agenda, empirical studies made in the post-concordance era have found the idea wanting in certain contexts (Stevenson

et al 2000; Bissel et al 2003). The gap between perspectives is rarely on the modalities of treatment but on whether it is possible to deal with structural, material and cultural prerequisites underlying the treatment. Bissell et al, for instance, report on the struggles of a woman in a UK South Asian community in coming to terms with a dietary regimen for diabetes. Her difficulties began with the standard dilemma of having to forego ‘normal food’. Problems multiplied in terms of financial hardships in catering for the now different dietary needs in the family. Because she had been found unconscious and untended, she had been advised to get out and spend less time alone but this had been limited by physical assaults in the local community. The death of her father also made her feel isolated and distress. The encirclement of such problems, in her mind, prompted the woman ‘to start thinking, sit down and *eat more*’.

It should be emphasised again that these studies have found little dispute with the principle of concordance (from either side of the ‘divide’). The problem lies in matching routines in the family and community with those in the surgery and hospital. In some cases, the new alliances may ‘agree to differ’ but also ‘need to differ’ if existing customs and commitments are maintained. Our model, at its end, reflects potential tensions between patients and providers. Treatments work to the extent that dual commitment from both parties is applied to the end.

Implications for healthcare evaluation

Whilst clinical treatment is vastly different from most forms of social interventions, there is commonality across the dozens of investigations discussed in the above section. What these inquiries tell us is that the path from illness to cure, should it materialise, is a journey rather than a turning point. A whole range of collateral, one might indeed say complementary, mechanisms facilitate the journey. Best practice in medicine rests on generating biological and physiological change but it also involves interweaving an array of psychological and social processes – some of them rather more opaque than others. Evidence-based medicine and evidence-based policy are cousins that should be encouraged to kiss rather than squabble.

With this thought we reach the final objective of the paper, which is to provide some speculative comments on the ramifications for clinical evaluation and clinical policy – *should the sequential model be correct*. The proviso is inserted again because figure 3 should itself be regarded as the product of a rapid review and synthesis on the treatment pathway through the eyes of clinically-unqualified but programme-wise sociologist (that perspective hopefully being the source of the novelty, if any, in the model). It is also pertinent here to issue a forceful reminder to readers that, like its social programme counterpart, figure 3 is a middle-range, ideal-type model. It trades on a level of abstraction that cannot capture every decision and every prompt offered on the programme pathway but which is able to illuminate a common diagnosis-treatment dynamic from which all interventions can learn⁹.

⁹ One further clarification can be usefully footnoted. The idea of stages-of-change in patient decisions is already embodied in psychological theories such as the ‘transtheoretical model’ and ‘reasoned action theories’ (refs). These theories attempt to model the motivational states of different patients in terms of their predispositions and willingness to undergo treatment. Whilst the model developed here trades on the idea that patients’ dispositions propel the treatment pathway, the focus is much more in the pragmatic ‘programme theory’ tradition. That is to say, the stages of the model are about: i) the

1. Understanding the processual nature of treatment should persuade us, and hardly for the first time, that the evidence base to support clinical decisions needs to harness a multi-method, multi-case and multi-objective approach. There is a need for close monitoring and rigorous summative evaluation to chart progress through many intermediate outputs and a significant range of outcomes. Qualitative research is needed to understand the interpretative process which lead people in and out and in and out of treatment. Comparative research is required to understand the powerful influence of institutional context in shaping which treatment decisions are followed in which circumstances to shape which outcomes. Basic science, microscopic observations in the laboratory, animal studies, and preliminary pathophysiological studies in human volunteers are required to target the selection of precise treatment to exact condition. Tribal loyalties and hierarchies of evidence have stood between these perspectives. Hopefully, enough has been said about the iterative and cumulative nature of all the stages in treatment process to show that none of their respective tasks can be understood in splendid isolation. Putting it all together, of course, is a fearsome agenda and one that suggests, moreover, the need for yet another body of empirical research on how to accomplish knowledge translation to assist front-line staff in deciphering the multifarious data and applying it in the realm of practice.

2. The phases in the model should become major sites for investigation and review in their own right. There should be more treatment-contemplation studies, more diagnosis-reaction studies, more teachable-moment studies, more decision-aid studies, more concordance studies and so on. To an extent, of course, this shift is already underway (hence the possibility of the rapid review). Indeed some areas, such as shared decision making have been regarded as ‘paradigm shifts’, attracting their own journals and professional audiences (Moumjid et al, 2007). There are problems, however, with the current state of the art. Being ‘medical science’, studies of difference modes of stimulating the treatment process are usually conducted in RCT style, comparing outcomes, for instance, of groups choosing treatment with and without a decision-aid (Murray et al. 2009). These often fetch up with rather disappointing outcome difference because they do not venture into the black box and are not well attuned to the social programme question of what works for whom, in what circumstances and in what respects. Again, a broader, multi-method evidence base is required to forward each element of this work. By the same token, it is important to begin systematic syntheses of evidence drawn from studies of each of these junction points. Once again, a danger lurks in that such reviews are often aimed at identifying some form of ‘best-practice’ and testing out its efficacy in meta-analytic reviews confined to RCT evidence (Gravel et al 2006). What the material above shows is that each stage in the decision pathway requires a different response for different conditions. For instance, compliance with treatment differs significantly according to whether that treatment involves: a lifetime’s hypertension medication, a complex physiotherapy regime, a cancer survival plan, following a contraceptive regime, adapting to lifestyle changes etc. Reviews should be conducted in realist synthesis style with an emphasis on which concordance regime works for whom in what circumstances.

practical choices that confront a potential patient, and ii) about matching intervention opportunities to optimise the utility of those choices. As in all realist models, social context plays an equal role. It is not just a case of mirroring fixed motivational sequences, well-aimed services can also change them.

3. Particular treatments for particular conditions should be studied with more emphasis on the linkage of the different stages of the model. This idea that empirical research should inspect the integrity of the implementation chain is common in the evaluation of social programmes. The most interesting mode of such investigations takes the form of a ‘weak-links-in-the-chain’ analysis and discovering these may help redirect effort to points where programme theory and practice are at odds (ref). Whilst the number of stakeholders and institutions involved in the clinical treatment chain can be very large, the constituent healthcare process do possess a ‘theory of change’ or a ‘programme logic map’ that can be investigated in the equivalent manner. The clearest illustration from the examples above Demark-Wahnerfried and colleagues (2005) call for a systematic search for teachable moments across the three phases of cancer care.

4. Because of the complexity of the treatment process, service delivery innovations designed to create improvement often spring leaks, fire unintended consequences and sometimes end in broad failure. And whilst we have learned recently about the perils of rewarding failure, an important part of evidence-based-everything is to learn from failure. As with the evaluation of social interventions, it follows that more effort should be expended on researching anomalies, outliers and unexpected outcomes in healthcare programmes. A good example of this is the study mentioned above explaining the paradoxical outcomes of subsequent trials of the same drug (Donavon, 1995). ‘Lack of adherence’ to treatment was discovered here and this led to a pocket of investigations explaining the phenomenon – self-experimentation to diminish side-effects, fitting treatment to daily routines, faking good in consultations etc. If we begin here, with the notion that subjects always undertake interventions in ways that ‘seems right for them’, a permanent line of inquiry is opened. Inflexibility of provision in the patient’s eyes may well be a general problem in what is predominately a top-down game. The much-vaunted move from a ‘compliance’ to a ‘concordance’ agenda has methodological as well as philosophical implications. Exploring outliers, not as failures but as critical cases, is an efficient way to test and refine theory. Publication bias towards ‘positive’ findings could disappear eventually – if the empirical agenda turned to explaining rather than measuring outcomes.

5. More evaluation effort should be targeted at those interventions where latent forces loom largest and most controversially. Because their physiological, micro-biological mechanisms of action are apparently inert, absent or unknown, much complementary and alternative medicine has been subject to charges of quackery. If, however, we take as the starting point that all interventions work by capturing hearts and minds as well as healing bodies, then a calmer approach to CAM evaluation can be contemplated. Bellavite and colleagues (2006) have produced a sequential, multiplicative and, thus what looks to my eyes, sound template for such evaluations: ‘One can assume that in a homeopathic cure a complex interaction of these mechanisms occurs: (i) a small physical action of extremely low-dose remedy, (ii) the activation of centres responding to ‘placebo effect’ due to beliefs, expectations of the patient and (iii) the endogenous healing mechanisms. If this is the case, the therapeutic effect is due not to the sum of these factors but their product and any procedure decreasing or shutting down one of them (as blinding undoubtedly does) may markedly affect homeopathic cure, much more than allopathic drug effect’. Issues such as interpersonal, physical, non-verbal rapport and empathy (in whatever treatment) could be studied as change mechanisms in their own right. There would be

ample room here for the golden rule of studying the ‘same’ programme delivered in different ways. Homeopathy delivered from the UK high street (by *Holland and Barrett*) will have totally different dynamics than when developed in prolonged relationship with the registered practitioner.

This paper has sought to demonstrate that, viewed from the perspective of the totality of mechanism that prompt change, social programmes and healthcare interventions have much in common. Many clinical evaluators have been and remain dubious about this proposition fearing, perhaps, a loss of rigour emanating from the arrival the soft science. Equally, many social scientist prevaricate – being aware of the danger of comparing complex social interventions to the application of a pill or potion. Somewhat uneasily, a complementary perspective is dawning with appreciation that much that is efficacious about treatment lies well before and considerably after the swallowing of the pill.

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SIR Arms Race Connexions Interventionitis

Figure 1. Prison readmission rates compared

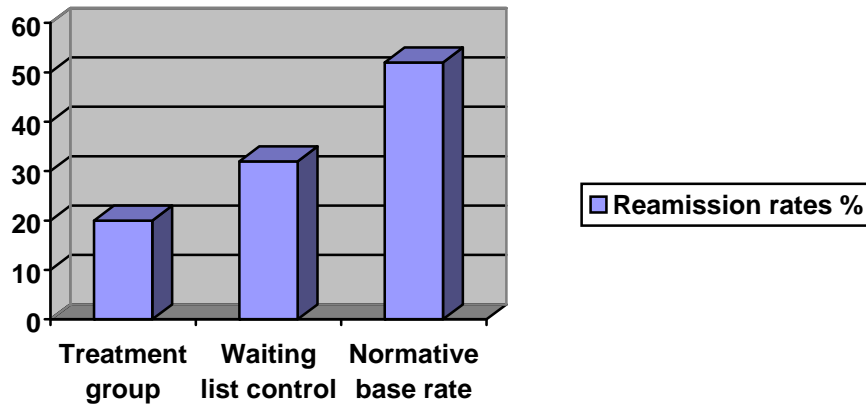


Figure 2: Pathways of change: decision and facilitation points in social programmes

	1 →	2 →	3 →	4 →	5 →	6 →	7 →	8 →
Decision pathway for programme subject	Awareness Subject becomes conscious that they might have a 'problem'	Horizon Scanning Subject casts around for solution for identified problem	Path Selection Subject accepts 'diagnosis' located in specific programme	Gaining Access Subject decides to give programme an initial try	Initial Reflection Subject reflects on first experience of programme	Refraction / Compliance Subject questions the worth of staying the course	Full Membership Subject buy-in and commitment to goals of the programme	'Graduate' and Exit Subjects enact programme goals and leave carrying durable lessons
Facilitation opportunity for programme designers and practitioners	Flag raising General publicity to label problem. Generate climates of awareness, moral panics buzz wordage	Contrastive publicity Promote intervention theory. 'You've tried the rest now choose the best' Success of 'people like you.'	Red carpet Access and recruitment organised. Intervention modalities explained and potential gains clarified through exemplars.	Pull rug Emphasise subject responsibility. Test patience, commitment and effort	Quick wins Provide access to expertise and interpersonal contacts, offering short-term personal gains (not necessarily related to final outcome)	Continuity Stress participatory responsibilities. Retest commitment and effort.	Empowerment Cede elements of control and support subject choices. Emphasise co-production of the initiative	Attest, distance and recycle Confirm and 'certificate' gains. Retreat and diffuse information on 'success stories' for use at stage 1.

Figure 3: Decision and facilitation points in medical treatment

	1 →	2 →	3 →	4 →	5 →	6 →	7 →
Decision pathway for patient	<p>Seeking help Subject becomes conscious (and sometimes fearful) that they might have an illness and wonders how and when to proceed.</p>	<p>Seeking diagnosis Subject attempts to interpret symptoms and seek clarification of ‘warning signs’</p>	<p>Treatment Selection Subject chooses particular treatment, sometimes against the backdrop of equipoise</p>	<p>Treatment applied Subject is recipient of treatment and its specific timing and modalities</p>	<p>Initial reflection Subject interprets first experience of treatment in the light of advice and explanations</p>	<p>Choosing secondary treatments Subject faces further decisions as symptoms change under progressive or recurrent disease</p>	<p>Compliance Subject evaluates the worth of staying with the long-term treatment and whether to comply, adapt or discontinue</p>
Facilitation opportunity for carers and physicians	<p>Opening doors Build climates of awareness of early symptoms. Identify, challenge and reframe common justifications for delay in seeking treatment.</p>	<p>Teachable moment Provide authoritative and personalised explanation of symptoms and identify potential treatments. Provide reassurance and motivation to adopt risk-reducing behaviours.</p>	<p>Shared decision making Check and recheck the desire for involvement. Provide decision aids and shared consultations about the risks and benefits of available treatments.</p>	<p>Clinical Response There is heterogeneity of response because of differences in individuals, their medical history, their environment and their genetic makeup.</p>	<p>Elucidate and endorse treatment Provide authoritative and institutionally backed explanation of what will happen under treatment and how it works.</p>	<p>Teachable moment Provide authoritative and personalised explanation of new symptoms and identify further approved treatments. Provide reassurance and motivation to adopt risk-reducing behaviours.</p>	<p>Concordance Cede elements of control. Equalise power in long-term decision making. Seek accommodation with daily routines of the patient.</p>