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How Can We Argue With Performance Indicators?

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ABSTRACT

We seem to be living in an age when the only way we can justify an organisational activity is with the use of numbers. Numbers, on the other hand, appear unarguable. The only way to argue with numbers is to find different numbers. To us numbers carry the imprimatur of truth. Yet, in 1979, Campbell documented his pessimistic laws of quantitative indicators.

The more any quantitative indicator is used for decision making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social process it is intended to monitor (p 85).

Most recent analyses of the dysfunctional effects of performance indicators have focused on the content of the performance indicators. These analyses emphasise the sorts of responses that occur when the values and theories inherent in performance indicators conflict with those of people associated with the program. Is it possible then, to fill performance indicators with a new content and use them in the service of different values? Or do performance indicators, *by their very nature*, tend to promote particular value and theoretical positions?

In this thesis I use the discourse analysis techniques of Foucault and Ellul to argue that those same factors that make performance indicators so powerful and so unarguable, also make it difficult to avoid their dysfunctional effects. The dysfunctional effects seem to be inherent in the discourse from which performance indicators gain their power, a discourse which justifies, and make possible, both modern approaches to production and the unrestrained development of technology. (Ellul calls this imperative progress of technology, *"la technique".*) The act of freeing performance indicators from their dysfunctional effects will inevitably destroy their main advantage, certainty - the certainty that allows action - the certainty that comes from a particular abridged form of thought that is dominant in our society; thought that depends on 'seeing' rather than reasoning. The key arguments of the thesis are diagrammed in figure 1 (p 18).

Foucault uses Bentham's *"panopticon"* to demonstrate the way in which power operates in our society, of which performance indicators are a supreme example. The panopticon is a system of surveillance that turns those who are observed into their own, most vigilant, observers. As a system of power in the social, economic and political realms this produces compliance. However, as a system of knowledge production is produces reactivity.

This mode of knowing has become the dominant determinant, not only of how we gain knowledge about the world, but also of how we come to know ourselves, (with severe consequences). Its purpose is to cause us to use our bodies productively and therefore the only aspect of "truth" with which it is concerned is 'product' or 'effectiveness'. This is a severe form of reductionism. If we stay within this

framework performance indicators are unarguable. If we move outside it, they become almost trivial.

This certainty and reduction are achieved through definitional operationism. The fundamental fallacy of performance indicators, (and the cause of many dysfunctional effects), is the assumption that the relationship between an indicator and what it is trying to measure, is constant. Many modern decision-makers would simply not know how to act without the certainty that this simplifying assumption brings. Thus the indicator (which I shall call a symbol) and its target diverge, the symbol is likely to be retained while the underlying goal disappears. Indicators can end up becoming more real than that which they are intended to measure. We can easily end up living in a world of symbols whose real world content has long since been forgotten.

This analysis is informed by a case-study of the attempt to develop a non-damaging, performance indicator system in a private rehabilitation hospital for people with acquired brain damage (ABD). This case study demonstrates the subtle way in which the reductionism inherent in performance indicators could end up undermining the program.

I conclude by proposing that we need to abandon our ideal of performance indicators as a form of 'seeing' and to learn to think in more complex terms. I suggest that the use of program theory, as an heuristic technique, can help us do justice to the true complexity of programs while still allowing us to act and make decisions.

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CHAPTER 1

Introduction

In response to the groundswell of pressure from governments and business to introduce performance indicators and quality monitoring into all fields of human endeavour many researchers have written about the dysfunctional side-effects of linking quantitative measures directly to decision-making. While some investigators have noted the tendencies for performance indicators to gradually lose validity as practitioners[1] consciously or unconsciously undermine them (Ginsberg, 1984); others have emphasised the ways in which performance indicators change and undermine accepted definitions of quality and thus fundamentally transform the activity that they were supposed to monitor (Glenwick, Stephens & Maher, 1985; Garbutcheon Singh, 1988, 1989, 1990; David, 1988).

These points have been concisely summarised by Donald Campbell (1979) in his "pessimistic laws" on the "corrupting effect of quantitative indicators[2]".

The more any quantitative indicator is used for decision making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social process it is intended to monitor (p 85).

This suggests that performance indicators produce two types of reactivity effects, the data lose validity and the program is somehow disrupted.

Ginsberg (1984) did an extensive literature review on the use of performance indicators particularly in mental health. She identified certain regularities in the ways in which people react to the imposition of a performance indicator system. Her basic conclusion was that people tended to resist the control they felt was being placed on them by altering the way they responded to those parts of the indicators which depend on personal judgement (discretionary elements). This meant that the measures lost validity over time. Six respondents to Ginsberg provided further examples (Smith, 1984; Gamble, 1984; Speiglman, 1984; Olson and Gordon, 1984; McCleary, 1984; Covaleski and Dirsmith, 1984).

On the other hand Garbutcheon Singh (1988, 1990), Glenwick et al. (1985) and David (1988) discuss in depth the ways in which performance indicators can redefine, hence undermine quality.

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[1] 'Practitioners' will refer throughout to those responsible for implementing a social program. Usually it implies someone with direct client contact although there may be exceptions.

[2] Campbell uses the term "quantitative indicators" because he includes quite broad social indicators within the scope of his laws. I will use the term 'performance indicators' for data collected by some level of management for the purpose of monitoring procedures and, more particularly, outcomes. I shall assume that performance indicators will be used, at least for accountability, and often for concrete decision making. Therefore the link with decision making is strong (in Campbell's (1979) terms). Whether performance indicator data is actually used or not, practitioners generally assume it will be and that is enough.

The likely negative effects of performance indicators on programs can in part be predicted by asking two questions:

(i) What would be the effect if the indicators come to be seen (by practitioners, managers or funders), as defining quality?

(ii) What would be the effect if the indicators began to be used for *efficiency comparisons* based on time (or cost) to achieve a given result?

By imposing a particular definition of quality and the requirement that different programs compete on the basis of this definition performance indicators tend to produce a number of negative effects:

(i) 'Creaming' - selecting clients who will perform well, (protecting against this involves developing a valid classification of severity to enable fair comparisons);

(ii) 'Teaching to the test' leading to:

  (a) Capping goals - treatment can't be justified above the top indicator level;

  (b) Determines mode of practise, often more powerfully than relevant professional research (e.g. in rehabilitation this may be an increased dependence on compensative strategies);

  (c) Strongly militates against innovation (as a consequence of effects i, ii and iii);

(iii) Centralization of goal determination, (away from practicioners and certainly away from clients);

(iv) Unfair comparisons between institutions. To the extent that indicators have poor construct validity, or that constructs are inadequate proxies of 'quality'; to that extent will institutions offering an inferior service be judged as better than those offering a superior service. Validity is everything for performance indicators;

(v) Cheating, fabrication of results or more subtle shifts in handling the discretionary elements of measures. This is an understandable and sometimes necessary response where measures are unfair or are used unfairly.[3]

Concerning the last of these Ginsberg (1984) states that:

Outright fraud need not occur often. Judgement is usually required at some point in the rate producing process. Typically many such judgements are required. The result may be termed a cumulative white lie effect (p. 9).

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[3] For a positive view of this see the article by Cochran et al (1980) entitled *Proactive Records ¾ Reflections on the Village Watchman.*

Once specific scores on fallible indicators become ends in themselves, those scores can be achieved through any of the indicators' components - true score, error, and any number of biases - not just the component of interest. Outright fraud is unnecessary (p 10).

So ubiquitous does she believe this effect to be that she states, almost as a law, that:

If the control system is one of quantitative indicators, then the evidence of at least nominal compliance with those indicators will be provided no matter what else is or is not done (p. 9).

Towards a Theory of Use, Non-use and Misuse for Performance Indicators

These problems with performance indicators are fundamentally problems of use, or rather misuse and non-use. On the one hand indicator data are prone to misuse in that indicators are treated as definitive of quality and indicator data is too readily taken at face value and too readily interpreted to suit the requirements of the interpreter. Counteracting each of these tendencies requires special care in the way indicators are constructed and presented. On the other hand indicator data tend to be ignored by practitioners as useless.

Practitioners often view performance indicators negatively for three reasons:

(i) Data collection can be burdensome;

(ii) They may feel threatened by the process, or feel that the indicators don't adequately reflect what they do, or feel distrustful of how they will be interpreted, (often with good reason);

(iii) The indicators don't indicate where problems lie and therefore don't help practitioners do anything about them, ('scapegoating', denial and cheating are the most common responses).

Ironically it is in the very aspects that are considered strengths by managers, funders and governments; namely conciseness and a sort of face validity that comes from definitional operationism[4]; that the greatest dangers lie.

Campbell's laws and Ginsberg's regularities have a sense of definiteness and inevitability about them. It is the purpose of this thesis to examine whether or not this sense of inevitability is warranted. In short, Is it necessary, or merely common, that performance indicators suffer an erosion of validity and produce negative impacts[5] on programs; or is it perhaps a matter of context? More constructively I am asking: Is it possible to develop guidelines that will enhance the positive usefulness of performance measures for decision-making while avoiding negative side effects? Answering these questions requires a detailed analysis of the mechanisms by which

[4] Together these contribute to the great polemical and propaganda value of performance indicators.

[5] Henceforth I shall use the term dysfunctional effects for these negative side effects after Ridgeway's classic 1956 study: The Dysfunctional Consequences of Performance Measurements.

performance indicators exert their dysfunctional effects.[6] This was the task Ginsberg (1984) set herself when she stated (quite optimistically):

Application of principles of human motivation and social psychology to administrative settings should make unwanted side effects predictable beforehand and enable us to identify the circumstances under which feedback effects from the bureaucratic use of quantitative indicators produce more harm than good. (p. 2)

Glenwick, Stephens and Maher (1984) set themselves the same task but rather than looking at the social systems in which indicators are used, their emphasis is on how organisations determine what is to be measured and on properties of the measures themselves.

Donald Campbell (1971, 1975, 1979) chose to put his faith in predetermined deductive structures to avoid the distortions that arise from, what was to him, the great evil of definitional operationism.

Michael Garbutcheon-Singh (1988) suggests that the emphasis of performance assessment, including the selection or development of measures where required, should occur at the local level.

My approach attempts to integrate and extend the emphases of these and other researchers (notably); Bauer (1966); Cochran (1978, 1980); Cronbach, (1983); Ridgeway, (1956) by asking how performance indicators function as knowledge and how they function as power, or more precisely how performance indicators as knowledge, function as power. Examination of this question will lead us to *consideration of core issues in the epistemological mind-set of modern, industrialised man. What is it that makes quantitative measures seem so unarguable to the modern mind and thus invests them with such power?*

The Power of Performance Indicators

I would like to commence by developing a model, initially descriptive, but hopefully becoming more explanatory, of the ways in which performance indicators might exert their dysfunctional effects.

Possible Mechanisms of Dysfunctional Effects

Most scholars of the dysfunctional effects of performance indicators point to the value systems and the causative theories implicit in various indicators as the main source of the conflict that produces dysfunctional effects. In terms of goals, it is the vigorous reductionism that performance indicators normally entail that ends up forcing some goals to be emphasised above others. In practice some goals end up being virtually excluded. Goals which are not included among the criteria by which one organisation is compared with another tend to lose legitimacy (Glenwick et al., 1984). In some cases the desire to achieve results on performance measures can

[6] One way of approaching this task would, of course, be to look for examples of instances where the effects of performance indicators were unambiguously good, unfortunately such examples are very difficult to find, especially for complex human service programs. Even in the banking industry, which is probably less multifaceted than health care or education, how are we to say how much the performance measures used within banking organisations contributed to their disastrous lending practices in the third world in the late seventies (George, 1988) and in the first world in the eighties.

even overpower the individual's normal moral standards. Thus Campbell (1979) and Garbutcheon Singh (1989) consider that the use of 'body counts' and 'kill ratios' by the US military during the Vietnam war was in large part responsible for creating the sort of mind-set amongst soldiers that led to the My Lai massacre. It is certain that this competition between the demands of performance indicators and the consciences of practitioners is wide spread. It is equally certain that the individual conscience often loses.[7]

The first, and most widely discussed, set of mechanisms by which performance indicators exert dysfunctional influences can be analysed in terms of this conflict. If practitioners are confronted with a set of performance measures that imply values, or a limit on values, that they don't feel comfortable with; or if the indicators assume mechanisms of program effectiveness that they cannot agree with; they are basically faced with three choices. For the sake of discussion I have chosen to call these choices capitulation, subversion and debate. The first two roughly cover the categories of dysfunctional effects most commonly dealt with in the literature. Open argument or debate is the preferred option *but it is amongst the more insidious effects of performance indicators (in our epistemic culture) that they make this very difficult*. In summary the three choices are:

(1) Capitulation: This occurs where practitioners alter their goals and practices to fit in with those assumed in the performance measures. This produces that group of effects summarised in the second part of Campbell's law (1979) *"...and the more apt it will be to distort and corrupt the social process it is intended to monitor"* (Author's italics).

(2) Subversion: This occurs where practitioners, while maintaining their accustomed practices and goals, contrive to show at least nominal compliance with the performance indicators (Ginsberg, 1984, see p 10). This produces that group of effects summarised in the first part of Campbell's law (1979*) "...the more subject it will be to corruption pressures..."*

(3) Debate (Argument): This occurs where practitioners or others are able to identify and analyse the assumptions implicit in performance measures, and debate them on their merits. It also requires that the fact that some goals are difficult to operationalise and measure is not considered sufficient grounds for these goals to be excluded from performance criteria or inappropriately prioritised (For the extreme see Rutman, 1980). Unfortunately this last requirement is often nearly impossible to meet because of the weight quantitative indicators carry to the modern mind. It is for this reason that it is necessary to consider the epistemological characteristics of modern rationality if we are to fully understand the power of quantitative indicators; and thus combat abuse or misuse of that power.

This brings us to the second group of potentially dysfunctional effects of performance indicators. *There are effects that are not so much due to the content of particular indicators, but rather due to the nature of performance indicators themselves*. It is

[7] In such cases the individual will normally find ways to reconcile with their own conscience either by adopting the values enshrined in the indicators or by rationalising it in terms of some higher good.

essential to understand these effects if we are to answer the question of whether or not the dysfunctional effects of indicators are avoidable. If it were the case that the dysfunctional effects were limited to those which depended on the content, or lack of content, of particular performance measures then the question would be more or less answered. Avoiding dysfunctional effects would be a matter of ensuring full and honest debate amongst all stakeholders about the goals and theories of the program; gaining approval, or at least negotiated compliance, with the goals and choosing a mechanism to weight performance information according to agreed priorities. Undoubtedly this process is fraught with many technical and political difficulties but it doesn't seem intrinsically impossible. If, on the other hand, some of the dysfunctional effects of performance indicators are a result of the very nature of performance indicators themselves, (or their interaction with the dominant current modes of rationality), then avoiding these effects would be a far more difficult matter.

In examining these issues I will be drawing heavily on the work of three great practical philosophers:

Michel Foucault, a French historian and philosopher, provides us with a model of the ways in which knowledge exerts effects on human minds and bodies, which thus makes it power. This model of power is particularly pertinent to understanding the ways in which performance indicators exert their effects, and helps us avoid paranoid explanations and conspiracy theories. He also demonstrates the way in which multiple discourses, (basically areas of knowledge with the rules of reasoning which accompany them and thus decide what is rational), compete to gain a hegemony of control over the hearts, minds and actions of men and women.

Jacques Ellul, another French historian, sociologist and philosopher, analysed the development of the dominant discourse affecting modern industrialised societies, a discourse he called *la technique* (technique). He also examined a change in the dominant epistemological mind-set which accompanied the development of this discourse. He described a mind-set where effectiveness was the only criteria of truth and where only what was in some sense seen, "the image", rather than what was reasoned, "the word", could be believed. Two effects of this trend are that induction becomes the only legitimate mode of reasoning, and that dialectic (or even ambiguity) cannot be tolerated.

Donald Campbell identified and combated the practical effects of this attempt to base knowledge on induction alone (which inevitably leads to dependence on definitional operationism), with an insistence that inductive reasoning can only lead to valid conclusions if it is used within the context of sound deductive reasoning. The deductive framework is sometimes standardised and prospective, as in his writings on experimental methods, and sometimes developed as data are collected, as in his writings on case studies. The purpose of the deductive framework is always to rule out alternative explanations to the initial explanatory hypotheses that the data might suggest. Campbell's concerns about definitional operationism parallel Ellul's concerns about the "humiliation of the word".

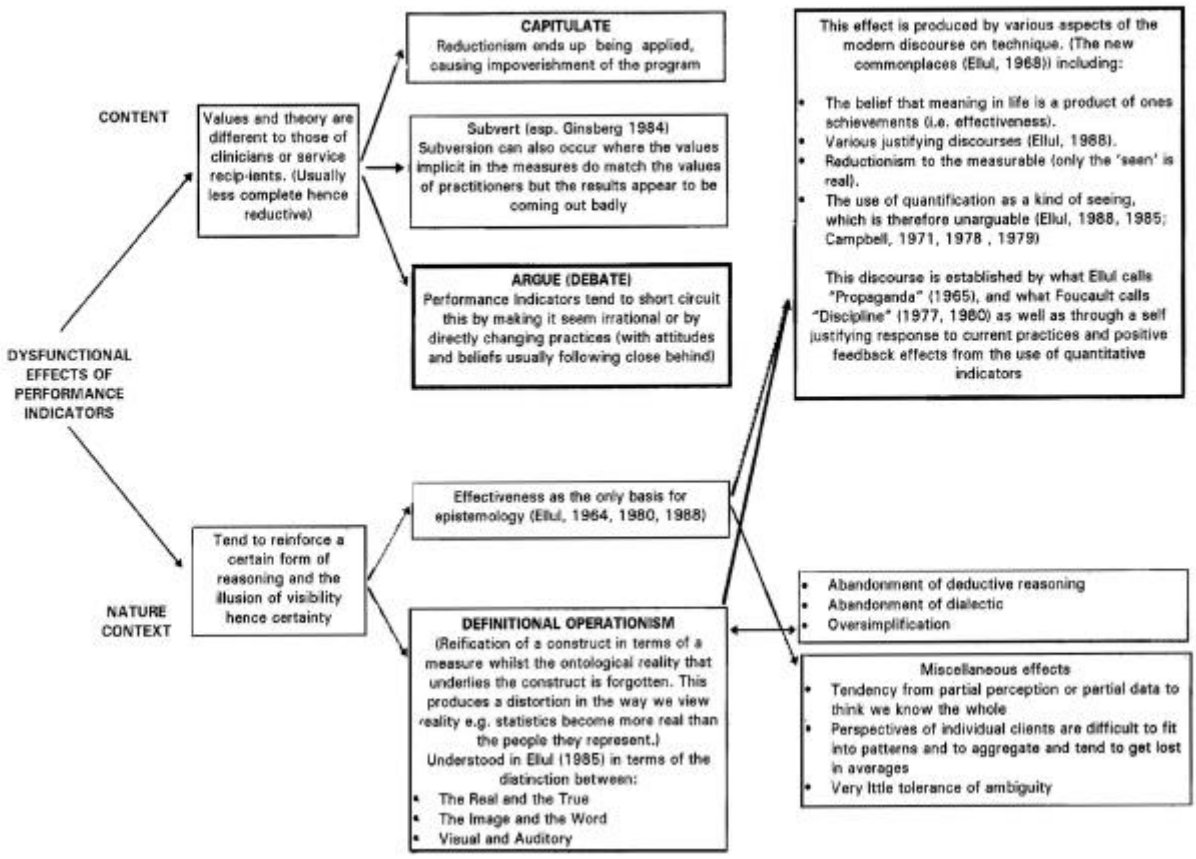
Figure 1 (next page) presents a model of the mechanisms by which performance indicators might exert their effects. It summarises the case I want to make in this thesis. *I believe that there are effects due to the very nature of performance*

indicators, or rather due to the nature of the vital role they perform in the discourse from which they draw their strength, that tend to make open debate about values, goals and theories difficult. If argument is too difficult, people faced with a conflict of goals or theories are forced to respond either by capitulation or by subversion.[8]

In the central chapters of this thesis I will be analysing this diagram in detail. I would like to present a case of an organisation that is under pressure to adopt certain performance measures. I will use the example of this case extensively in the discussion that follows in order to illustrate the various effects of performance measurement.

[8] I will deal with the reductionist effects of definitional operationism that underlie this reactivity in Chapter 4, "Performance indicators as knowledge".

Figure 1 Possible Mechanisms of Dysfunctional Effects



CHAPTER 2

An Illustrative Case Study - Dawn Grange

Dawn Grange[9] - Raison d'être

Over the course of several years it became a concern of the proprietors of a private rehabilitation hospital and of the then Motor Accident Board (later Transport Accident Commission (T.A.C.)) that many of the hospital's head-injured (brain trauma) patients who were 'rehabilitated', but still needed care, had nowhere to go. Historically such patients were sent to psychiatric hospitals or to nursing homes or to families ill-equipped to cope with the stresses involved.

After discussion with the Motor Accident Board and the Health Department the proprietors of the hospital purchased an available special accommodation facility in suburban Melbourne and began construction of a facility to provide two levels of accommodation:

(1) Acute Care: providing where necessary full nursing, medical and paramedical care. This was initially expected to cater for two groups: those who required continued slow-stream rehabilitation but who would be expected to pass out of the unit; and those who would need ongoing maintenance care and therapy. A third group was later included: those who were still in coma or with a tracheostomy tube, with the aim of commencing rehabilitation activities early and thus facilitating their eventual rehabilitation and recovery.

(2) Independent Living Units (more appropriately semi-independent units (S.I.U.)); private units grouped around the large house designed to allow maximum independence but with assistance and supervision available when required.

The semi-independent unit opened in 1987, most of the following discussion relates to this unit. The acute unit opened in 1990.

A review of early proposal documents and correspondence shows that the emphasis of purpose was residential. The perceived lack of suitable long-term accommodation was the stimulus for the development of the hospital and thus the need to provide "the type of home atmosphere most suited to individual wishes and needs," was emphasised.

With the particular form of disability so often apparent after head injury, staff with a good understanding of such problems can help provide a home environment which

[9] "Dawn Grange" is a pseudonym. Dates and details have been left somewhat imprecise to ensure anonymity.

provides enough care and supervision, yet allows for individual decision making and life choices as much as possible.[10]

Further evidence of the residential rather than rehabilitative emphasis envisioned is found in statements such as:

...to allow maximum independence to those ***who have completed the rehabilitation process****;*

Often most disabling may be the behavioural or cognitive handicaps which the person sustains. ***Though rehabilitated or retrained to the maximum extent possible****, a severely injured person* ***may be left with*** *significant problems in these areas.*

Never-the-less there was a more active therapeutic element including moderate behaviour modification, behavioural counselling, a wide range of community integration activities and a slow-stream physical and cognitive rehabilitation program. Much even of this work however was aimed at enabling the residents to function together as a community. The balance of the residential and rehabilitative emphases can be summed up in the term "sustained development".

Despite the fact that rehabilitation was not the major emphasis, the improvements in the residents quickly exceeded anyone's expectations, and a number of residents have been discharged back to their families or into the community. (Initially it had been thought that most residents would be there long term if not permanently.) *From this point the rehabilitation emphasis was expanded and resources directed to it increased*. It is important to note however that the hospital's rehabilitation successes have largely occurred as an unexpected outcome of an innovative residential program with people who had not benefited from traditional rehabilitation approaches. Any "theory model"[11] of the program must duly recognise this fact and any evaluation or monitoring system must safeguard (not arbitrarily threaten) and do justice to this unique element of the hospitals functioning.

Dawn Grange's services were innovative in two regards:

(1) The residential model;

(2) The provision of slow-stream rehabilitation for considerably longer than has been traditional.

Any evaluation, be it for internal or external audiences must pay particular regard to these two innovations—especially the former.

The above is primarily a document based review of the history of the Grange. Interviews with the developers of the hospital's services verified this summary and contributed a few further details.

The Imperative for Evaluation

[10] All quotations in the next two pages come from private correspondence between the proprietors of Dawn Grange and the Motor Accident Board.

[11] I have taken this term from the developers of evaluability assessment (Wholey, 1977; Rutman, 1980; Smith, 1983).

The imperatives for evaluation at Dawn Grange can be divided into two groups; firstly there were various pressures operating to introduce a system of outcome monitoring using performance indicators; secondly there was the need to assess the institutions role in the light of the deinstitutionalization movement and the goals and guide-lines associated with the Disability Services Act of 1986.[12]

(A) Pressures for the Adoption of a System of Clinical Indicators

There is pressure being applied on all hospitals to adopt clinical indicators[13] from a number of sources. These sources include:

(1) Australian Council on Health-care Standards (A.C.H.S.):

The A.C.H.S. (the national health-care accrediting body) in conjunction with the various medical colleges has set up a project, the Care Evaluation Program (C.E.P.), to develop and trial indicators covering all areas of health-care service delivery. The various colleges are expected to develop indicators in their areas. These are then trialed widely to establish acceptable standards of compliance (thresholds). Once the trialing is complete these indicators and their standards will become an integral part of the accreditation process. The first set of indicators (from the college of Medical Administrators) has been incorporated in all accreditation surveys since January 1993. All institutions are expected to be actively developing measures of performance.

(2) Funding bodies:

(a) The Federal Government is currently discussing a more outcome oriented system of health-care funding - ie. casemix payments. This system establishes reasonable average costs for patients in different categories. In the United States this is used as the basis for a prospective payments system. Public Hospital funding in Victoria is now partially allocated by this method.

(b) H.B.A. (Health Benefits Association) has provided most rehabilitation hospitals with an assessment scale called the 'Functional Independence Measure' (F.I.M.), and requested that hospitals use it as an outcome measuring tool. FIM is also being vigorously promoted by some members of the Australasian College of Rehabilitation Medicine as a good basis for determining rehabilitation funding (Hindle, 1992).

(3) Registration Bodies:

The Disability Services Act (see below) mandates the setting of outcome targets and outcome measures for organisations providing services to the disabled. At present this doesn't apply to Dawn Grange but is likely to filter through to semi-government funding authorities (eg. the T.A.C.) in the near future.

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[12] Particularly the report of the senate standing committee on community affairs, "Accommodation for People with Disabilities," 1990.

[13] Performance indicators based on measures of clinical outcomes.

(B) Deinstitutionalization and the Disability Services Act

In 1986 the Federal Government passed the Disability Services Act which enshrined in legislation principles of deinstitutionalization and accountability to clients for the sort of outcomes achieved. In 1990 the Senate Standing Committee on Community Affairs released a report entitled "Accommodation for People with Disabilities" discussing possibilities for developing "least restrictive accommodation options" for people with disabilities. Amongst their criteria were that accommodation options should be small, inconspicuous and non-segregating.

....a person may need to have regular physiotherapy. While in some areas it may be difficult to have access to services, such as physiotherapy, it is important that these are provided through hospitals and health care centres used by other community members, so that people with disabilities do not feel segregated.[14] *(Sec 3.61)*

The DCSH[15] has not rejected the use of larger residences but added that the larger the residence, the more difficult will it be for the service provider to convince the Department that it conforms to the norms of community living. *The Committee agrees that it is difficult to conceive of a 20 person residence conforming to community living. (Sec 3.15)*

Although it is reasonable to feel cynical about the way the deinstitutionalisation debate has been hijacked by economic rationalists (Wolfensberger, 1985), and to feel wary about the possible misuse of its tenets to rationalise a minimalistic view of society's obligations to the disabled, the debate challenged us to consider whether or not Dawn Grange offered the best possible option for its clients, or rather, what sorts of clients is Dawn Grange best suited to serve? It is important for the Grange to assess the extent to which it is providing the "least restrictive option" and minimising segregation, and honestly consider the possible benefits of alternative models. At the beginning Dawn Grange was clearly a better option than geriatric or psychiatric facilities, but 'better' is not necessarily best and the change in case-mix to include higher functioning clients raised new issues.

The need to consider these issues is particularly pointed in the Senate Committees fourth recommendation:

Special consideration should be given by Commonwealth and State/Territory Governments to the least restrictive accommodation options for people with disabilities who frequently exhibit inappropriate behaviour (Senate Committee, p. xii).

This is exactly the group which Dawn Grange serves.

Such considerations mean that a purely residential function for Dawn Grange may no longer be acceptable except for a scarce few people, and the hospital must continue to adopt a more transitional, rehabilitative role. Cost factors also exert pressures in this direction.

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[14] Although this statement is debatable at every clause it none-the-less enshrines important principles with which Dawn Grange must grapple.

[15] Department of Community Services and Health

From the above discussion it is clear that at least three discourses impact on the development of performance indicators at Dawn Grange:

(1) The traditional clinical discourse or 'medical model'.

(2) The independent-living, since renamed social role valorisation (SRV), movement (Wolfensberger 1985, 1991).

(3) Economic rationalism[16], which provides the technology and is represented by funders and regulators (and accreditors to a lesser extent).

For the sake of illustration we could reformulate our key question: Is it possible for performance indicators, as a technology of economic rationalism, to be used in the service of social role valorization and the positive aspects of the clinical model.[17] This question is taken up in Chapter 3, in the section on discourse theory (p. 25).

There are several questions that need to be asked before any attempt to develop indicators of clinical performance or to address the issues raised by the Disability Services Act.

(1) What does Dawn Grange do? In what ways are its services different from traditional rehabilitation services and traditional residential services?

(2) What are the implications for practise of moving from a residential to a rehabilitative emphasis?

(3) Are there any features that have contributed to the program's successes that could be jeopardised by this change in emphasis? How can these be safeguarded?

(4) What assumptions do the staff make about the nature of recovery from head injury and the causal mechanisms underlying both dysfunction and recovery? How do these things vary?

(5) How can the services offered plausibly interact with the processes occurring 'in' the residents to enhance recovery?

These questions map fairly neatly onto Chen's (1990) two elements of causative program theory: "action theory" and "conceptual theory." (See Appendix A) Action theory specifies what are the features of a program that may interact with various causal mechanisms in the individual (or group) to bring about positive effects. It is an attempt to say what we do and what we should be doing. Conceptual theory specifies what (some of) these causal mechanisms might be, and how they might be susceptible to influence by the program. Explicit or implicit conceptual theories (causal assumptions) underlie all programs. Practically these two "theories" are difficult to separate and programs consist of the constant attempt to mould action to

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[16] I am using economic rationalism to refer to the position typified by Milton Friedman (Friedman and Friedman, 1980) which uses libertarian terminology to justify an insistence on economic de-regulation and 'small government' (ie. severe spending cuts in any area that does not serve the end of business) (Rees et al, 1993). The basic justificationary discourse is that overall 'happiness' is maximised if some people are allowed to attain great wealth (a crude re-working of Aristotle (1976)) and that governments are the greatest obstacle to the pursuit of happiness either through regulation or through "crowding out" business (Jones, 1993).

[17] I haven't the space to justify the value position taken here although the previous discussion provides a partial justification. The question is historically interesting however as it was precisely the hijacking of their arguments by economic rationalism that caused the renaming of the independent living movement. The question is similar to question that Garbutcheon Singh (1989) asks in his article: "Performance Indicators - Indicters or Vindicators of Inequity"?

activate positive causal processes. Descriptively and diagnostically however the distinction is useful.

Action Theory - What is the Program?

In the historical section of this paper I noted that Dawn Grange 's early rehabilitation successes were unexpected outcomes of an innovative residential program. Most residents had been through traditional rehabilitation programs so we are justified in looking for other characteristics of the program which could plausibly be linked with the successes. Several possibilities suggest themselves:

(1) The slow stream rehabilitation program - there is no doubt that many residents have improved considerably due to this extended input but many of the early surprise successes occurred too quickly to be plausibly attributed to this, especially considering their previous rehabilitation involvement;

(2) Supported independence;

(3) Moderate behavioural modification programs;

(4) An emphasis on community building;

(5) A 'safe' and accepting environment, (an environment where people are encouraged to make their own decisions and to accept responsibility for the consequences but with a safety net);

(6) Counselling and support;

(7) Encouragement and assistance to enjoy life now.

It does not strain credibility to suspect that these factors may have enabled residents to rebuild self-esteem, to re-discover that their actions matter and that they can do things for themselves. A performance oriented rehabilitation program can boost self-esteem *for some*[18]. On the other hand those whose disability is severe may well require the discovery of a *different basis for a sense of identity* than physical qualities and performance (Barocas, 1991; Prigatano, 1988, 1989) if they are to adjust successfully.

Figure 2 illustrates the basic philosophies and activities that constitute the program at Dawn Grange. As well it suggests the sorts of outcomes that are desired and makes tentative suggestions about possible intermediary causal processes. I have divided the ultimate goal into two parts to show the possible minimalistic or egalitarian value positions that could be taken. Unfortunately goals implied in the minimalistic position are most likely to be reinforced by the introduction of performance indicators. (Based on McClintock, 1990)

Table 1 lists possible perceived purposes (missions) for Dawn Grange together with the goals and practices usually, but perhaps not necessarily, associated with these purposes. My argument is that as we move from the bottom purpose (residential), more to the second purpose (slow stream rehabilitation) we must identify and

[18] See Figue 6, Possible theory model for Dawn Grange.

safeguard those approaches that have been important in producing the Grange's successes to date. There has already been evidence of changes in practices and attitudes of some staff (especially newer staff) towards a more controlling, rehabilitation driven position.

What implications does this have for how to go about assessing program effectiveness at Dawn Grange? and what are the likely effects of the introduction of a performance indicator based monitoring system on the mission that is taken up? To answer this we need to understand more about the ways in which performance indicators function as power and the mechanisms by which they can influence the goals and theories of programs. This is the concern of the next chapter.

Case Study Method

I was employed at Dawn Grange from 1990 to 1993 in the dual roles of Deputy Chief Physiotherapist and Associate Quality Assurance Co-ordinator. In response to pressures to start using FIM we decided it was wise to start looking at ways of assessing program outcomes ourselves. In 1991 we were particularly interested in examining the basic philosophy of the hospital, in particular, what were the unique features of the hospital's mission and programs? The document review at the start of this chapter and Figure 2 and Table 1 were products of this process. After this time our emphasis was on designing a program monitoring system, with an emphasis on outcomes, which did justice to the program's mission and philosophy as we had described them.

The process of development was iterative and interactive and many of the theoretical ideas in this thesis emerged from my attempts to find solutions to the various practical problems we faced. At every stage of development ideas were sought from staff, at least from the Heads of Departments, but often more widely in meetings with the individual departments. The various models presented in the thesis and in Appendix F were developed and modified on the basis of extensive discussions with staff, some discussion with residents and their families, and some individual case studies. The ultimate criteria for acceptance of a model was acceptance by the Heads of Departments. As I will discuss in the section on program theory (p. 52) all models should be considered to be heuristic devices, modifiable as required, rather than rigid formulae. From the second half of 1993 we embarked on a major project to develop performance indicators which could serve to enhance, rather than undermine, the quality of our service (although at all times we maintained a healthy scepticism). A brief outline and discussion of this project is presented at the end of the section on program theory (p. 54).

This iterative and participative approach, progressing in stages with constant reference to the various problems that emerged, is consistent with definitions of action research given by Patton (1990) and Whyte (1989). We could say therefore that the case is an action research process, and can therefore be appropriately documented as a history. As with most historical inquiry explanation is sought through contextualisation, that is, identifying the nature of the circumstances existent at that time which explain the events that emerged. The boundaries of the case are therefore blurred and it is a times necessary to describe details of both the programs at Dawn Grange and external pressures that were applied.

Given the nature of 'the case' it was not possible to obtain informed consent from all parties involved either before or since the activities documented here, therefore 'Dawn Grange' is a pseudonym and all names have been changed. Informed consent was given by patients and families who were the subject of individual case

studies and these studies received ethical approval through the hospital Ethics Committee.

Throughout the study I will clearly distinguish ideas that have been discussed and developed with Heads of Departments and interpretations that are my own. With the exception of figure 1, all tables, figures and attachments in this thesis have been reviewed and modified by this Committee, if not by a wider group. The ideas can at least claim local representativeness. Wider generalisability, however, depends on my ability to 'generalise to theory' (Yin, 1983 p38) in the marriage of the case study with the theoretical parts of this paper.

This generalisation occurred in two directions, as we grappled with our problems as instances of more generally identified problems with performance indicators and, hopefully, deepened this body of theory in our attempts to grapple with its local and particular implications. In addition to the checks on intersubjectivity described above there were some checks on potential biases which were intrinsically part of the circumstances under which we worked. In particular, although we felt a deep scepticism about the possibility of developing useful performance indicators, we knew that external requirements meant we had to make the best possible attempt.

Although the whole project could be viewed as a trial to answer the question, "Is it possible to develop a system of performance indicators that is useful and constructive?" this paper should be considered primarily a theoretical paper in which the case study serves useful illustrative and supportive purposes.

FIGURE 2 A Descriptive Theory of the Services at Dawn Grange

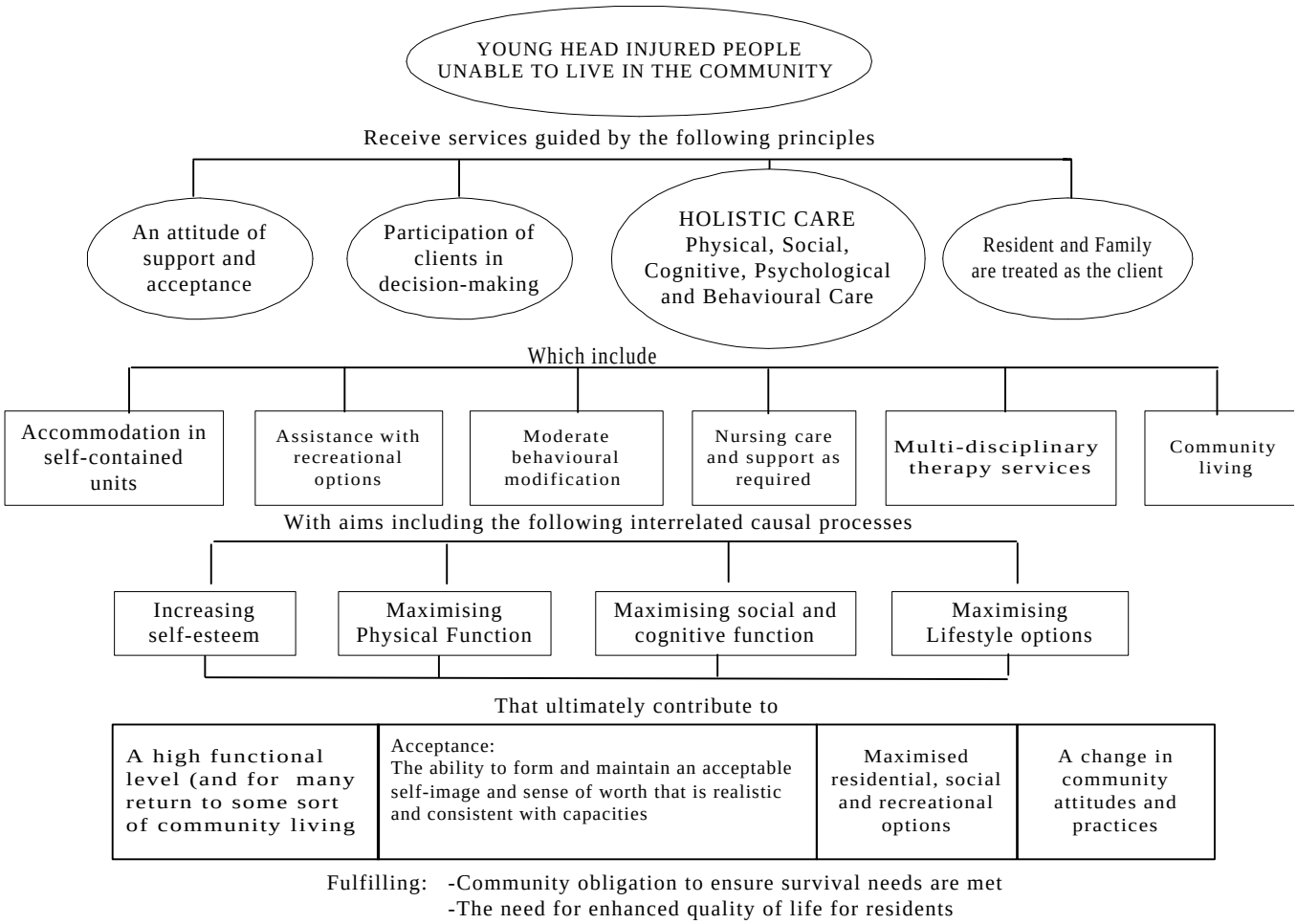

TABLE 2 Goals and Approaches Implied in Different Ideas of Hospital Purpose

Perceived Purpose	Goals and Justification for Patient Participation in the Program	Differences in Types of Approach to the Program
Traditional, though specialised, rehabilitation hospital.	GOAL: Patient independence. • Patient must be willing and able to participate in the rehabilitation process. • Should be discharged once progress ceases.	• Maximise patient options by maximising independence. • Assumes that self-esteem is best increased by increasing independence. • Goals externally determined - mainly to decrease the 'burden of care'. • Program takes precedence.
Slow-stream rehab - offered for longer periods than has been traditional and with greater flexibility of accommodation options.	GOAL: Patient independence. • Patient must be willing to participate in the rehabilitation process or be becoming more willing. • Should be discharged once the staff are convinced that the patient is unlikely to benefit from further input.	• Maximise patient options by maximising independence. • Assumes that self-esteem is best increased by increasing independence. • Goals externally determined in part but extensive negotiation of short-term goals as rehabilitation progresses. • Program more negotiable.
Innovative residential option for people who would otherwise be placed in geriatric or psychiatric institutions - some therapy if it is thought residents can benefit.	GOAL: To maximise enjoyment and quality of life. • Patient must be sufficiently aware to benefit from the special environment and services. • Home or community living not feasible.	• Maximise patient options by providing support, assistance and special facilities. • Assumes that self-esteem can be increased by assisting people to enjoy life and participate in a normal range of activities as well as by increasing independence. • Goals flexible and negotiable - some externally determined goals related to successful functioning in the hospital community. • Program highly negotiable.

CHAPTER 3

Performance Indicators as Power

Performance indicators are a highly developed example of what Foucault called the positive, constructive orientation of power. Many people have misunderstood and criticised Foucault, thinking that by 'positive' and 'constructive' he meant 'good' and 'beneficial'. While it may be true that Foucault believed that power could have good effects he also wrote extensively about the detrimental effects of this 'positive' power. Foucault's use of these terms is to describe an historical transformation in the way power is expressed and the purposes it serves.

Before the nineteenth century, in Foucault's (1977) view, the orientation of power was towards restricting and limiting behaviours that were inconvenient or threatening. Power was prohibitive and its operations tended to be juridicial and hierarchical. The justifying discourse was built around the concept of sovereignty, (at various levels). In the Middle Ages when deviance was seen to be sin, a victory of the flesh over the soul, the mechanisms of control emphasised the mortification of the flesh, so the body was beaten, tortured, starved, subjected to various humiliations, or killed. It was not inconsistent that a person could be the subject of viscious attacks whilst in the stocks on one day and participating normally in village life the next. What was being attacked was a common enemy, the flesh, a devil, original sin or whatever; the transgressor had succumbed but it was not necessarily considered to be a flaw in the person themselves—they were defiled not defective.

In *Madness and Civilisation* (1965), the early chapters of *Discipline and Punish* (1977) and *The Birth of the Clinic* (1975) Foucault documents a change in attitude; deviance came to be viewed as a deficiency, sickness, or abnormality within the individual (faulty organism theory). This led to the development of practices of exclusion such as the prison and the asylum[19]. The direction of power remained negative however, and it operated through levels of authority. Foucault argued that this remained a power based on sovereignty. Fairly quickly after the emergence of the prison and the asylum their focus shifted to that of diagnosis and cure. Foucault (1977, p. 18) quotes from an anonymous early nineteenth century source that people are to be punished by a means of punishment that has the function of making the offender "not only desirous, *but also capable*, of living within the law and *providing for his own needs*" (emphases mine). As a result, the management of deviance, be it criminality or madness, became tied up with a mass of scientific and technical discourse. It was driven and steered by the great engine of 'effectiveness'—but effectiveness to what end?

Foucault (1977) quotes extensively from Rusche and Kirchheimer in arguing that the functioning of systems of punishment relate closely with the systems of production within which they operate. Thus he argues that it was as a result of the emergence of the industrial system, with the requirement to maximise the output of all labour units, that the 'positive' operations of power came to the fore. Power became a matter of ensuring that people used their bodies in productive pursuits, thus it became prescriptive rather than restrictive. It is 'positive' in that it says "Thou shalt!" rather

[19] The abnormal and bizarre were thus kept out of sight creating a greater sense of us as normal as against them as abnormal and simultaneously increasing both the complacency of 'normals' and the desire to comply with social conventions. Creating a solid concept of normality is a first step in control. This probably forms a psychic grounding for the need to be seen as 'rational' which intimidates debate on technological systems (including performance indicators).

than “Thou shalt not!” Through most of his studies on the operations of power Foucault’s emphasis is on how power operates on the body.

But the body is also directly involved in a political field; power relations have an immediate hold upon it; they invest it, mark it, train it, torture it, force it to carry out tasks, to perform ceremonies, to emit signs. This political investment of the body is bound up, in accordance with complex reciprocal relations, with its economic use; it is largely as a force of production that the body is invested with relations of power and domination; but on the other hand, its constitution as labour power is possible only if it is caught up in a system of subjection (in which need is also a political instrument meticulously prepared, calculated and used); the body becomes a useful force only if it is both a productive and a subjected body (Foucault, 1977, pp 25-26).

But how is this subjection to be achieved. Foucault argues against the notion of one class as some huge, anthropomorphised unity consciously imposing its will on the masses. Thus he parts company with many Marxists, Critical Theorists and also those who emphasise conspiracy theories of one kind or another. To make people productive by force can only be done with slavery. The gross intimidations and exploitation seen in the early stages of the industrial revolution could make people work but could hardly give sustained, optimal productivity. Besides which those methods were crude and unparsimonious. The optimal solution was to make people want to work and that required quite a different operation of power. As I have said, this did not happen in accordance with some grand scheme but through the piecemeal accrual of practices that emerge from the struggles between individuals and groups at the local level. Foucault called this level of activity the micropolitical (Foucault, 1979, 1980) and the mechanics of its operation a “micro-physics” of power (Foucault 1977, p.26). Foucault called the historical study of the emergence and effects of this form of power ‘genealogy’, as explained by May (1988, p. 111).

Genealogy is the micropolitical science. If the functioning of power over the last several centuries is no longer exhausted in the exercise of sovereign or sovereign-style repression, if in order to understand contemporary domination we must look not only toward the state but to small practices of knowledge and of discipline, then genealogy is the study of nonsovereign operations of power in the present age[20]. Such a study is necessarily micro-political. It concentrates not upon the obvious power wielded by recognizable institutions and classes in clearly cynical ways, but on the effects of practices of detail, practices with no ostensible interest in power but whose products comprise an array of power relationships. Those small, and at times overlapping, practices—practices of medicine, penology and psychology among them—create new fields of power by constraining action, by joining power to forms of knowledge, by seeping into the social fabric and tracing lines of obedience. Power is no longer articulated solely along the axis of sovereignty, but also along the axes of normalization and subtle constraint. Thus, there are “these two limits, a right of sovereignty and a mechanism of discipline, which define, I believe, the arena in which power is exercised” (Foucault 1980a, p. 106). It is within the domain of discipline, among its discourses and practices, that genealogy finds its objects.

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[20] Note this is different from more common meanings of the saying "knowledge is power" which usually include the idea that knowledge about someone gives opportunity for coercion or that know how or knowledge of opportunity gives certain advantages.

What Foucault means by ‘discipline’ is broader in scope than common usage—he is referring to the whole gamut of practices by which we are taught how we should view ourselves (most importantly), how we should view others and the world, what we should desire and how we should spend our time. At one point he called it “moral orthopaedics,”[21] drawing analogy with the practice of bracing limbs to prevent deformity. This task is achieved through many mechanisms and practices.

What genealogy attempts to do is to realign our political thought, so that it will catch up with our political reality. We live in a world governed by powers which are micro-political, which do not so much repress our inherent desires as create them, be it through public media, education, psychological discourse or other forms of interaction (May, 1988, p. 111).

Foucault discusses three instruments of normalisation “hierarchical observation, normalising judgement and their combination in a procedure that is specific to it, the examination” (Foucault, 1977, p. 170) Performance indicators are an example *par excellence* of the last of these. Before I consider ‘the examination’ however it would be helpful to examine the development of panopticism.

Panopticism

Foucault’s chapter on “Panopticism” in *Discipline and Punish* (1977) is an important piece of work for understanding the nature and power of performance indicators. It is a brilliant piece of research and analysis and because of its importance I have quoted his description of the Panopticoan in full in Appendix B. Briefly however the Panopticon was a concept developed by an eighteenth century English economist called Bentham. He proposed an architectural concept for building prisons, hospitals, schools and factories that optimised the ease with which a few people could control a multitude. (A penitentiary in Stateville U.S.A was built to exactly this design early this century (Foucault, 1977, photo insert.) The architecture consists of a ring shaped building surrounding a central tower. The ring has rows of cells which each extend through the full thickness of the building. Each cell has windows on the outer wall and large windows facing in towards the tower. With the aid of backlighting the occupants of the cells can be observed from the tower at all times. The walls between the cells prevent inmates from seeing each other and the tower is designed in such a way as it is impossible to tell if anyone is in it or not.

The effectiveness of this structure was not so much dependant on the inmates being observed at all times as *on their belief that this was so*, or could be so at any given time[22]. Bentham laid down the principle that power should be visible but unverifiable. Foucault suggests that the dissociation of the normal see/being-seen dyad is an important mechanism for assuring the automatic functioning of power. Power becomes more a property of the arrangement of elements in the system rather than physical constraints or personal authority. In a sense it doesn’t matter who is in the tower, anyone can operate the machine; it is the machine itself which produces dissymmetry and thus effective power. This power is lightweight and efficient it is not dependant on ‘heavy’ devices of force or restraint, the effect of being constantly observed is that the inmate internalises the principles of desirable behaviour and monitors himself.

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[21] Foucault, 1977, photo insert.

[22] As with performance indicators.

He who is subjected to a field of visibility, and who knows it, assumes responsibility for the constraints of power; he makes them play spontaneously upon himself; he inscribes in himself the power relation in which he simultaneously plays both roles; he becomes the principle of his own subjection (Foucault, 1977, pp. 202 - 203).

The Panopticon is an ideal laboratory for experiments to identify effective methods of control, training, or therapy. It also allows for the ready observation of staff and even management, if any major problems occur they are known immediately. It is the ideal of accountability. It ties the fate of those who operate an institution intimately to the functioning of that institution.

For Foucault the important thing about the Panopticon is not so much the wide spread impact this model had on institutional architecture and practice, but the fact that it is the expression of a sort of Platonic ideal of a model of functioning. This ideal operates in many more diverse and subtle ways and settings than we have so far discussed.

But the Panopticon must not be understood as a dream building: it is the diagram of a mechanism of power reduced to its ideal form; its functioning, abstracted from any obstacle, resistance or friction, must be represented as a pure architectural and optical system: it is in fact a figure of political technology that may and must be detached from any specific use (Foucault, 1977, p. 205).

Panopticism is the general principle of a new 'political anatomy' whose objects and ends are not the relations of sovereignty but the relations of discipline (Foucault, 1977, p. 208).

In this quote discipline refers to the activity of so constructing peoples' minds, desires and habits that they function normally and productively.

Bentham dreamed of extending the principles of the panopticon to create a network of disciplinary mechanisms "that would be everywhere and always alert, running through society without interruption in space or in time" (Foucault, 1977, p. 209).

The Panoptic arrangement provides the formula for this generalization. It programmes, at the level of an elementary and easily transferable mechanism, the basic functioning of a society penetrated through and through with disciplinary mechanisms (Foucault, 1977, p. 209).

As an organisation that allows the positive operation of power and which can only "see" action (see Performance Indicators as Knowledge, Chapter 4) the motivating force behind all panopticism is efficiency; the use of the minimal means of power to get individuals to function in such a way as to be maximally productive. It is the ideal behind modern notions of accountability and productivity. It is the ideal that underlies many systems of performance contracts. It is the ideal for which systems of performance indicators strive.

But of course the observational structure by itself is not enough. There must be some way of determining and justifying the norms for which the system strives and some system of rewards and punishments that makes the fact of being observed important.

As regards the latter, various systems of behaviour modification, the manner in which desires are created in consumers, and, the power of peer pressure have all been extensively documented. What is perhaps more interesting is the way in which an internalised system of rewards can be established by the way people learn to think about themselves. If you can develop within people a feeling that their whole sense of identity is based on achievement, self-monitoring becomes a very potent mechanism of reinforcement, those people will bind themselves to social and productivity norms, more vigorously than any other force could. Panopticism is a powerful way to achieve this. If you know that others are constantly watching your silhouette (see p. 33) then you are highly likely to spend your time watching your shadow[23].

The process of establishing norms and peoples' self images occurs, to a very great extent, through the competition of discourse. For Foucault an understanding of the way discourses compete was essential for an understanding of the way that knowledge operates as power.

He spoke of "the normalising gaze" and "normalising discourses".

But what are discourses and how do they 'compete'?

Discourse

A discourse is a discussion about a particular topic. Foucault's interest was in the prolonged discussions, occurring over years, that produced an accumulation of knowledge in a given subject area. He was particularly interested in the rules that governed whether or not a particular contribution could be admitted to the debate. For the moment then we can say that a discourse is:

An accumulation of knowledge about a particular subject area which is built upon an implicit set of values and a set of rules of logic, admissibility and validity.

Foucault (1991) in his lecture "Politics and the Study of Discourse" concerns himself with the task of individualisation of discourses and suggests criteria which involve points of discontinuity, of conflict in some sense, with existing discourses.

Foucault (1991, p54) distinguishes discourses using five criteria; the traditional criteria of a common linguistic system and identity of subject, to which he adds a further three:

(1) Criteria of formation - rules of inclusion of objects, concepts and methods - has implications for what is "sayable",

(2) Criteria of transformation or of threshold - develops the notion of limits on what is "sayable", to assert that it is possible to identify preconditions that must have been met for the emergence or transformation of the discourse.

These two criteria contain the notion of a discourse as a rationality; a set of assumptions which guide the "sayable" but which are not coherent or comprehensive

[23] This may well be a major contributor to what Christopher Lasch (1979) called "The Culture of Narcissism" (See page 43).

enough to ensure consistency between the concepts of the discourse. (eg. Modern discourses on tolerance, where the criterion for inclusion is non-judgmentalism, argue the social determination of gender roles but the genetic determination of sexual preference.)

(3) Criteria of correlation - It is possible to determine the relations of a discourse with other discourses and to locate its field of operation within a particular non-discursive context (institutions, social relations, economic and political conjuncture).

Discourses can exist only in certain forms in certain contexts[24] but they also, themselves give form to the institutions and social relations that enshrine them. Thus institutions operationalise "Discourses of Power" by the way the individual is constituted as 'subject' and by objectification of the subject. The determinism inherent in this view justifies "bracketing" explanations of change that depend on the operations of an autonomous subject. (Foucault 1991, p56)

What is important to me is to show that there are not on the one hand inert discourses,....., and on the other hand, an all powerful subject which manipulates them , overturns them, renews them; but that discoursing subjects form a part of the discursive field - they have their place within it (and their possibilities of displacements), and their function (and their possibilities of functional displacements) (Foucault 1991, p. 58).

Thus discourses are not just rationalities but rationalisations. More, they are mechanisms of power, but demanding this price of the advantaged as well as the disadvantaged; that they also are constituted within the discourse.

I know how provoking it is to treat as a bundle of transformations this history of discourses which, until now, was animated by the reassuring metamorphoses of life or the intentional continuity of lived experience ..... after all this must nothing remain of the poor hand which traced them, of that ended life which had nothing but them for its continuation (Foucault 1991, p. 71).

This determinism has the effect of making any dividing line between the subject and the object *arbitrary*, in the sense that it is not *necessary* but *not* in the sense that it is not *contingent*. It is a feature and a product of a particular discourse, which can consequently be used to analyse the discourse, how it interacts and competes with other discourses, and its functioning in the allocation of power[25.] Discourses operate on me in two fields, by determining:

(1) What I believe I am - subjectification,

(2) What others believe I am - objectification.[26]

Because the interaction of discourses in the two fields is not the same, an individual's conclusions will conflict at points with the conclusions of others and thus arises the

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[24] In what sense does discourse determine the sayable?

Foucault's "sayable" involves more than acceptability; it refers to the very possibility of an utterance occurring. It is easy to see how possibilities could be limited by the availability of various assumptions or guiding metaphors (e.g. evolution, homeostasis, mind-body dualism etc.). Foucault gives the term more strength than this, suggesting that the interaction of these factors with specific historical circumstances in a discursively constituted subject is absolutely determinative. Thus he speaks of' "the law of existence of statements, that which rendered them possible - them and no other in their place" (Foucault 1991, p. 59).

[25] An emphasis on the analysis of objectification effects of discourses is consistent with Foucault's interest in the effects and manifestations of power on the body through objectification in discourse (e.g. in *Madness and Civilization (1967)* (Dant, 1991).

[26] Two subordinate fields could be what I and what others believe humanity is.

possibility of rejection or transformation of dominant discourses (C. Weedon describes both of these in regard to the feminist response to dominant patriarchal discourses, (1987, pp 131-134)).

We have noted that Foucault rejects the idea that power "consists in some substantive instance or agency of sovereignty" (Gordon, 1980, p.235) and the notion that those controlling knowledge conspire in domination of the oppressed by objectifying them using 'false knowledge',

...., but these relations are not for Foucault the symptom of a violent transgression of the bounds of legitimate knowledge. On the contrary, if certain knowledges of 'Man' are able to serve a technological function in the domination of people, this is not so much thanks to their capacity to establish a reign of ideological mystification as to their ability to define a certain field of empirical truth (Gordon 1980, p. 237).

Discourses establish the possibilities for the operation of power, largely due to their normative elements. The normalising direction of a program,

.... is in turn the outcome of the conceptualization within the discursive form of the programme itself of an ineluctable discrepancy between discourse and actuality (Gordon 1980, p. 250).

Such uses of power can just as well be positive as negative.

Foucault (1979, 1991), calls the activity of a discourse in seeking to establish its norms its "programme". "Programmes" mobilise various technologies of power in the project of the discursive formation of the "social real". Foucault distinguishes "programmes" from local, technical attempts to realise the programs norms which he called "strategies" or "strategy programs".[27]

.... which consists in the mobile sets of operations whereby a multiplicity of heterogenous elements (forces, resources, the features of a terrain, the disposition and relation of objects in space-time) are invested with a particular functionality relative to a dynamic and variable set of objectives (Gordon 1980, p. 251).

Two points are worth noting in regards to the relations between programmatic discourses, strategies and their effects. Firstly, much of the interaction and competition between discourses occurs at the level of strategy programs through the constraining effects of practical interaction and competition in day to day operation. Secondly, the transfer of dominance from one discourse to another is likely to occur at points of intersection between the two discourses (see the discussion of Table 2. on p. 34). For example where a program fails according to the norms of the dominant programmatic discourse, it is common for the effectiveness of the program to be salvaged within the co-ordinates of another discourse, thus changing the relations between discourses (Gordon 1980, p 250), (hence the need to focus on the ultimate values of the discourse).

A third point is that the discursive form of a program provides an environment in which "the articulation of problems and the contention, negotiation and collaboration

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[27] For example social role valorisation (ie. the ideal that disabled people should have equal access to socially valued roles in the community) could be considered a "programme", a specific project to shift a certain number of people from large institutions into small group homes is a strategy or strategy program. In the same way Economic Rationalism as a whole has a "programme" of eliminating any moral or regulatory constraints on profit seeking behaviour and minimising expenditure that doesn't enhance production, performance indicators are a strategy.

of different forces and interests", (and strategies) can occur. The discursive program sets the agenda, and *so long as the discourse is alive the program lives despite the waxing and waning and transformations of many "strategy-programs".*

The paradigm of strategy as zero-sum war game is inappropriate here. Where the terrain of strategy is the social, there is always a likelihood that the outcome of two competing or conflicting strategy-programmes will be the composition of a third one. The built-in logical coherence of the programme (discursive) serves here as a vehicle for the improvisational flexibility of strategy (Gordon 1980, p. 252).

Strategy is mutable, norms are *relatively* stable (within a particular discourse).

According to such a view the seminal role of a program is to establish the discourse, recognising the likelihood that its "instrumentalisation" will take multiple unstable forms. Although successful implementation is seen as establishing the discourse, success in terms of outcomes is still seen in terms of increasing conformity of "actuality" with the norms of the discourse. Indeed, once the discourse has been unleashed it will continue to exert an influence (amongst many competing influences) until it achieves this homeostasis.

In summary then, we can say that discourses compete in the way they categorise people as objects, objectification, the way they constitute the subject (personal identity), subjectification, and the way they define humanity ('Man')[28], thus they compete in determining the locus of power. In the sense of allowability and *adopted*[29] assumptions and metaphors, different discourses differently determine the 'sayable', and in programs they differentially focus on the macro or micro perspective. Ultimately discourses compete for the right to decide what is true and what is false. The field in which this competition is played out is the "strategy-program", and the results of the competition can be a change in which discourse is dominant, inter or intra discourse transformations, the melding and reforming of strategies or the transfer of technologies of power from the service of one discourse to another.

[28] In referring to the generic representative of humanity I will alternate the use of 'Man' and 'Woman', capitalised in each case.

[29] In the sense of available assumptions and metaphors there is usually no difference between discourses which co-exist at one point in time.

In terms of this theory we can direct a number of questions to a given program.

- What is the dominant discourse?
    - What are the norms the discourse is trying to establish, specifically how does it categorise people as objects?
    - What influences does it bring to bear on the constitution of the subject?
    - Are these influences intended or unintended (level of awareness)?
    - What assumptions and guiding metaphors undergird the discourse?
    - Is its focus primarily on the individual or on the population?
- What are the main competing discourses?
    - What are the norms the policy is trying to displace?
    - Is the competition primarily about how people are constituted as objects, as subjects or about the focus of attention?
- What is the content of these differences?

Principle Discourses Impacting on Dawn Grange

Table 2 is a summary of an attempt to answer some of these questions for the medical[30], SRV and economic rationalist discourses[31].

It may be useful to discuss the analysis in the table by using it to illustrate the way in which the economic rationalist discourse was able to hijack the concerns of the independent living movement with the result that many handicapped and mentally ill people placed in the community, were left more restricted and deprived than they had been in the institutions because of a lack of supportive services[32].

It is clear from the table that there are two areas in which the independent living movement and economic rationalism were natural allies against the medical model (ie. points of intersection giving the opportunity for transformation[33]). Firstly they opposed its infantilising, dependency producing tendencies. Secondly they were agreed on the value of deinstitutionalisation. Unfortunately the independent living movement viewed deinstitutionalisation as an end in itself and failed to recognise that it was a means, a strategy, to achieve a more abstract goal. This failing has been corrected in the adoption of the term Social Role Valorization[34] (ie. helping people to fulfil socially valued roles), but the damage had been done. Two practical lessons can be learned from this experience.

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30 See Vuoiri and Rimpela (1981), Davis and George (1988) and Foucault (1975) for discussions on the development and effects of the medical model.

31 For detailed discussions on economic rationalist justificationary discourses see Jones (1993) *Economic Language Propaganda and Dissent*, and Ellul (1990), *The Technological Bluff*, chapters v-x and xvi.

32 See Wolfensberger (1985), for an account of the change from the use of the term "normalisation" to the use of "social role valorisation" in response to this situation.

33 At this point of intersection the dominating discourse can take over the principles of the intersecting discourse for the purpose of justification and rationalisation.

34 Note the power of discourse.

Firstly, if the independent living movement had clearly thought out their values and goals they would have realised how inimicable they were to those of the economic rationalist position and would have been more vigilant and focused in their dealings with governments. They could have analysed more fully everything that was required to realise their values instead of treating deinstitutionalization as a panacea.

Secondly it was in acting out the 'strategy program' that the switch in values was effected. We have already seen that where commitment is to a strategy-program, rather than to the discourse and its values, it is common for the effectiveness of a program which fails according to the norms of one discourse to be salvaged within the norms of another discourse thus transforming the relationship (dominance) between discourses.

If a discourse is to be safeguarded in the practical world of strategy programs, analysis and commitment must be directed at the values of the discourse, and the mutability of any given strategy program must be recognised.

What are the implications of this principle for the possibility of using performance indicators in the service of the SRV discourse?[35] There is one positive and one negative implication.

Firstly, because performance indicators enshrine values they may facilitate the focus on this level and encourage flexibility in the conceptualisation and implementation of strategy programs to serve these values. On the other hand they have great difficulty accommodating concepts or values which are not readily quantifiable or cannot be viewed as the product of an identifiable process (eg. peace, sense of meaning etc.), but perhaps this difficulty is not insurmountable if the appropriate conceptual efforts are made[36]. Perhaps performance indicators can even yet be used to enhance the rights of the disabled for self-actualisation. However this will require addressing the problems of reductionism, definitional operationism and the abandonment of dialectic that tend to be inherent in the use of performance indicators as a form of 'seeing' in a panoptic frame-work. In short we must address the problem of how performance indicators function as knowledge.

[35] I have chosen to give preference to social role valorisation because it is the discourse most widely professed today, its principles form the basis for the Disability Services Act. Other discourses are going to need to use its terms for justification, therefore it is the discourse most likely to have its terminology hijacked.

[36] For this reason I feel that the task of developing measures that do justice to these difficult to measure, ultimate goals is a priority for social justice in program planning.

CHAPTER 4

Performance Indicators as Knowledge

What Can You See from the Tower?

Silhouettes—(Some thoughts on reductionism)

A useful starting point for our analysis of the ways in which performance indicators function as knowledge is to ask the question, What can the observer in the tower actually see? Basically they see miniature silhouettes. Silhouettes can give information about position, posture and action. They can't see facial expressions or the status of the body. The only thing that is of concern about an individual is their behaviour, and even that is only of interest according to fairly gross and limited criteria. The person is a performing object. The subject, the person as they see themselves[37], is of interest only as a point of application of normalising pressure. The only evidences of individuality that will be seen are deviant behaviours. These will be picked up, treated and cured as quickly as possible. The system will constantly reinforce the message, 'You are what you do! Fulfilment lies in achievement—Only this is important!' Meaning does not lie in connecting with other people but in excelling over them.

The observer can only see what the person is doing now, it is a sort of observation in the immediate present. Where they've come from and where they might eventually go doesn't matter, current behaviour is what matters. The future has more to do with how well the machine exerts control than it does with the idiosyncrasies of the individual.

For all of the incredible power and efficiency of the panopticon, modern technique has developed the possibility of methods of surveillance and control which are more invisible, subtle, parsimonious and efficient. The modern networked office is potentially the ultimate Panopticon. Each worker is separated by the need to remain fixed to their terminals and the observer can gain all the information they need to know about the behaviour of the individual without seeing the bodily person at all. The person can be known as pure abstracted behaviour and product. This is also the ideal for which performance indicators strive.

The silhouette is a useful metaphor for the sorts of reductionism that form the most common complaints against performance indicators. People frequently say that performance indicators paint the program in terms that are too unidimensional and too immediate—too selective in their range of goals and too short term in their view. Some of these reductionist tendencies occur because performance indicators are treated as a kind of "seeing" (functioning for the purposes of panopticism) and thus fall prey to the limitations of vision.

Vision vs the Word

[37] This is the only sense in which I use the word 'subject' in this paper, hence when I use the phrase 'subjective processes' later on I am referring to processes that impact upon, or result from, the way people know themselves.

In 1954 Australian newspapers showed a photograph of Australian authorities delivering Mrs. Petrov from Soviet security forces. In the same week Polish newspapers showed a picture of Mrs. Petrov being arrested by Australian police. It was the same photograph (Ellul, 1985).

This simple story can aid our understanding of the distinction that Jacques Ellul draws between reality and truth. For Ellul 'reality' is the realm of the visual and of the image, 'truth' is the realm of discourse and 'the word'. In this story the reality is that at some time Mrs. Petrov took a walk between two Australian policeman, the truth was that Mrs. Petrov was defecting. Ultimately truth is about meaning. The truth is only determinable by knowing the events that occurred before and after this moment of reality, or by asking Mrs. Petrov, therefore truth is the realm of process, emergence and fluctuation over time and the realm of the subject. Of course Mrs. Petrov could lie, but falsehood belongs to the same realm as truth. What you see can't be false only your interpretation of it[38]. Vision is the sense of certainty, its purpose is to prompt action and to provide the certainty necessary to act. The image is efficient, it can grasp a situation in an instant, it can grasp realities that would be impossible to grasp with words (the electronic circuit plan of a jumbo jet for instance).

Vision and the word approach the question "What is it?" in completely different ways. Vision depends on association. I know what a tree is because I can associate the image before my eyes with other images of trees. Vision depends on being able to say "it is like therefore it is..."—often as children this misleads us, Tabby is not "dogga"— sometimes as adults it misleads us as well, apparently solid ground sometimes covers a sink-hole. The word depends on definition, it analyses and breaks things into their component parts including their history, and, as concerns humans, the subjective. Vision knows what something is by what it does. The word knows what something is by its properties and history.

Because vision is based on association it extrapolates freely, I see a few features and, on the basis of my experience, think I know everything there is to know about the object of my observation. I want to select an apple from a fruit bowl, I look for the apple that is reddest and most lustrous, Why? because I believe it will taste better. I can easily be fooled if my assumptions are wrong, this is the basis of optical illusions (Abercrombie, 1960; Campbell, 1978) but usually my assumptions serve me fairly well so I learn to act with a confidence that is not always justified. The word extrapolates carefully and self-consciously if at all.

Vision provides the certainty I need in order to act. It is a slow and awkward process even to cross a room if I am dependant solely on verbal instructions. Therefore it is vision that makes technological progress possible. I have said performance indicators are a type of seeing, or rather they attempt to be a type of seeing, and they appeal to that part of our mind that responds to the 'real', to things visual—they are an attempt to implement the ideal of panopticism. But our indicators are not things (objects, processes, properties) but images of things, they are attempts to transfer the understanding of things from the realm of the word to the realm of vision, to make truth the same as the real. Truth, however, is not the same as the real, it is the real plus interpretation, the real plus meaning, the real given content by the word or by discourse. In order to make it seem that truth is the same thing as the real we try to hide or deny the discursive element that links them. We hide it by congealing sets of discursive assumptions into 'givens', commonplaces that operate below the level of awareness[39] (Ellul, 1985; Foucault, 1991; Lovekin, 1991; May, 1988). This is why the battle to 'establish a discourse' is so central to the operation of power. None-the-

[38] Of course there are such things as mirages and visual illusions, but these are still based on unconscious pattern recognition processes in the brain making an interpretation of some unfamiliar stimuli in terms of familiar patterns.

[39] All vision operates like this. Abercrombie (1960), cites the studies of Senden in the 1930s in which he observed the ways in which subjects, blind from birth due to cataracts, built up this set of assumptions when sight was given to them through surgery.

less the fact remains that our indicators only tell us *something about* the 'things' they purport to measure[40], they are not the 'things' themselves, they are linked to them in a way that depends on deductive logic and can be expressed discursively. This is no good for action though, how can we do anything if all our seeing is but snatches caught during tiny breaks in the fog. And constantly examining our assumptions and our reasoning is inefficient and exhausting. By contrast:

'The perceptual act is not an activity. There is no element of fussiness, no wondering or questioning, one does not have to take trouble over it¾ it is a blessed relief from the labour of discursive thought (Price, 1932 in Abercombie, 1960).

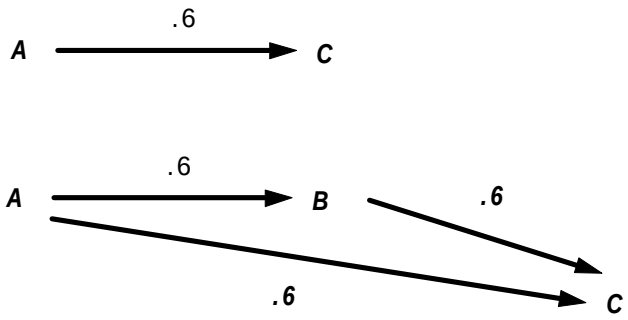
Better to strike out with confidence as if our measures and images were the things themselves, and perhaps our numbers will eventually become the new reality and what was truth will cease to matter, (to some extent it already has), this is definitional operationism.

Definitional Operationism

Donald Campbell has written extensively on the problems and effects of definitional operationism, in fact it has been something of a *leit motif* throughout his writings, sometimes in one key and sometimes in another, sometimes providing a bass counterpoint but none-the-less usually detectable. I would like to make use of the diagrams that Cook and Campbell (1979) use in their discussion of path analysis in their classic book on Quasi-experimentation. If it is possible to use and develop these images in such a way as to raise questions and create uncertainties then perhaps it is possible to find ways of arguing with performance indicators.

It is common practice to argue that if two entities are strongly correlated and causality can only go in one direction, (because of priority of time for example), that there is a causal relationship linking the first and second variable. If there is more than one mechanism by which the first variable might influence the second, path analysis uses correlations to try to determine how much of the causal effect occurs via each mechanism, it does this by positing intermediate variables. Cook and Campbell diagram these relationships as in Figure 3.

FIGURE 3 **Causal Paths**



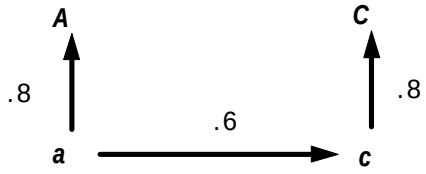
(Adapted from Cook and Campbell, 1979, p. 302) [41]

Cook and Campbell then point out that what is correlated in developing these models are operationalisations or measures of certain realities not the realities themselves. The diagrams in Figure 3 assume that the measures correspond or correlate perfectly with the reality that they represent—this is never the case. Following Cook

[40] There are always many things that they don't tell us.
[41] The two parts of the diagram reflect two different situations and are not meant to be equivalent.

and Campbell I will call ‘A’ and ‘C’ two realities which we wish to correlate, which have corresponding measures ‘a’ and ‘c’. Now, in the event that we are able to determine the level of correspondence between ‘a’ and ‘A’, and ‘c’ and ‘C’ and that it was .8 in each case, the following diagram could be drawn.

FIGURE 4 **Relations Between Constructs and Measures in Path Analysis**



(Adapted from Cook and Campbell, 1979, p. 305)

The .8s in this figure are unlikely to be easily determinable[42] and unlikely to be constant so we could use variable term like V_A or V_C [43] to express this relationship.

It is quite probable that changes in A, (eg. changes in program activities), that impact upon ‘C’ may also have other effects on the way ‘c’ is measured thus changing V_C. With this model in mind it is possible to diagram the statement by Campbell on reactivity that we started out with, and to show that it is the reductionism enshrined in the cosy assumption of definitional operationism that provides the ground-work for this reactivity. (Figure 5, p. 40)

I will now consider the use of the Functional Independence Measure (F.I.M.) as a measure of the quality of rehabilitation outcomes. In this situation their are two reductive assumptions operating, one is that ‘functional independence’ is an adequate proxy of ‘quality of rehabilitation outcome’[44] the second is that what FIM measures (largely decreased burden of care) is an adequate proxy for ‘functional independence’.

Let us say that ‘A’ represents changes in program activities, ‘C’ represents ‘functional independence’, ‘c’ represents FIM and Q represents ‘quality of rehabilitation outcome’—then V_C represents the validity of FIM as a measure of ‘functional independence’ (construct validity) and V_Q represents the quality of ‘functional independence (FI)’ as a proxy for ‘quality of rehabilitation outcome (QR)’ (analogous to construct validity, it could be called construct of quality validity although it clearly involves more valuing and discursive elements).

To analyse the reductionism involved in each proxy it is necessary to try to define FI and QR and FIM analytically and discursively. Criticism is impossible if you stay in the realm of the visible, what is seen just is (Ellul, 1985). This is one of the things that makes it so hard to argue with performance indicators—when the link between what has been seen and what action should follow is so obvious, why waste time talking? Vision can only correct vision if the person who sees then sees a different contradictory image (see the work of Ames cited in Abercombie, 1960; Campbell, 1978; Ellul, 1985). To argue with vision it is necessary to bring it into the realm of the word, at the same time recognising the discursive biases that had been bundled up with the image in an effort to equate reality with truth.

TABLE 3 **Dimensions of Selected High Quality Outcomes**

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[42] V_c can be determined at a point in time by analysis of the results of multiple measures of the one construct using the techniques of structural equation modelling. None-the-less the processes of reactivity (see Figure 5) will still cause V_c to change over time. Reactivity can effect different measures in different ways so multiplism (the use of multiple measures) probably offers some protection.

[43] V_A is in a reciprocal relationship to Cook and Campbells’ “unique variance U_A and could be called ‘implementation validity’ ie. it is a measure of to what extent the program was delivered as planned. V_c on the other hand refers to the relationship between an outcome and a measure and is called construct validity.

[44] This concept is clearly in the realm of ‘truth’, reality interpreted, in this case valued, through discourse.

Goals	Flexibility for…..	Robustness when……	Safety	Future Development
Independent gait	Stairs\slopes Crowds Uneven ground Distance Speed	Sick Rushing Anxious Time\age Injury	Community safety Injury prone Safe for joints and tissues	Is the gait such that it will produce improvement in control with time or will inhibition, wasting and joint damage progress.
Independent transfers	Height and type of beds, chairs, toilets…. Space and orientation Floor surfaces	Sick Tired Rushing Anxious Pain	re robustness Safe for joints and tissues	Will technique lead to improved control or will it encourage compensations and tone that interfere with other tasks (eg. Gait)
Able to handle frustrations in a socially acceptable manner.	Unfamiliar environs Non-routine tasks Emergencies	Sick Bad news Rushing Anxious	Emergencies Coping with harassment Draw hostile responses	Are there general coping strategies that, with practise will be flexibly applied in many settings or will they grow more rigid.

I will start with the easier task first, Is ‘decreased burden of care’ an adequate proxy for ‘functional independence’? The answer, of course, is that it is a question of values. Table 3 represents considerable discussion amongst clinicians at Dawn Grange and I hope represents some of the best clinical insights of medical discourse oriented towards the aspirations of social role valorization discourse. It shows some possible dimensions of high quality outcomes for three common goals. The third goal doesn’t really come within the gamut of functional independence, the first two clearly do.

In considering gait and transfers, the dimensions of flexibility, robustness, safety, and set up for future development are relatively long-term considerations which all depend on aspects of quality of performance (eg. symmetry, reversibility throughout the movement, control etc.). The measures in FIM are not dependant on these issues. The fastest way to get someone walking in the short-term is to give them a stick and allow them to use their good side to do all the work. If improvement in FIM scores is used as a standard of comparison between programs, those programs which ignore the long-term benefits of emphasising quality and instead try to get people going as quickly as possible are going to appear more efficient. The ‘higher’ goals will effectively be made illegitimate. (The irony is that studies using measures similar to FIM have shown that patients do just as well if they don’t have any rehab at all (Carr and Shepherd, 1980) To argue for these higher goals we are dependent on evidence from the literature on the causal processes involved, this is then used within discourse and using deductive processes to establish the short-term emphases of the program. This is cumbersome compared to the intuitive certainty that can be obtained with simple operational measures.

The short-term goals belong to the domain of the real—we can see what the patients can do at the time of discharge that they couldn’t do at admission. The ‘higher’, more long-term goals in Table 3 belong to the domain of truth and need to be argued for in terms of both theory and values. Not surprisingly it is in the long-term that head-injury services fail. In studies quoted by Prigatano (1986) it has been demonstrated that employment rates four years after head injury were about 45%, by ten years post-injury this rate had fallen to about 10%. Similar results are seen for marriages and depression. This is despite the fact that these peoples’ physical and neuropsychological capacities have often increased.

The task of defining quality of outcome is more difficult (therefore it is often avoided). Appendix E contains a detailed discussion of the possible bases for goal setting post head injury

At best the use of functional independence as a criterion of quality promotes the intention to maximise the clients life options by maximising their functional capacities; at worst it is a cost-minimising rationale for rehabilitation efforts, this is reflected in the predominance of 'burden of care' outcome measures over quality of life measures.

This desire for cost-minimisation was strongly denounced by several respondents to a Commonwealth Senate enquiry into the implementation of the disability services act who stated that they had not asked society to save their lives, but that having saved them society owed them a decent standard of living (Australian Government, 1990).

There are three problems with the assumption that "independence" maximises options and quality of life:

(1) For many people independence can be so demanding that it prevents participation in activities that promote valued social roles;

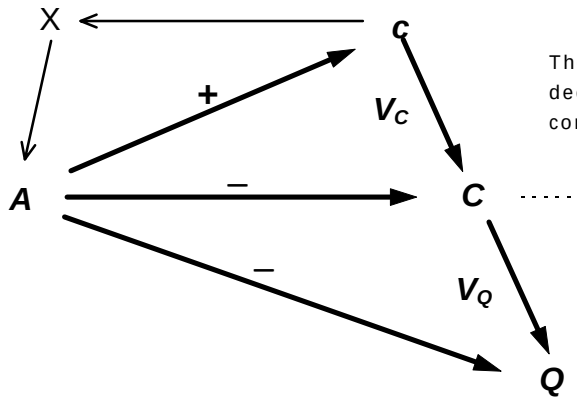
(2) The push for independence may interfere with the ability to develop a more appropriate, non-performance based, basis for a sense of identity and self-esteem;

(3) Pressure for early independence can promote the adoption of compensative strategies which actually hinder long-term recovery.

None-the-less, with these caveats, restoration of independence remains **an** important goal which certainly contributes to the maximisation of options and the recovery of dignity and self-esteem. It must not however be the only goal and for most head injured people their will probably be periods when an undue emphasis on these goals will do more harm than good.

It is fairly clear from this discussion that FIM's emphasis on burden of care as an indicator of functional independence, and the use of functional independence as a measure of quality of outcome are both unacceptably reductive. The use of these criteria for program accountability is likely to profoundly impact on the scope of the program and requires that a great deal of high quality research is abandoned. This can be diagrammed as in Figure 5. In this figure the 'X' represents the natural tendency of people to try to perform as well as possible according to the criteria by which they are being assessed. In many ways the diagram is quite basic, a mere reformulation of Campbell's laws, but it serves to highlight the fact that the problem of reactivity is based on the reductionism inherent in definitional operationism and the attempt to equate truth with reality. This is important because it suggests a way forward in the quest to minimise the dysfunctional effects of performance indicators.

FIGURE 5 **Reactivity**



The more any quantitative indicator is used for decision making, the more subject it will be to corruption pressures..

...and the more apt it will be to distort and corrupt the social process it is intended to monitor (Campbell, 1979).

Before we examine this however, I would like to look at one more aspect of our modern style of knowing.

Effectiveness Epistemology

Jonathon Culler (1973), discusses Foucault's attempts to free us from the constraints on knowledge formation that result form contemporary conventions by showing us that these conventions have a history and a purpose and can not be said to be foundational.

The episteme[45] of the Renaissance is different from that of the Classical period, which is in turn displaced by the set of assumptions and formation rules that governs our own scientific discourse. The fact that it has changed makes it open to analysis as a set of tacit conventions. In the Renaissance, for example, the basic conception of order is found in the notion of resemblance: relations of similitude and analogy link together the microcosm and the macrocosm, heaven and earth, the book of the world and the books of men. In the Classical period, however, the notion of representation displaces that of resemblance; the world is ordered not by qualitative, symbolic correspondences but by quantifiable identities and differences. It is the era of taxonomies, in which science is concerned with the representation of the order determined by visible characteristics (Culler, 1973).

The test of analogical knowledge as seen during the Renaissance is its ability to strike a chord of recognition in the hearer, to make them feel they understand the order of things a bit better, the "Aha" experience. Insight is gained through an accumulation of similes. We see the extensive use of 'types', particularly in art. We may think their analogies between the physical and the spiritual realm are humorous, but I'm sure that many of their intellectuals would find our rigid identification of things which clearly belong to different orders, patently absurd. The purpose of this knowledge was to bring man into relationship with God and 'the order of things' (and to know his place in it), it taught him to identify know himself as creature in relation to a creator.

The test of representational knowledge is its ability to draw distinctions and to define. The purpose of definition however was clearly to separate objects into categories not to somehow mystically capture the essence of the thing. These people never thought that because they had devised a set of propositions that could distinguish a duck from every other living thing that their definition said all that there was to be said

[45] The *episteme* is roughly the sum of all knowledge at a given point in time combined with the set of rules contained in all current discourses. The concept try's to capture the rationality of a certain time in history.

about ducks. Yet this is precisely the fallacy of definitional operationism[46]. The purpose of this knowledge was to bring man into relationship with nature and the natural order, it taught him to know himself as animal (and that survival depended on merit).

The test of knowledge today is effectiveness. The purpose of this knowledge is to bring us into relationship with *la technique* and the technical order, it teaches us to know ourselves as instrument. Until knowledge has been tested in its practical implications, until we have seen that something works, we don't believe it. Ellul in his books on technology and education (1964, 1965, 1972, 1980, 1990) discusses this extensively, (for example he argues that the use in conflict of at least one atomic bomb was inevitable because the modern mind can't stand the uncertainty of not knowing for sure.) The problem is that effectiveness is frequently difficult to define or to be sure of. We solve this problem by reduction and by moving into the realm of symbolism. We need to have certainty about the effects of something before we feel we can make any knowledge claim at all, for modern managerialism all knowledge is gained through experiments. If that certainty is not available in the realm of reality and truth we will make our symbols into reality.

But what if it is at the cost of having to settle for symbolic well-being, symbolic quality of life and symbolic educational achievement? And what if what we are trying to capture in our system of symbols is human nature itself?

The Cost of Abandoning Dialectic

To illustrate the dangers of the abandonment of dialectic in programs designed, supposedly, to meet the holistic needs of people I would now like to turn to some aspects of conceptual theory for the programs at Dawn Grange . This discussion will also lead me to consider the ways in which program theory can be most usefully used for outcome evaluation.

The nature of human beings is dialectical, it is a matter of swings and balances. Performance indicators are uni-polar—they are about maximisation or minimisation. This may be alright if one is looking at the production of widgets or the incidence of work-place accidents, but the process of trying to 'maximise' human characteristics is fraught with danger. The emphasis on 'achievement' as the only legitimate basis for a sense of identity which results from *la technique* and panopticism, produces serious pathology even in the general population. It is more dangerous still when imposed upon people trying to come to terms with a devastating disability, (although it is probably just as damaging when applied to education or child-rearing).

The psychology of Carl Jung is a psychology of balance and integration, and highly dialectical. He frequently identifies pairs of elements in the psyche, which produce drives in opposite directions which must be kept in balance (Jung 1933, 1971, 1982). Jung often uses the language of myths (as did Freud) to identify these elements because he believed that myths were universally applicable manifestations of these elements. Two of these elements are what Jung (1933) called the "Promethean" element and what other Jungian writers (Cowan, 1982) have called the "Dionysian" element. The Promethean element drives us to individuation, to defining a self that is distinct and separate from those around us, from those who went before us and those who will follow. It drives us to be masters of our own destiny; it resists any attempt to define us according to nature or tradition. It will suffer any torment or

[46] We see the real and we think we know the truth.

hardship rather than give up any degree of self-determination[47] (See Appendix C). In a very real sense this is the only sense of personal identity legitimated in current dominant discourses.

The Dionysian element on the other hand emphasises connectedness, to the point of merging, as against Promethean distinctiveness. The Dionysian element drives us to identify ourselves with other people, with nature, with the flow of history, with God. It produces longings for oneness with mankind and the universe, longings to feel the throbbing pulse of life. Ultimately it can be seen in the desire for oblivion or rather for total merging, Nirvanah. It is this element that enables us to construct a sense of identity out of family and relationship links, cultural traditions, religion and numinous and sensuous experiences. Unfortunately because of the scepticism of our age and because of the epistemology imposed by technical discourse (ie. that effectiveness is the sole guarantee of truth), this element is no longer recognised as legitimate. Relationships, sensuous experiences and even religion are all judged by effectiveness criteria: thus we carefully monitor the intensity and nature of our feelings in relationships and when they are no longer 'right' or optimal, we decide that "the relationship is no longer working" for us and we throw it over. All the time we are constantly evaluating both our feelings and our performance, the same goes for sex.[48] Christopher Lasch (1979) in his book "The Culture of Narcissism"[49] explains the effects of this need for perpetual self surveillance and the dominance of the Promethean element on a number of areas of modern life[50]. This self surveillance is the ultimate goal of panopticism; the tower, the staring eyes and the barriers between individuals have all been completely internalised.

When the Promethean and Dionysian elements are integrated the Dionysian element gives purpose and meaning to our quest for individual achievement and therefore allows us to take some pleasure in the fruits of our labour. It also provides the possibility of 'handing over' our efforts and our achievements to another generation with some degree of equanimity. When the Promethean and Dionysian elements are placed in opposition, such as when one is valued to the extreme at the expense of the other, a number of disturbing results can occur. Very early in his career Jung (1983), developed the theory of 'complexes', (later used extensively by Freud), which proposed that when one element of the psyche is suppressed it will gain energy and form attachments in the unconscious and then manifest itself in unpredictable and often uncontrollable ways. It seems to me that the suppressed Dionysian element often re-emerges as various forms of escapism—escape from the burdens of a Promethean selfhood (Baumeister, 1991). Thus relationships, sex, pleasure even the use of wine become desperate means of escape rather than means of fulfilment.

Another effect of the devaluing of Dionysius is what I shall call 'trophyism', a form of narcissism, in which family, religious life (and status), sexual conquests etc. are not so much valued and enjoyed for themselves as collected as trophies which the narcissistic soul can survey for reassurance of their worth[51]. All of this paints a fairly bleak picture of meaninglessness, desperation and escapism.[52] But somehow we can survive like this feeling reasonably happy *so long as we are still achieving*, it is

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47 A most poignant and terrifying psychiatric case-study forms the basis for a chapter entitled, "No Place to Go but Up—Marriage and Power" in psychiatrist M. Scott Peck's book *A World Waiting to Be Born—Civility Rediscovered* (Peck, 1993). Because it has such dramatic similarities with cases of developing psychosis that I have seen in head injured patients I have quoted extensively from the book in Appendix C).

48 Hence the constant flow of advice in popular magazines on how to achieve this or that sort of orgasm.

49 It may be argued that the Narcissist, with his extreme dependence on others to bolster his sense of identity, is more dominated by Dionysian than Promethean drives. The narcissists dependence on others however is not based on a need to relate to some 'other', rather it is based on a need to attain feedback on whether they are doing things 'right'. The 'other' merely functions as a mirror (Jacoby, 1985). From a more Jungian perspective we can say that any element of the personality that is suppressed is liable to form complexes in the subconscious which will find expression in various compensative behaviours (possibly alcoholism, romantic obsession, phobias or self destructive behaviours (e.g. Baumister, 1991)). Of course unbalanced Dionysianism can also lead to atrocious consequences: extreme nationalism, vendettas, prejudice and many forms of selfishness and idleness. The artist teaches us something of the desired balance, they work for years to attain the technical skills that then allow them to express the deepest movements of their souls in ways that can touch us all.

50 These include constant restlessness and a sense almost of desperation in the search for sensual experiences.

51 But it doesn't work for long and the quest for new trophies becomes more and more desperate thus creating an unquenchable reservoir of need which is exactly what a consumer society requires.

52 It is not surprising then that all of the worlds great religions teach in some form that "he would save his life must first lose it".

when our ability to conquer new ground starts to diminish that the most tragic consequences of unbridled Prometheanism are seen (see Appendix C).

Jung suggests that in the stages of life the first half of life is predominantly oriented to differentiation, that is to making our mark on the world; and that the second half is oriented to integration and connection, that is to establishing a harmony between the various aspects of ourselves that does justice to all elements and to identifying the place of this whole self in the greater scheme of things (if all goes well). Be that as it may it is certainly true that the suppression of the Dionysian element in later life brings about tragic consequences as life often appears more and more meaningless. By contrast with the current state Christopher Lasch quotes Tom Wolfe in suggesting that, "most people historically, have *not* lived their lives as if thinking. 'I have only one life to live.' Instead they have lived as if they are living their ancestors' lives and their offsprings' lives...."

The process of adjusting to "diminished expectations" (Lasch, 1979) after head injury is probably somewhat analogous to the sorts of adjustments that people need to make in mid-life, though all the more difficult as it usually happens to young people who don't have a store of achievements to look back on. What then will be the effect of making patient "achievement" the primary focus of rehabilitation efforts?

Young Prometheus with a Head Injury

I would like to present the case of a young man who was a resident at Dawn Grange . I will call this young man Jeremy[53]. At the time of this report Jeremy is 21 years of age. He was involved in a car accident when he was seventeen and sustained a severe head injury. His elder brother had been killed in a car accident two years previously. He was admitted to Dawn Grange in a wheelchair eighteen months after his accident. At the time of his admission he had a moderately severe right hemiplegia (roughly paralysis) with moderate spasticity, he was able to walk short distances holding onto a rail with his one functional hand.

From the time of his admission Jeremy was obsessed with physiotherapy. He would spend as much time as he could in the physiotherapy department and the remainder of his day exercising incessantly at various places around the hospital. Attempts to involve Jeremy in other programs invariably fizzled out; he refused to see any of his old friends because he did not want to be seen as a spastic. Although Jeremy had moderately severe memory deficits and some cognitive deficits he was unable to recognise these. Unfortunately, despite, and in some ways because of, his super-human efforts Jeremy's improvement was very slow (although there was every reason to expect that he would eventually walk again). At the same time Jeremy was exquisitely sensitive about what people thought about him. He is a handsome young man and in his more positive times he tended to assume that every young female wanted him, he therefore became suspicious of the motives of any young female who worked with him. In his more negative times he began to believe that everyone was talking about him, saying how badly he was doing and what a spastic he was. Eventually these paranoid thoughts became voices in his head and his behaviour became wild, aggressive and uncontrollable. He was too impulsive and demanding to do any effective therapy but he continued to exercise more desperately than ever, though with less direction and control.

Jeremy's paranoid thoughts became more and more far-fetched until he was clearly psychotic. Jeremy was commenced on anti-psychotic medication and he quickly became much more settled, but at a cost. Jeremy's tremor became much worse so he was unable to walk at all, his oral control decreased markedly and his speech

[53] I have written approval from 'Jeremy' and his father to use Jeremy's case for the purposes of this thesis and for teaching purposes providing I don't use his full name. This case study is based on interviews with Jeremy and with the staff involved with his care.

became slurred and monotonous, he dribbled and had difficulty feeding himself. He was lethargic and his affect was very flat. From this time several attempts were made to adjust Jeremy's medication or to wean him off it but he would always become agitated, disturbed and psychotic. Jeremy is probably going to be transferred to a nursing home. He remains wheelchair bound although the worst of his oro-facial symptoms have settled. He is still quite lethargic and flat. What Happened?

Subjective Processes in Recovery from Head Injury

It is possible that Jeremy's psychosis was a result of the organic damage done to his brain, but there are several reasons to suspect that the answer is much more complex.

Although restlessness and agitation are common sequelae of head injury, usually the problem is worst in the early stages of emergence from coma and improves with time (Dikman and Reitan, 1977; Rao et al., 1985). Prigatano (1986) has demonstrated that many social and behavioural consequences of head injury are mediated through the clients inability or unwillingness to admit to their deficits (particularly neuropsychological deficits like memory and cognition). His group ran psychotherapy programs for people with head injuries aimed at improving the clients ability to recognise their deficits. The support and encouragement in the group not only allowed people to admit their deficits but it produced significant improvement in behavioural symptoms and in the clients' rehabilitation performance.
There has been much debate about whether problems with awareness of deficit are caused by brain damage or psychological processes, a sort of denial. Current opinion (Goldberg and Barr, 1991; Prigatano 1986, 1991) is that inadequate awareness of deficits is due to the interaction of the physical brain damage with psychological defence reactions and pre-morbid personality characteristics.

Leftoff (1983) reported a detailed case study of a man who developed paranoia and eventually psychosis over a period of eighteen months after his head injury. He theorised that because of his severe memory deficits he was always getting into arguments that people hadn't told him things. When people were talking around him he would lose track of the conversation and begin to think people were talking about him. This eventually led to paranoia and his practise of mental confabulation, (to fill in the gaps), eventually became psychosis. Lewis (1991) presents a similar case.

It is possible that after severe head injury many people have a great deal of difficulty either letting go or modifying their belief that achievement is the only possible basis for a sense of identity. Given the characteristics of our society that is hardly surprising. When such people come into an environment of constant performance appraisal with sophisticated multi-level systems of reward and punishment like a rehabilitation hospital one of two things can happen: either they achieve sufficiently well to maintain achievement as the basis for their self-esteem, or they don't. If this is impossible they can either fall into despair or find a new basis for their sense of identity. This distinction creates a qualitative difference between fast-stream rehabilitation and slow-stream rehabilitation. Often in fast stream rehabilitation the patient receives sufficient positive feedback from their progress to maintain their sense of identity[54], in slow-stream-rehabilitation this is rare (see Figure 6 where the bottom line represents the progress of someone who progresses quickly and the top three lines represent the processes that may come into play if progress is slower)[55]. It is very common to see people unable to progress in therapy due to agitated and desperate behaviour until such time as they allow themselves to start making friends

[54] Although such people may well find this hard to maintain when they get out into the real world. As evidence see the studies showing a deterioration of employment, marriage and mental well-being that I quoted earlier. In my opinion it is a major failing of most rehabilitation programs that they fail to assist people to develop a new basis for their sense of identity, and in some ways probably contribute to the problem.

[55] This is a caricature position of course, but useful for conceptualisation.

again, then they become much more relaxed and progress far better. (See Figure 7) For this and other reasons (see Appendix E) the recovery process after head injury occurs in cycles, in fits and starts. Performance indicators have great deal of difficulty coping with this sort of pattern of recovery, they depend on simplifying assumptions of linearity They have even more difficulty coping with the sorts of subjective processes that underlie it.

Certainly it is possible to get snapshots of psychological traits at a certain point in time, but this is hardly the same as understanding how the human subject is interacting with its circumstances. Performance indicators are ‘seeing’ and they see silhouettes, communication of the subject is dependent on the word. It may be possible to develop performance indicators that don’t undermine the importance of the multiple determinants of rehabability, but first it is necessary to develop and test a plausible model of what these factors are. Figure 7 shows how we attempted at Dawn Grange to come to terms with some aspects of subjective processes as partial determinants of a persons ability to benefit from rehabilitation.

FIGURE 6 **Possible Theory Model for Dawn Grange**

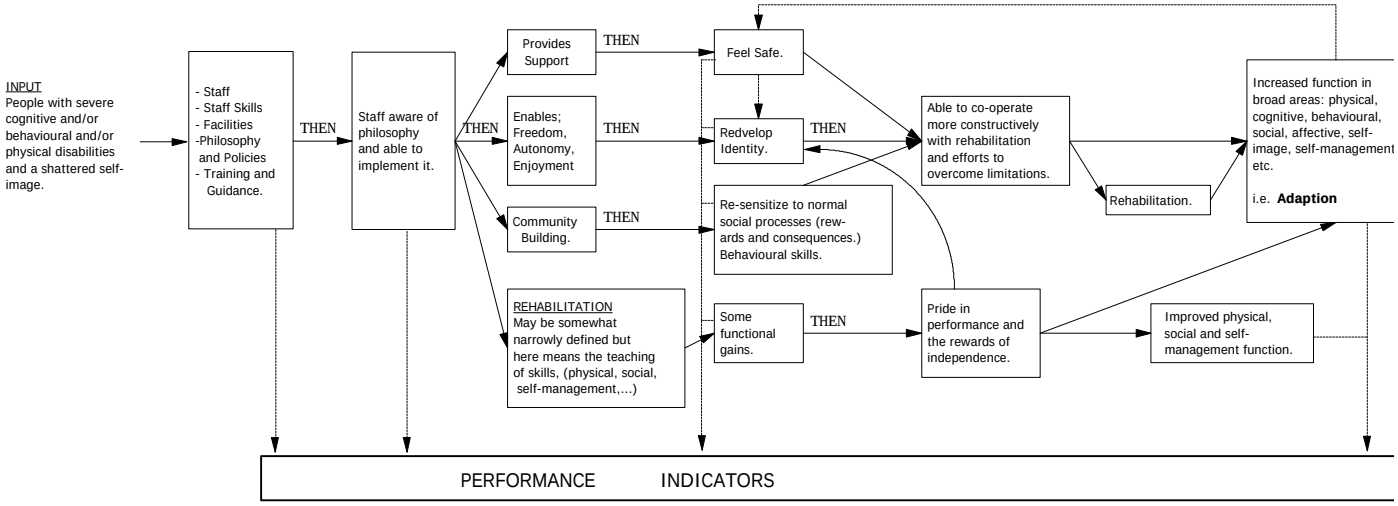
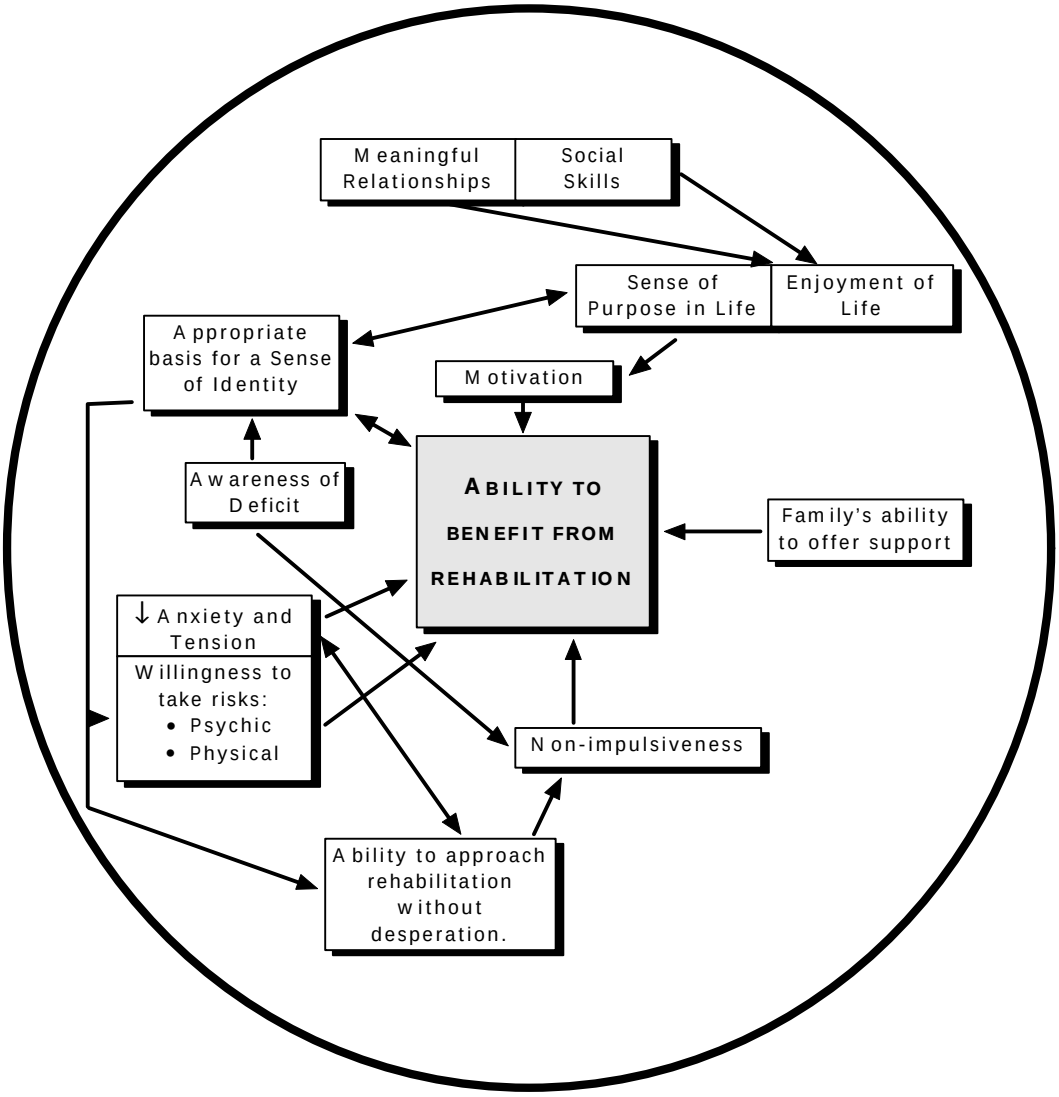


FIGURE 7 **Influence of Subjective Processes on Rehabability**



Environment of <u>safe</u> independence, responsibility and exposure to consequences implies:

- Supportive and affirming
- Moderate behavioural management
- Allow patient determination of goals (as much as possible)
- Sensitivity to the patient's dilemmas.

The possibly unique features of Ivanhoe Manor include:

- Community living
- Supported independence
- Assistance to enjoy life now
- Time for multiple fluctuations in rehabability.

CHAPTER 5

Making Performance Indicators Arguable

The purpose of this section is to present some ideas about how the sorts of dysfunctional effects of performance indicators that have been identified might be prevented. I suggest that the four most important tasks involved in arguing with performance indicators are:

(1) Problematisation—to create a space for argument between an indicator and the automatic interpretation that usually attaches to it. This attachment is a product of the attempt to make indicators function as truth thus avoiding the inefficiency of discursive thought. We must insist on this inefficiency, and we must not be dissuaded by the pat assumptions of a particular discourse position. The common rhetorical statement that performance indicators are merely 'flags' to 'identify areas requiring further investigation' is not sufficient, there is nearly always a default interpretation and attempts to present other interpretations look like rationalisations. Practitioners invariably know what this default interpretation is and modify their practices accordingly, introducing the problems of reactivity.

The problematisation that I am referring to involves demonstrating in advance that there is always going to be a range of possible interpretations and that further information *and thought* will always be required. This will often involve discrediting the most automatic interpretation. A clear demonstration of the multiple factors that impact upon the measured variable can help achieve this.

(2) Combating reductionism. More positively this involves ensuring that the accountability system does justice to all important dimensions of all important goals of the program. There are two ways of going about this, one is to go through a disciplined process of consultation and goal negotiation, definition and dimensionalisation. The other is to look at very distal, long-term outcomes which integrate the achievement of a wide range of goals (eg. suggests many measures to be continued years post injury which are dependent on the integrated functioning of a variety of services. In some ways these come into the category of social indicators and are certainly beyond the normal conception of performance indicators, none-the-less they are not readily susceptible to pat interpretations, reflect important patient outcomes and deserve considerable further consideration).

(3) Retaining dialectic. The way dialectical issues are normally handled in our society is through some sort of adversarial process. People promoting one emphasis contest with people promoting another. Where the dialectic involves aspects of human nature, in the individual case, often one side or the other 'wins' and that persons needs are not served. None-the-less empowerment of

those who may have a different perspective (as through advocacy services) remains important. It would be better still if some theoretical and practical understanding of the dialectic could be reached. Consideration of the perspectives of different groups, careful theoretical investigation and a determination to understand subjective processes can help.

(4) Ensuring the recognition of the importance of subjective processes. This requires that performance indicators are developed on the basis of carefully investigated theories and that flexibility in interpretations retained. Subjective indicators should not be eschewed.

The suggestions I have made here involve placing the indicators within a broad interpretive framework. This involves the careful consideration of the normative and causative theories underlying program activities (see Appendix A). It also involves the testing of inductive inferences drawn from the indicators against deductive inferences from these theories and from the context.

Deductivism

Deductive reasoning has become very unfashionable these days. In part this is because deduction has been equated with foundationalism. For example Fournier and Smith (1993), point out how frustrated researchers have been with the constraints of formal reasoning, the need to trace everything back to its most basic propositions. They also point out that the philosophy of the last two centuries has established the impossibility of identifying any indisputable truth which can act as a foundation for deductive argument. On the basis of this they argue that inductive processes are a preferable basis for knowledge creation. The problem is that as soon as phenomena are observed they enter a process of interpretation and these interpretations are then used to make sense of new sense data. Very quickly a set of working propositions is set up which we use to interpret all incoming data. The studies of Senden and Ames (Abercombie, 1960) conclusively demonstrate that even at the most unconscious level deductive processes underlie the interpretation of sense data.

The ideal of modern science (or at least scientism in management) seems to be to pack the inductively proven ‘facts’ so tightly that there is no need to rely on deductive processes to fill the spaces in between. This is another manifestation of the ideology of knowledge as seeing. But it is based on a fallacy, deductive reasoning is built into the very facts themselves. This is what Campbell means when he says that we can only construct one piece of knowledge by depending on a great deal of other "common-sense" knowledge (Campbell, 1978, 1975). He uses the example of measuring a line, this is dependant on the assumptions that neither the ruler or the line change length during measuring. If deduction is so fundamental to knowledge at every point, why is it so little trusted. Most of Campbell's career has been spent trying to link inductive investigation with the processes of deduction (although, because Campbell also had a tendency to equate deduction with foundationalism, he tended to use the terms 'argument', 'demonstration', 'common sense knowledge', 'examination of plausible rival hypotheses', 'testing a hypotheses against its multiple implications' and so on)[56].

[56] Scriven’s term probative logic, indicating to accept (tentatively) where you are now and to ‘probe’ from there, is probably useful here.

The somewhat mystical notion of ‘pattern matching’ (Campbell, 1975) means exactly this. We postulate some set of deductive inferences from ‘known facts’, and then the inferences that we draw from observed data are compared with the deductive predictions and/or implications. The process is essentially the same whether the deductive inferences are the standardised prospective inferences underlying the experimental method (ie. that a randomised control study will eliminate rival causal hypotheses (Cook and Campbell, 1979)), or the concurrent inferences developed during ethnography or high quality case study work (ie. testing the theory “with the degrees of freedom coming from the multiple implications of anyone theory (Campbell, 1979)).

I think that this concept of a deductive interpretive framework within which inductive data can be [more] validly interpreted is useful in trying to shift the use of performance indicators from the realm of seeing to the realm of truth. A carefully developed set of program theories *can* provide this framework, although program theory can equally be used in ways that are quite dangerous.

Program Theory

“Program theory”, in the sense that it has been used in evaluation circles over the last 15 or so years (Chen, 1990), refers to the careful formal explication of both normative aspects of the program: goals, structures, treatment environment, practices etc. and the causal theories that link program activities to outcomes.

In simple terms for nonresearchers this involves figuring out all the things that have to happen in a program, in what order and sequence. It is a means-end hierarchy or a chain of objectives that includes immediate outcomes, middle range outcomes, and ultimate impacts. A full chain of objectives, including input and implementation objectives right through to outcome and impact objectives, is the program's theory of action..... It essentially involves the stakeholders in a process of modelling their ideas about how the program works (Patton, 1989, p377).

Program theory can be used in two distinct, almost opposite, ways. Used in one way it can help problematise data interpretation and then aid valid interpretation by providing a framework for deductively guided further investigation. Used the other way it has a tendency to exacerbate the problems of operational definition and reduction.

The first way of using program theory is to try and capture the complexity of issues underlying the operation of a program, to make the implicit values and causative assumptions that underlie a program explicit. These values and assumptions can then be tested and debated. Program theory can serve to break the power of a particular discourse position, in short it can help break through all the manoeuvres we use in order to reduce truth to the real. In this sort of use program theory is used as the word; it is the purpose of the word to reveal meaning, to incorporate subjectivity, to question and criticise and to provide space for ambiguity, all the things that ‘seeing’ can’t do. As regards performance indicators this use of program theory can: help demonstrate the need for a multiplicity of measures, provide a basis for critiquing particular measures and provide an interpretive and diagnostic framework. In short it separates the measure from automatic decision-making, it stops it operating with the certainty of seeing.

Theory clarification can serve many other useful purposes in evaluation, including helping frame evaluation questions, improving generalizability (Cronbach, 1983), and facilitating the identification of unintended outcomes (Sherrill, 1984)[57]. The process of clarification itself often has positive effects within programs. These uses are, however, outside the scope of this paper. My focus here is on the use of program theory to aid the development and valid interpretation of performance indicators.

The other way of using program theory is highly mathematical, and its purpose is either to prove causal hypothesis or to rescue the automatic functioning of performance indicators by providing a sort of automatic diagnosis. This is achieved by attaching indicators to all of the important variables in the theory and then using correlational analysis in either a forward or backward direction. I don't want to analyse all of the methodological and inferential problems with this approach (see Cook and Campbell, 1979, pp. 301-309) but merely to point out that all the problems of definitional operationism apply and can be intensified by having multiple points of application. In my experience there is also a tendency amongst managers to want the theories to reflect a one for one correspondence between various outcomes and organisational units, so that different units take responsibility for different outcomes. This would of course maximise reductionism and reactivity (and in most organisations is theoretical nonsense).

I will illustrate some of the stages in theory development and some of the uses of program theory by presenting the steps we went through at Dawn Grange.

Principles to Guide the Development of a Set of Performance Indicators for Dawn Grange

In summary the process involved:

- brainstorming to identify all the outcomes we thought were important for the hospital,
- dimensionalising those outcomes as fully as possible,
- developing a fully dimensionalised definition of a 'high quality outcome'
- determining from the literature and our shared experience what sorts of factors were import in influencing these outcomes and what sorts of factors could influence these factors and so on (Chen's conceptual theory (1990)),
- developing lists of ultimate and various levels of intermediate outcomes,
- deciding what sorts of activities we did or should do to activate these causal processes (Chen's action theory),
- defining what would constitute evidence of attainment or progress for the various levels of outcomes

[57] It is worth noting that relativist ontologies and epistemologies (e.g. Guba and Lincoln) have difficulty finding a place for unintended outcomes. Transcendental realism gives a strong basis for expecting unintended effects as do the theories of Cronbach.

- developing or locating measures for important ultimate or process goals
- explicating both the relation of the measure to our dimensionalised 'high quality outcomes' and to the program activities that could potentially influence them
- trialing and modifying these measures

This thesis discusses the development of the system up to the early implementation phase, the emphasis being on the processes of negotiation and theory development that led up to this point.

When we started this project in mid 1992 I discussed with heads of department their concerns about performance indicators. From that discussion and on the basis of my own theoretical work I came up with the following guidelines for the project:

(1) Recognise and guard against the minimalistic tendencies of economic rationalism and the reductionist tendencies of performance indicators:

  (a) Take great care to define and fully dimensionalise 'high quality outcomes',
  (b) Pre-determine the interpretive *process* as much as possible by developing a coherent program theory, tested where possible against the literature (eg. Figure 6).

  (c) Develop ways of presenting data in a context that both meets the needs of decision-makers and does justice to the multiple dimensions of a 'high quality outcome'.

(2) In general aim to promote the Social Role Valorization discourse (with parts of the medical model).

  (a) Define ultimate impacts and 'high quality outcomes' in terms of this discourse (Attachments 1 and 2)[58].

  (b) Use this discourse's concepts for theory building (Figure 6 and Figure 7)

(3) The system should have a diagnostic capacity so that the results are 'usable' at the local level.

  (a) Develop a program theory linking program activities and the various levels of outcomes (Patton, 1989)(Attachment 2).

  (b) Develop micro-theories linking program activities via intervening variables to particular indicators. (These theories have two levels called by Chen (1990) 'action theory' and 'causative theory'. Attachment 6 illustrates one such theory model for the indicator 'Chest infection rate'.

[58] All attachments are located in Appendix F.

(c) Indicators should be developed for the various levels of outcomes.

(d) There should be multiple measures of important outcome constructs.

(e) Indicators of rehabilitation progress should be constructed to reflect the stages someone passes through in the process of recovery. (This 'steps along the way' construction is not always necessary. In more fast stream rehabilitation facilities levels of outcome on the dimension 'burden of care' may be appropriate.)

(4) The system should reflect our definition of quality rather than imposing its own.

(a) Define quality outcomes first before selecting or developing measures.

(b) Develop ways of testing the adequacy of indicators as proxies for 'quality'.

(5) The system needs to reflect the nature of 'slow-stream rehabilitation' and therefore emphasize both intermediate and ultimate outcomes.

(a) 'Steps along the way' structure to both individual indicators and the system as a whole

(b) Use of flexible techniques, (such as Goal Attainment Scaling), to accommodate a diversity of patient goals.

(6) Promote "ownership" of the system by staff.

(a) Emphasize the inevitability of some form of accountability system. The only question is, Who determines the criteria?

(b) Staff to determine accountability criteria, goals and high quality outcomes.

(c) Staff negotiate a program theory, select measures and develop micro-theories.

(d) An extensive process of education and task oriented support.

Activities in Developing a Performance Monitoring System

Table 4 lists the stages we went through in trying to develop a performance indicator system at Dawn Grange. The first column lists the various activities we undertook, the second column lists the concepts that were introduced to staff at each stage of development and thus outlines the educational program. It should be noted that the main working party was the Heads of Departments committee. Each H.O.D. was then responsible for communicating developments and coordinating tasks in their department.

It should be remembered that we had done a lot of work clarfying the philosophy, goals and assumptions by which the hospital operated in the period from 1991 to mid 1992. The three theory models in Figures 2, 6 and 7 are increasingly explicit about their causal assumptions and highlight the need to include some quite abstract concepts amongst our accountability criteria.By mid 1992, when we came to start looking at measures we had already developed these three models, we were already thinking about the program with a fair degree of sophistication.

TABLE 4 **Activities and Educational Processes in Indicator Development at Dawn Grange**

Activities	Concepts
• Broad discussion of hospital mission, philosophy and goals. Showed three possible theory models for discussion. (figures 2, 6 and 7) • Each department brain stormed about their goals and what things they would like to try and measure (mostly general concepts at this stage). • Ideas were shared and discussed amongst H.O.D.s	• Accountability - who controls the criteria? • Basic program theory.
• Ideas (and possible uses of measures) were collated in a systems model. The products of this are in attachments 2 and 3	• Negative versus positive outcomes. • Ultimate and intermediate outcomes. • Stakeholders and types of use.
• Each department volunteered to look at ways of measuring two outcomes.	• Evidence versus measurement • Proxies and multiple measures for abstract concepts.
• Six weeks later H.O.D.s shared ideas to date. • Discussed ways of defining high quality outcomes by dimensionalising them . • Provided a suggested format for P.I.s	• Importance of defining 'high quality outcomes'. • Dimensionalising quality. • Doing justice to all dimensions. • 'Steps along the way' structure. • Use of program theory to achieve interpr- • etability of P.I.s.
• First newsletter published. • Met with departments individually to assist with clarifying concepts and selecting/ developing measures.	
• Meeting with H.O.D.s and second level managers.	• Presented a way of using micro-theories to develop, test and interpret P.I.s. • Suggested 2 tests - Appropriateness test • Construct of quality test.
• Departments performed indicators in program theory format ready for trialing.	• "These would be fantastic for teaching and orienting new staff."

Attachment 2 is a collation of the suggestions form all departments about accountability criteria and things to measure grouped under process and outcome headings (as suggested by Patton(1989)). It represents the first step in a movement away from department specific data in the direction of recognising that all important outcomes are the results of several departments co-ordinating their efforts effectively.

FIGURE 8 **Bi-directional Tests of Performance Indicators**

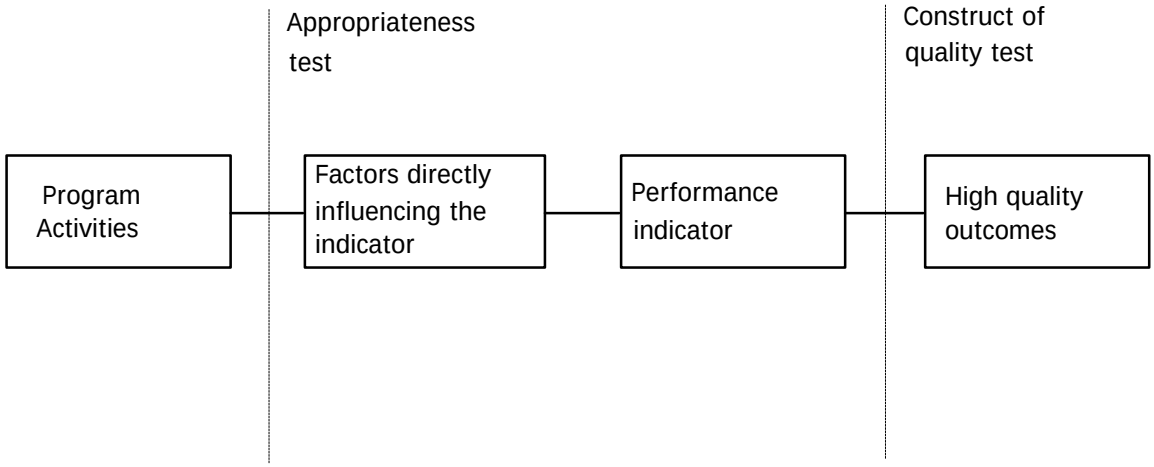


Figure 8 is a schematic diagram of the format we devised for constructing indicators. I have proposed that if performance indicators are to enhance quality they must emphasise fully dimensionalised high quality outcomes and demonstrable causal linkages between program activities and measures. I therefore proposed two tests of indicator usefulness, represented by the dotted lines in figure 8:

(1) Construct of Quality Test - Does the set of indicators of a given outcome reflect all important dimensions of a 'high quality outcome' (within the value framework of the Social Role Valorization discourse)?

(2) Appropriateness test - Are there plausible causal links between the activities the indicator purports to reflect and the measure. e.g. Can deep venous thrombosis incidence really be considered an indicator of nursing quality? If so what activities can influence the result?

The process of development moved form right to left on the diagram (from the realm of macro-theory to the realm of micro theory). Once those outcomes we wanted to measure were identified, we began by defining and dimensionalizing the 'high quality outcome' (HQO). We then developed a set of indicators which we thought were reasonably comprehensive and identified those factors which could directly influence the measures. Attachment 6. illustrates this process.

I would like to make just two points about this exercise. The first is that the process of theory clarification, both on the macro-level and on the micro-level produced a great deal of interest among hospital staff and led to numerous changes of policy on a variety of levels. The various models we developed became key tools for orientation and education.

I feel much more ambivalent about the actual indicators themselves however. Firstly, the potential contribution of the measures seemed almost trivial after the major changes that accompanied theory development. Secondly there was already evidence that people were trying to set things up so that data interpretation could be an automatic, mechanical process. For example I had suggested that people outline

the sorts of factors that directly impacted upon a measure and link these back to various elements of the hospitals programs for three reasons:

(1) As a test of the appropriateness of the indicator,

(2) As a heuristic device to aid the process of diagnosing problems by helping people to ask the right questions,

(3) As a means of demonstrating that all important outcomes required a multidisciplinary effort[59].

Attachment 6 demonstrates that there was a desire amongst some staff to measure every possible intervening variable. It seems to me that this is the first step towards mechanistic interpretation.

We made tremendously strong efforts at Dawn Grange to minimise the reductionist and therefore reactive tendencies of performance indicators, yet I still can't say with confidence that the system won't produce significant dysfunctional effects. None-the-less my overwhelming impesssion is that, compared with the wealth of information, critical reflection and transformation that was produced when people were encouraged just to think about what they do in a formal way, the information that is likely to be derived from the performance indicators seems passe. Perhaps after exploring the realm of truth, trying to think in symbols is hardly worth the effort.

[59] Indicators linked to individual departments are likely to increase competitiveness, this way they may increase co-operation (McLellan, 1992).

CHAPTER 6

Are Performance Indicators Rescuable?

I have suggested in this paper that many of the dysfunctional effects of performance indicators are due to factors inherent in the very nature of performance indicators themselves and in our epistemic culture. I have said that *if* performance indicators are to be used in such a way that they enhance rather than undermine quality we must learn to expose and oppose the imposed discursive rules that underlie the way in which they are interpreted and used. In particular we must oppose automatic or *a priori* decision making. We must defend complexity, ambiguity and dialectic; we must make the image subordinate to the word and Prometheus to Dionysius. In short we must learn how to argue with performance indicators.

This raises two questions. The first is, if all of these changes are made, can we still legitimately call them performance indicators? Are we talking about the same thing at all? For example, doesn't the term *performance indicators* imply automatic interpretation and, to some extent, definitional operationism? My feeling is that there does indeed need to be very fundamental change and probably a different name would be preferable. This raises the second and more important question however. Is the whole project worth continuing with? Wouldn't we be better off looking for completely different ways of improving practices within programs and of providing accountability? Are performance indicators rescuable?

There my well be better ways of achieving the goals most usually stated for performance indicators. I have hinted at these processes in what I have written. For example one option for internal monitoring and program improvement would be similar to Wholey's modular evaluability assessment (Shadish et al, 1991), put much more at the practitioner level. It would involve developing program theories as discussed above, but then, rather than using them exclusively to guide *routine* data collection, putting in place a system that draws much more heavily on the tacit and commonsense knowledge and perceptions of stakeholders. This would involve regular meetings (including some consumer representatives) in which all important aspects of the programs operation and goals were discussed and evaluated and areas requiring more formal studies identified. As well as these 'as required' formal studies there would be a system where each major area of operation and each major goal was rostered for in depth investigation on a regular basis. I have used this sort of system in developing Quality Assurance programs and have found that it not only facilitates debate and the use of local knowledge, it also encourages people to draw upon high quality research in the area—performance indicators, on the other hand, have a tendency to make even the best research irrelevant.

As regards accountability, I think it could be a very beneficial approach to look at quite distal outcomes that are more in the realm of social indicators, and to work back from these indicators deductively (inductively informed where necessary). It would

ask questions like, why is it that head injured people do so badly after 4 years? Again it would make use of high quality research and demonstration projects where appropriate. This method may have difficulty tracing responsibility for failure back to particular institutions, but in fact, for the issues that matter, co-operation and effective co-ordination between institutions are probably just as important determinants of results (institutional performance indicators can work against such co-ordination (McLellan, 1992)). The accreditation-like process that the federal Commonwealth Department of Human Services and Health is using to implement and monitor the standards of the Disability Services Act is another option.

The reason I haven't rejected the use of performance indicators outright is that I know that whatever system is used will still be subject to the operations of power and the desire to minimise intellectual effort. In terms of power performance indicators may have replaced hieratical observation structures. As regards intellectual laziness, reductionism and definitional operationism probably took over from traditional dogma and catechism. Until I have analysed the effects of other systems of control I can't be sure that this is better or worse than any other. If the operations of power and intellectual laziness are the real enemies perhaps we do as well to take up the fight on this territory as on any other.

Are performance indicators bullies? Undoubtedly. But perhaps, as with most bullies, when we learn to stand up to them their power will be gone. It may be possible, under these conditions, to avoid the dysfunctional effects of performance indicators. Whether the powers that be would then lose interest remains to be seen.

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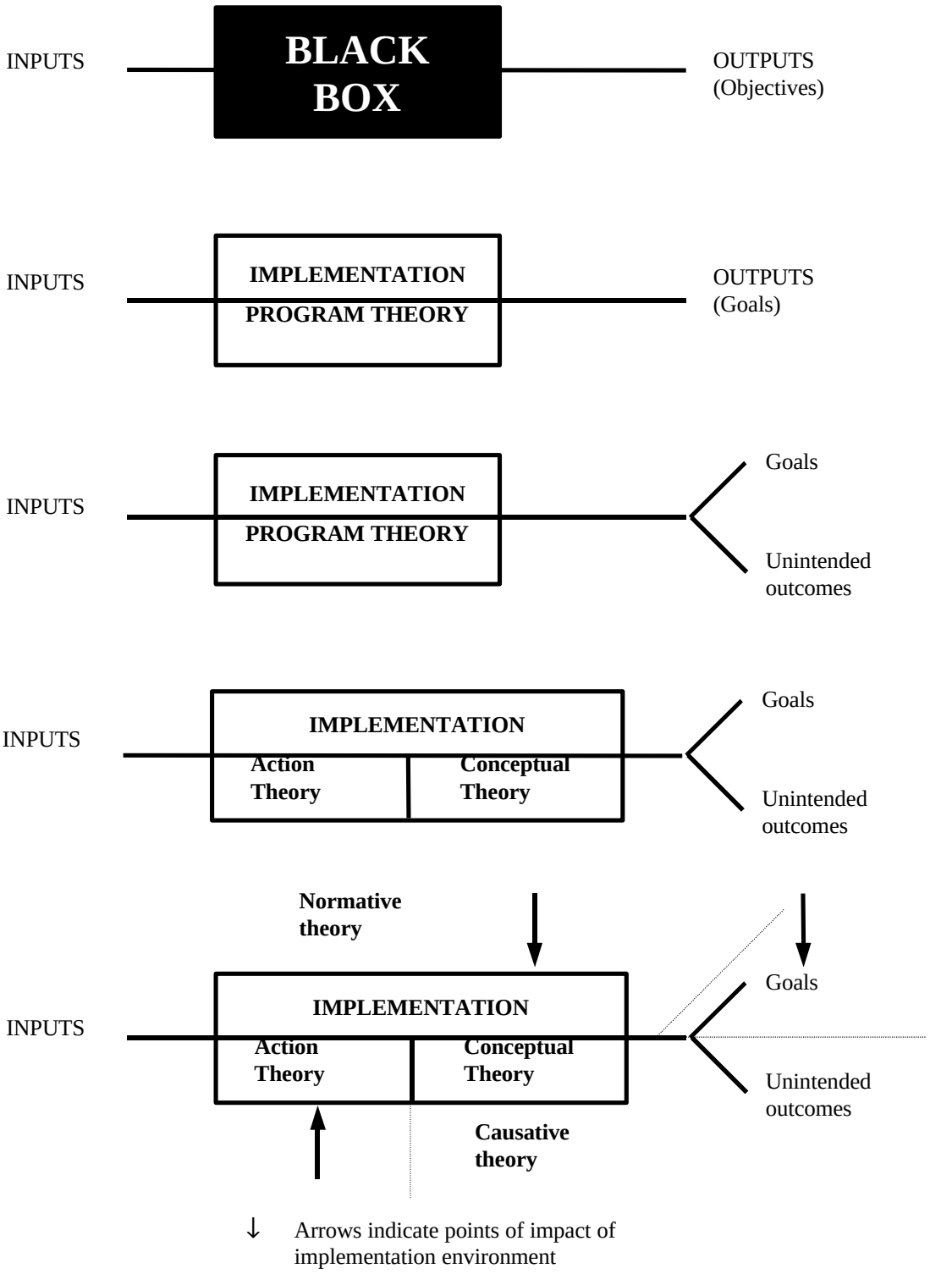
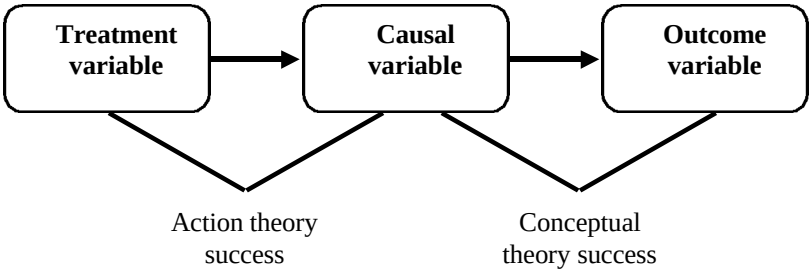
APPENDIX A

Unpacking the Black Box of Programs – Development of the Role of Program Theory in Evaluation


INPUTS
BLACK BOX
OUTPUTS (Objectives)
INPUTS
IMPLEMENTATION
PROGRAM THEORY
OUTPUTS (Goals)
INPUTS
IMPLEMENTATION
PROGRAM THEORY
Goals
Unintended outcomes
INPUTS
IMPLEMENTATION
Action Theory
Conceptual Theory
Goals
Unintended outcomes
Normative theory
INPUTS
IMPLEMENTATION
Action Theory
Conceptual Theory
Goals
Unintended outcomes
Causative theory
↓ Arrows indicate points of impact of implementation environment



Source: Chen, 1990

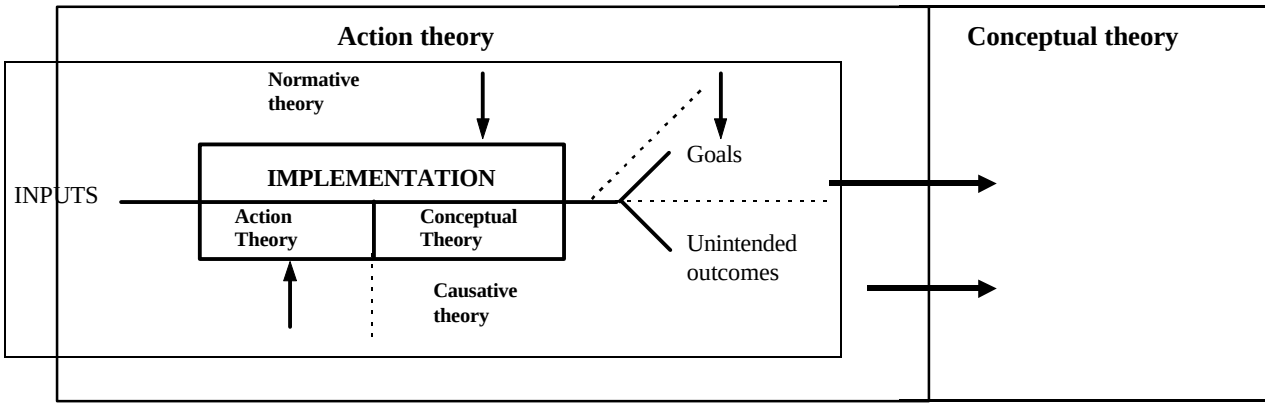
Elements of the Action Theory include:

- Resources- The key dimension is adequacy to allow implementation.
- Program activities - The key dimension is strength which includes intensity, frequency and duration of the treatment. (Integrity, a dimension often linked with strength, is a dimension of implementation.)

Conceptual (causative) theory is of two types:

- Avowed- the theory stated as the rationale for the program activities;
- Implicit- the theory contained in assumptions underlying goals and activities.

Within the Action Theory the causal variables to result from the treatment can be treated as outputs of an intervention and, often, this intervention can be analysed using the same model. in other words it is often possible to nest causal variables at more and more specific levels. It is particularly important that the unintended outcomes of the intervention as they could be important causal variables in the conceptual or causative theory.



APPENDIX B

The Panopticon

(From Foucault (1977) Discipline and Punish—The Birth of the Prison, pp. 200-201)

We know the principle on which it is based: at the periphery an annular building; at the centre a tower; this tower is pierced with wide windows that open onto the inner side of the ring; the peripheral building is divided into cells, each of which extends the whole width of the building; they have two windows, one on the inside corresponding to the windows of the tower; the other, on the outside allows the light to cross the cell from one end to the other. All that is needed, then, is to place a supervisor in a central tower and to shut up in each cell a madman, a patient, a condemned man, a worker or a schoolboy. By the effect of backlighting, one can observe from the tower, standing out precisely against the light, the small captive shadows in the cells of the periphery. They are like so many cages, so many small theatres, in which each actor is alone, perfectly individualised and constantly visible. The panoptic mechanism arranges spatial unities that make it possible to see constantly and to recognise immediately. In short, it reverses the principle of the dungeon; or rather of its three functions – to enclose, to deprive of light and to hide – it preserves only the first and eliminates the other two. Full lighting and the eye of a supervisor capture better than darkness, which ultimately protected. Visibility is a trap.

To begin with this made it possible – as a negative effect – to avoid those compact, swarming, howling masses that were to be found in the places of confinement, those painted by Goya or described by Howard. Each individual in his place, is securely confined to a cell form which he is seen from the front by the supervisor; but the side walls prevent him from coming in contact with his companions. He is seen, but does not see; he is the object of information, never a subject in communication. The arrangement of his room, opposite the central tower, imposes on him an axial visibility; but the divisions of the ring, those separated cells, imply a lateral invisibility. And this invisibility is the guarantee of order. If the inmates are convicts, there is no danger of a plot, an attempt at collective escape, the planning of new crimes for the future, bad reciprocal influences: if they are patients, there is no danger of contagion; if they are madmen there is no risk of their committing violence upon one another; if they are schoolchildren there is no copying, no noise, no chatter, no waste of time: if they are workers, there are no disorders, no theft, no coalitions, none of those distractions that slow down the rate of work, make it less perfect or cause accidents. The crowd, a compact mass, a locus of multiple exchanges, individualities merging together, a collective effect, is abolished and replaced by a collection of separated individualities. From the point of view of the guardian, it is replaced by a multiplicity that can be numbered and supervised; from the point of view of the inmates, by a sequestered and observed solitude.

Hence the major effect of the Panopticon: ***to induce in the inmate a state of conscious and permanent visibility that assures the automatic functioning of power****. (All emphases mine.) So to arrange things that the surveillance is permanent in its effects, even if it is discontinuous in its action;* ***that the perfection of power should tend to render its actual exercise unnecessary****; that this apparatus should be a machine for creating and maintaining a power relationship independent of the person who exercises it; in short,* ***that the inmates should be caught up in a power situation of which they themselves are the bearers****. To achieve this, it is at once too much and tool little that the prisoner should be constantly observed by an inspector: too little for* ***what matters is that he knows himself to be observed****; too much, because he has no need in fact of being so. In view of this Bentham laid down the principle that* **power should**

be visible and unverifiable. *Visible: the inmate will constantly have before his eyes the tall outline of the central tower from which he is spied upon. Unverifiable: the inmate must never know whether he is being looked at at anyone moment; but he must be sure that he always may be so.....The Panopticon is a machine for dissociating the see/being seen dyad: in the peripheric ring, one is totally seen, without ever seeing; in the central tower, one sees everything without ever being seen.*

(p.202 - 203)

Bentham was surprised that panoptic institutions could be so light: there were no more bars, no more chains, no more heavy locks; all that was needed was that the separations should be clear and the openings well arranged. The heaviness of the old 'houses of security', with their fortress-like architecture, could be replaced by the simple economic geometry of a 'house of certainty'. The efficiency of power, its constraining force have, in a sense, passed over to the other side – to the side of its surface of application. ***He who is subjected to a field of visibility, and who knows it, assumes responsibility for the constraints of power; he makes them play spontaneously upon himself; he inscribes in himself the power relation in which he simultaneously plays both roles; he becomes the principle of his own subjection.*** *By this very fact, the external power may throw off its physical weight;* ***it tends to the non-corporal; and the more it approaches this limit, the more constant, profound and permanent are its effects:*** *it is a perpetual victory that avoids any physical confrontation....*

(p. 204)

The Panopticon is a privileged place for experiments on men, and for analysing with complete certainty the transformations that may be obtained from them. The Panopticon may even provide an apparatus for supervising its own mechanisms. In this central tower the director may spy on all the employees that he has under his orders: nurses, doctors, foremen, teachers, warders; ***he will be able to judge them continuously, alter their behaviour, impose on them the methods he thinks best****; and it will even be possible to observe the director himself. An inspector arriving suddenly at the centre of the panopticon will be able to judge at a glance, without anything being concealed from him, how the entire establishment is functioning. And, in any case, enclosed as he is in the middle of this architectural mechanism, is not the directors own fate entirely bound up with it? The incompetent physician who allows contagion to spread, the incompetent prison governor or workshop manager will be the first victims of an epidemic or a revolt. "By every tie I could devise", said the master of the Panopticon, "mu own fate had been bound up by me with theirs"' (Bentham).*

APPENDIX C

Prometheus Then and Now

Prometheus Then

(From *Masochism—A Jungian View*, L. Cowan, 1982: based on the masque by Aeschylus, *Prometheus Bound*)

Enter the Titan Prometheus, friend and champion of the human race, a saviour who teaches humans the arts and crafts of civilisation to ensure their survival against the gods' hostility and power.

Some legends say it was Prometheus who actually created humans, forming them from clay and infusing them with life from fire. But it is as saviour-thief that Prometheus is best known. He steals fire from the Olympian gods to give to humankind, a gift of consciousness, power, light in the darkness. Prometheus's name probably comes from the Greek word meaning "foresight" of "fore-thought". He gives the fire of divine consciousness, or forethought, that distinguishes the human race. By his actions and by his very nature, Prometheus is a prototype or image of humankind. It is his necessity to engage in a titanic struggle with his fate.

By stealing the gods' fire, Prometheus transfers some of their power, some of their divinity to humans so that they become "like God." Thus he transgresses the will of Zeus, father of the Olympians.

In his great sin, Prometheus, as portrayed by Aeschylus, is a study in resistance and submission. The play is full of exclamations that Prometheus will never repent, never give in to the will of Zeus.....

Prometheus has done what is necessary, he has followed his fate, but he has done it with an excess of pride. He suffers unjustly in his own view. It is an ancient dilemma and a common question: why should we be punished for doing what is necessary and in accordance with our own natures?

Prometheus rails against the insult of his punishment, stands on his Promethean dignity, sets himself to resist, and calls upon everyone to bemoan the terrible injustice of Zeus's decree. "Look at me, then, in chains...." This eternal human predicament portrays an essential and noble spirit of humankind: proud, fighting, railing, enduring. In his nobility and dignity, Prometheus is more hero than martyr or masochist. Prometheus's punishment is horror-filled. He is chained and nailed on a lonely mountain crag. Day after day an eagle tears at his liver, which grows again at night. There is no real reprieve in the coming of night, for this only precedes and makes possible the agony of the next day. We may see in this the timeless suffering of human nobility and pride ¾ and in Titanic doses, the suffering of a pathology.

Impaled on the conviction of the complete justice of his cause, Prometheus does not lessen his resistance. Zeus eventually offers to release him if he will reveal his secret foreknowledge about which of Zeus's sons will overthrow Zeus.....In effect, Prometheus can gain his freedom if he will sacrifice or submit something of his very essence to his tormentor. This is the crucial moment of the drama, the moment of truth ¾ not because it

offers a way out for Prometheus, but because it presses upon him the fateful reality that there is no way out. There can be no fair bargain struck, no smile-and-handshake peace treaty, between Prometheus and Zeus. Full liberation requires full submission. And the submission required is not just to *Zeus but* of *Prometheus, not just something Prometheus* has *but something Prometheus* is*. Yet in an all to familiar counter-move, Prometheus refuses to tell the secret* until *Zeus releases him. So they remain locked in motionless battle, a cold war of wills. No more concessions till the other side disarms, no disarmament till the other side concedes.*

Prometheus Now

(From A World Waiting to be Born—Civility Rediscovered, M.Scott Peck, 1993)

Dr. Peck was asked to see the wife of F. Clayton Moorehouse (a pseudonym) a prominent US businessman. She was feeling depressed after having major surgery. It quickly became clear that this woman's husband was extraordinarily controlling and refused to let her think for herself about anything. After two days she ceased treatment pretending everything was O.K. but in reality as a result of pressure from her husband. Six months later she died of a heart attack.

About four years later the couples daughter rang Dr. Peck to see if he could see her father. He had had a stroke which, while not effecting his general intellect and reasoning, and effecting his physical functioning to only a slight degree, had left him with a disorder called acalculia, the inability to add numbers. He had been retired from his companies board and was behaving very erratically at home. Dr. Peck referred him to a colleague. Two years later, at a case discussion meeting this psychiatrist presented the case of Mr. F. Clayton Moorehouse; this is how Scott Peck describes it:

Jake got to the floor. "Ordinarily," he said, "I would present either an extraordinarily juicy psychoanalytic saga or else a case where I was particularly at sea and needed your consultation. Instead, I have chosen to present a seventy-two-year-old male nursing home patient, Mr. F. Clayton Moorehouse." ....."There are five reasons," he said, "that I would like ¾ no, I need ¾ to present this case."

"One relates to the nature of psychosis. His brain was remarkably unaffected beyond the motor strip and his acalculia. I'd read him complicated pieces of philosophy out loud, and more impressive than the fact that he could practically repeat the verbatim was the coherent, even brilliant interpretations he would make of them. He loved to match wits with me. Yet he would scream at the aides when they would interrupt us with his medications and call them the foulest names. He twisted buttons off my jacket many times, trying to hold on to me to prevent me from leaving. He was terrified of being left alone and of dying. It was obvious to everyone. Yet whenever I raised the subject of his fear he refused to talk about it. The one thing he wanted to avoid was ending up in a nursing home, yet he behaved in just such a way as to force us to put him there. I happen to believe that he was insane, but there is no textbook of psychiatry which would help to justify my conclusion."

"The second reason I'm presenting his case relates to the way some people get to nursing homes. His net worth was about thirty million dollars. Full time nursing coverage for him at his house didn't even represent a luxury for him. There was no physical reason for him to require nursing-home care. But no private-duty nurses or aides would work with him despite total family support. He was too abusive and manipulative. No private psychiatric hospital would take him because he was chronic and untreatable. The family couldn't bear for him to be in the back ward of the state hospital. So ultimately he was committed to the nursing home where, because he screamed so much, they placed him in a wing of comatose patients. Most of the time for the past two years he had to be restrained."

"The third reason I had to talk about Clayton Moorehouse is simply to ventilate. You see he was the most pathetic person I ever worked with. None of it had to be. After I committed him to the nursing home, the family requested that I continue to see him once a month on the off chance that he would change his mind. They kept the house open for him to return to. All he had to do was change his mind and he could have been sitting at home reading, and enjoying the sunsets, his needs perfectly well attended to, surrounded by children and grandchildren and interesting friends to talk with. Every month I tried to point it out to him. All he had to do was give up control and sit back and enjoy life. But that was

the one thing he couldn't do: give up control. So he rotted away amongst the comatose, endlessly obsessing about his bowels because they were the only thing left that he could *control, screaming at the aides because he couldn't manipulate them or get them to dance to his precise tune, and tied down in bed yelling at closed doors in endless terror. It was so pathetic.*

"The fourth reason I tell you about him is because he may have started me on the road to religious conversion. In trying to help him to give up control ¾ which was the only way I could possibly help him ¾ I realised he had to have something to give it up to. Why surrender at all except to a superior power? So I found myself in the bizarre position, as an agnostic, of attempting to convince this man of the existence of God. But like everything else I attempted it got nowhere. He seemed to have a compelling need to be his own god. Yet in trying to convert him I started to listen to my own words. I still don't know if I believe in God, but I can tell you this: If I should ever be in his situation I'm going to choose to become a believer."

"And lastly, I present this case to celebrate. Clayton Moorhouse had a massive stroke on Friday and died the day before yesterday. Thank God the poor man is finally gone."

APPENDIX D

The Functional Independence Measure

Centre for Functional Assessment Research, State University of New York (1990) Australian Guide for use of the Uniform Data Set for Medical rehabilitation - Version 3.0, New York: Research Foundation - State University of New York.

The Functional Independence Measure is a widely used rating scale on which people are rated on 13 aspects of physical function, 2 aspects of communication and 3 aspects of social cognition.

Subjects are rated on a seven point scale for each item and scored as:
Independent:

7 Complete independence (safely and in reasonable time)

6 Modified independence. (uses assistive devices)

Modified dependence:

5 Supervision required

4 Minimal assistance (Subject does 75%+ of the task or exerts 75%+ of the effort)

3 Moderate assistance (Subject does 50%+)

Dependent:

2 Maximal assistance (Subject does 25%+)

1 Total assistance (Subject does less than 25%)

Reliability has been shown to be acceptable when the guidelines are followed.
It has been proposed that all rehabilitation hospitals apply the measure at the time of patient admission, discharge and for follow-up.
Initially FIM was rated on a four point scale but many people, particularly therapy staff, felt that the four point scale was not sensitive enough to the changes that their interventions brought about.

The measure has a number of problems:

Ambivalence of Purpose

It is difficult to see precisely what FIM would be most useful for; is it meant to be a measure of hospital performance or a tool to monitor a patient's progress? If the former, is it a worthwhile outcome if the patient moves from 3 to 4? Isn't there a risk of tallying up outcomes which in terms of the patient's freedom and quality of life, are meaningless? For the purpose of assessing program outcomes surely it would be more meaningful to stick to a four point scale, like the original FIM or like the widely used Barthel index, and to adjust the expectancy levels of the various outcomes. (Some FIM studies recognise this and group outcomes as 'below 2', '2 to 4' and '5 and above')

If FIM is to be used to measure progress for a particular patient during treatment, and particularly if it is used to determine if funding should continue then its extreme quantitativ character and independence orientation become a problem. (NB. This is not what the developers intended it to be used for but it is the only use for which the seven point scale makes any sense, and there has already been considerable pressure from some quarters to use it this way.) Used in this way, the pressure for score gains—disregarding quality of performance—is likey to cause clinicians to allow poor habitual patterns of movement develop with devestating long-term consequences. Clinicians who resist this temptation may be shown up as ineffective or inefficient.

In fact there is nothing more natural than for patients to find ways and means of performing tasks independently and rehabilitation often involves holding people back from doing tasks poorly until they have the strength and control to do them well (particularly with neurological impairment).

FIMs greatest benefit is that it is a virtually fool proof way to capitalise on maturation effects, thus it is easy for hospitals to look good even if their outcomes, in terms of patient quality of movement, are poor.

This problem arises because of the introduction of the seven point scale in order to increase sensitivity. Ironically lack of of "sensitivity" is still the most common complaint you hear. Would this problem be solved if we could work reliably with a 20 point scale and 5% intervals? Probably not. "Amount of assistance is not a satisfactory proxy for quality of movement, in fact very often we want more assistance in order to improve quality and to help the patient learn good, generalisable, patterns of movement. (Compare the FIM scale with the gait indicator from Dawn Grange, (Appendix F, Attachment 4), which has numerous quality of performance criteria built in. If the authors of FIM had solved their "sensitivity problems by incorporating qualitative levels the scale would have been much more useful, though requiring greater training to apply.

At present the total FIM score is meaningless, it would be necessary to apply some sort of weighting system before this figure even starts to become interpretable.

FIM suffers from all the limitations of a highly reductionist, black-box sort of evaluation approach; it has questionable construct validity and assumes a highly questionable philosophy of rehabilitation. It's main effects would seem to be as a device to establish a certain set of priorities in clinical practice.

APPENDIX E

Theoretical Issues in Head Injury Rehabilitation

Historically the justification and planning of slow-stream rehabilitation services for people with head injuries has been beset by two problems; the non-linearity of the recovery process and the difficulty gaining agreement about goals. The first problem arises when we assume that slow stream rehabilitation is only quantitatively different to traditional fast stream rehabilitation, in fact slow stream rehabilitation is qualitatively different particularly as regards psychodynamic factors. The second problem arises when people try to decide a 'once-for-all' basis for the goals of rehabilitation using either a liberal formula, "Goals should be determined by the client", or a prescriptive formula, "The goal should be independence".

The Non-linearity of the Recovery Process

It is becoming progressively clearer that a model of rehabilitation that assumes that clients pass from an acute support phase into a rehabilitation phase when functional gains can be expected, and eventually a stable phase or plateau once they have reached their potential, is inadequate. Rather functional recovery tends to occur in cycles and may continue indefinitely if the environment and available services allow. This has been explained on a number of bases:

(i) Physiologically it has been suggested that the processes of neural plasticity (brain recovery) occur in phases of adaptation and consolidation.

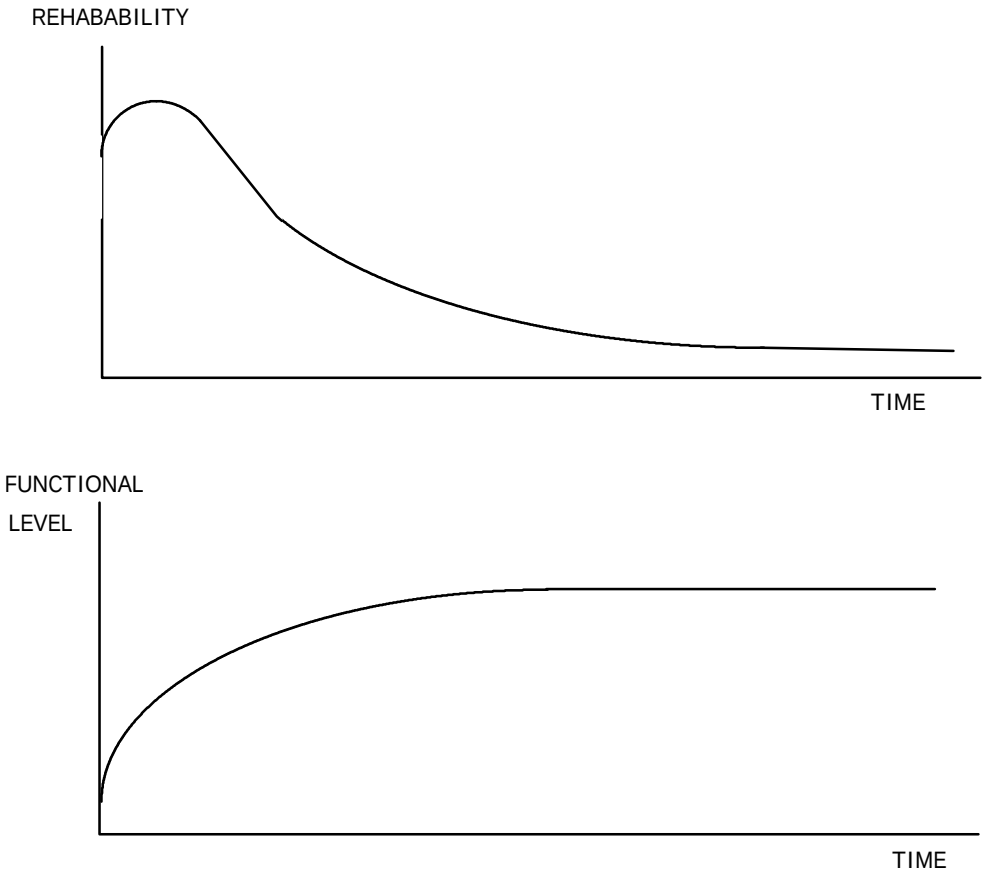
(ii) Neuropsychologically it has been suggested that the ability to progress is limited by the clients awareness of their deficits at any point in time. This is determined by both physiological and psychological factors - the latter can be influenced by appropriate rehabilitation services as well as the client's social environment (Prigitano, 1991).

(iii) Psycho-socially the ability to progress may depend on the ability to see life as worthwhile and to identify a meaningful place in the world for a diminished self. Services which emphasise 'achievement' as the sole basis for a sense of identity may hinder this adjustment.

In reviewing current literature and practices in head injury rehabilitation, two hypotheses about the determinants of a persons ability to benefit from rehabilitation following head injury emerge.

(i) The first is the assumption implicit in the traditional organisation of rehabilitation services (and to some extent in the considered opinions of practitioners in the field) that the main determinant of a persons ability to benefit from rehabilitation (for a given degree of damage) is time post-injury. Sometimes this is further rigidified by statements like; “most recovery can be expected to occur in the first six months;” or; “It is rare to see major improvements after 2 years.” (See figure 1.)

FIGURE 1
Functional Recovery Determined by Brain Recovery



The assumptions guiding practise in this model are that functional recovery occurs in the first instance via a mechanism of brain recovery and then via the development of compensations for residual deficits. The goals are to get the patient able to perform a checklist of tasks.

Some implications of this model are:

(1) It is vital to capitalise on the period of brain recovery with intensive rehabilitation;

(2) Significant improvements are rare once a patient has “plateaued”;

(3) The concern post-rehab is with the sustainability of gains;

(4) Assumes a purely organic pathogenesis of dysfunction (compared with learned compensative strategies theories);

(5) Little place for theories of neural plasticity.

(NB. The use of performance indicators invariably, but not necessarily, assumes this sort of model.)

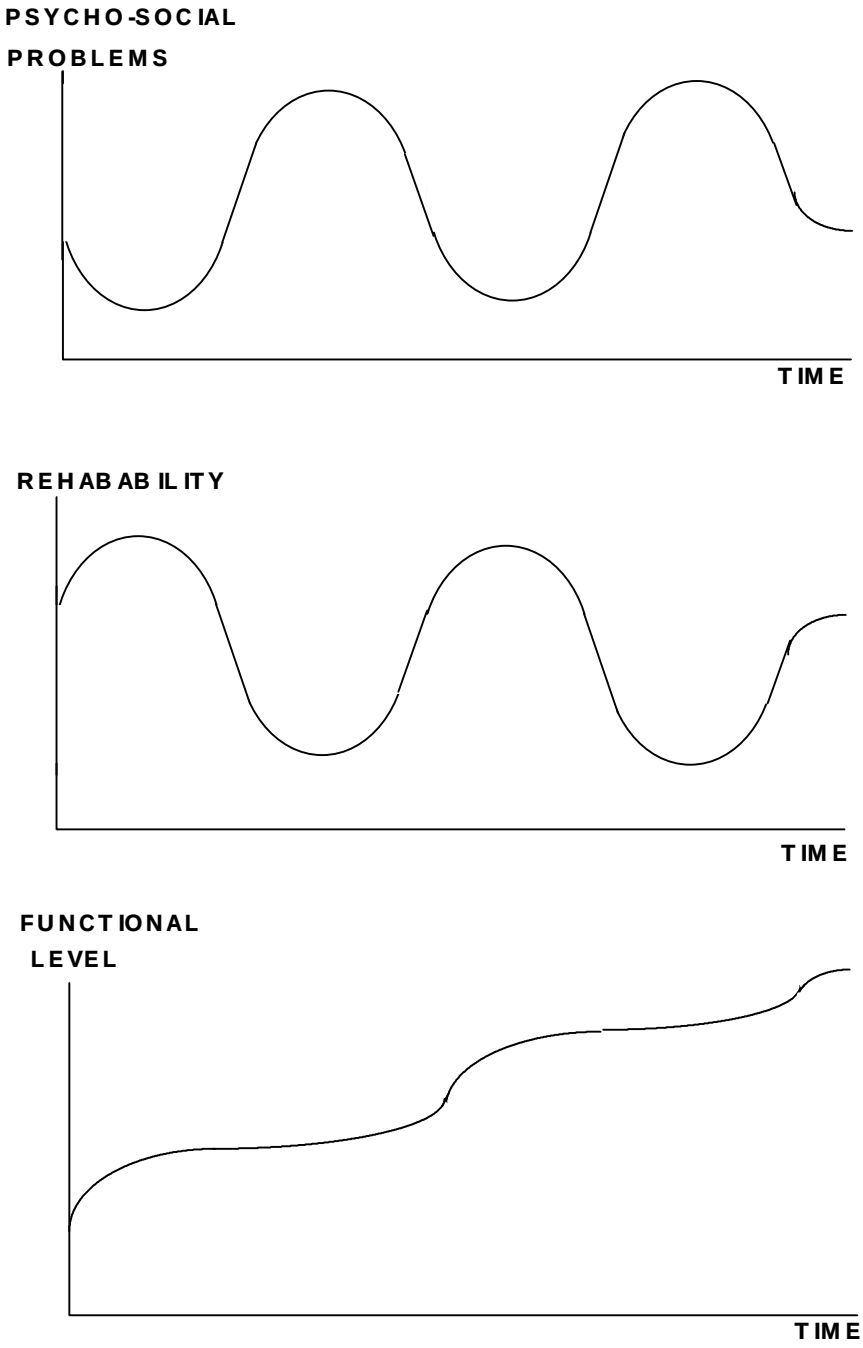
(ii) An alternative possibility is that the determinants of the ability to benefit from rehabilitation (rehabability henceforth), are multiple and inter-related and thus rehabability fluctuates over time. (See figure 2.)

Possible determinants of rehabability include both psycho-social and physical factors.

Psycho-social factors:

- sense of personal worth / self-esteem
- sense of purpose / motivation
- sense of integration into some social network
- ability to enjoy life
- ability to approach rehabilitation calmly and without any sense of desperation / non-impulsiveness
- anxiety / fear
- insight

FIGURE 2
Functional Recovery Has Multiple Determinants



(This is a highly stylized diagram in reality fluctuations would be much more irregular and their may well be dips in functional performance at certain points)

It may well be, that for many people, the rehabilitation process can interfere with the development of a more appropriate basis for self esteem and a sense of identity than performance; and that periods of functional improvement are interspersed with periods of psychic adjustment on which they are dependant.

Physical factors:

- contractures
- heterotopic ossification
- fractures
- bad habits and the need for unlearning

may also interact to slow rehabilitation and cause functional improvement to occur in fits and starts. The goals are to give patients the ability to solve problems functionally (rather than dysfunctionaly).

Some implications of this model are:

(1) It is expected that functional recovery will occur in phases;

(2) No time limits are placed on how long recovery may continue for;

(3) The concern post-rehab is with the ability to continue to develop through appropriate problem solving skills

(4) It is consistent with a learned compensative strategy theory of the pathogenesis of dysfunction (as well as an organic basis of course);

(5) Emphasises flexibility and decision-making.

Perhaps the most important implication, however, is that rehabilitation and quality of life issues cannot be separated along a time-line ('work hard now for improved quality of life later'), rather issues of rehabilitation, social integration (including the accommodation setting), and psychic adjustment are continuously interacting. While the recovery of self-esteem may be driven by functional recovery in those whose recovery proceeds quickly (see the bottom line of figure 6 on p. 48), this cannot be counted on where functional recovery is slow, hence the qualitative difference between fast and slow stream rehabilitation, (see the top 3 lines of figure 6, p. 48).

There are few things we can be certain of about the pattern of recovery from ABD, but of these few certainties, (drawn from both models), three of the most important are:

(1) The earlier rehabilitation activities are started the better will be the final outcome (more rapid and more complete).

(2) There is no definite end point to recovery for most people with ABD. I have seen several people commence independent walking after more than five years and others return to independent living in the community after seven.

(3) There is the possibility of regression - family relationships can deteriorate to the point of breakdown, paranoia and depression can grow, mobility gains can be lost through excessive wear and tear on joints and muscles.

A Once for All Basis for Determining Goals

"Goals Should be Determined by the Client."

Although the participation of the client and family in determining goals is essential, and in the long run they must take responsibility for determining their fate, there are profound problems which often effect both the client's and the families ability to set appropriate goals.

For the client some of these are:

- The difficulty recognizing or admitting deficits, particularly cognitive deficits. This problem has both physical and psychological bases (Prigitano, 1988, 1990);
- The need to pass through various stages of grief and adjustment;
- Unknown expectations for recovery;
- Difficulty recognising the stages that must be passed through on the way to recovery;
- Commonly a very performance based, (often very physically oriented), basis for a sense of identity and self-esteem.

For families several of the above issues apply but in addition common problems are:

- The need to deal with the altered nature of relationships; thus parents of adult children often revert to patterns of behaviour that foster dependency, spouses feel lonely and often resentful, and children may face a bewildering reversal of roles (Lezak, 199);
- Medical staff frequently give families worst case scenario prognoses, which often leads to despair and an inability to make informed decisions (Condon, In preparation);
- Families may be ambivalent about their support role due to the need to resolve potentially guilt engendering conflict between the needs of the client and the needs of other family members.

The client's and family's ability to set informed, realistic and acceptable goals should therefore be considered as an outcome itself and an important goal of any case management program. In program planning and evaluation we must assume that there will, at best, be a process of transfer of goal setting responsibility from service providers to families and hopefully then to the client.

"The Goal of Services is Maximum Independence."

By contrast this common criterion tends to lessen client participation in goal setting. At best it promotes the intention to maximise the clients life options by maximising their functional capacities; at worst it is a cost-minimising rationale for rehabilitation efforts, this is reflected in the predominance of 'burden of care' outcome measures over quality of life measures.

This latter attitude was strongly denounced by several respondents to a Commonwealth Senate enquiry into the implementation of the disability services act who stated that they had not asked society to save their lives, but that having saved them society owed them a decent standard of living (Accommodation for People with Disabilities, Report of the Senate Standing Committee on Community Affairs, 1990).

There are three problems with the assumption that "independence" maximises options and quality of life:

(1) For many people independence can be so demanding that it prevents participation in activities that promote valued social roles;

(2) The push for independence may interfere with the ability to develop a more appropriate, non-performance based, bases for a sense of identity and self-esteem;

(3) Pressure for early independence can promote the adoption of compensative strategies which actually hinder long-term recovery.

None-the-less, with these caveats, restoration of independence remains **an** important goal which certainly contributes to the maximisation of options and the recovery of dignity and self-esteem.

"The Goal of Services is Community Living."

Although, on a number of grounds, it is highly desirable that people with ABD live in the community and receive services through normal community channels there are dangers in seeing this as an end in itself. Community living is preferable because in most cases it is the best path to the client re-attaining valued social roles; but this is not always the case, and will rarely be the case if survival "in the community" is considered an adequate end point for the direction of resources. There are many people leading more impoverished and regressive lives in family homes than they would in institutions.

The tendency for 'normalisation' programs to degenerate into minimalism has been recognised by the founders of the independent living movement who now propose the use of the term "Social Role Valorization" as a more positive alternative to normalisation (Wolfensberger, 1991).

The report Accommodation for People with Disabilities refers to "the least restrictive accommodation option" and admits that this may not be clear for all groups. Most pertinently the fourth recommendation states:

Special consideration should be given by Commonwealth and State/Territory Governments to the least restrictive accommodation options for people with disabilities who frequently exhibit inappropriate behaviour

(1991, p xii).

Towards a Reconciliation

It is difficult to develop overarching criteria with which to guide and evaluate the shift in goal determination from service providers to clients and families; the way in which independence and support should be balanced at any point in time; and the requirements

if community living is to be a boon rather than a sentence. Usually we resort to the vague concept of "Quality of Life" to provide such criteria.

Social role theory and the disability/handicap distinction provide one way forward.

The following discussion should be viewed as illustrative of the importance of theories of head injury recovery and case management for evaluation design, not as a prescription of how the program should be run.

The World Health Organisation recommends classification of the effects of disabling disorders in three dimensions:

(1) Impairment - the physical defects resulting from the disorder (e.g. hemiparesis, short term memory loss);

(2) Disability - the functional incapacities that result (e.g. limited gait, poor financial planning);

(3) Handicap - the way disabilities interact with features of society to limit social functioning and particularly the attainment of valued social roles, (e.g. family member, fan, expert etc), which are the substance of identity.

There is an imperfect correspondence between the categories of effects because of variations in factors like motivation and because of the possibility of compensatory strategies to overcome the effects of impairment or disability.

Defining ultimate goals in terms of handicap or more positively the attainment of valued social roles, and the process of case management in terms of overcoming obstacles to those goals, gives one possible set of criteria for program evaluation. In addition it provides a conceptual framework with the flexibility to:

(1) Assist clients and families in setting realistic goals (this is also the level at which the clients expert knowledge (of themselves) is more important than medical knowledge;

(2) Balance the need for an emphasis on independence or support at any point in time and adjust this balance in line with the non-linear pattern of recovery that can be expected;

(3) Identify the services required for "community living" to be a truly positive outcome.

Examples of valued social roles are: family member, friend, lover, parent, worker, adult, growing person, student, home-maker, confidant, expert in an area, fun person, consumer, self-sufficient person, fan, team-member, club-member,.....,.....

Developing a rehabilitation plan would then involve:

- determining (increasingly through negotiation), which social roles to work towards at any point in time;

- identifying obstacles to attainment of these roles;

- deciding whether it is more appropriate at that time to work towards overcoming those obstacles through working towards independence (rehabilitation), teaching compensations, providing support and assistance or a combination of strategies (given the need to consider both short term and long term issues);

- implementing, monitoring and modifying a course of action.

It is certainly the case that current views of international best practise in disability services are based on a handicap/social role model as is the intent of such Australian legislation as the Disability Services Act (1986).

Once again it is clear that rehabilitation, social and psychodynamic issues are perpetually interactive.

APPENDIX F

Attachments Documenting the Performance Indicator Project at Dawn Grange

Attachment 1	Initial lists of ideas of criteria for evaluation of performance, organised by department.
Attachment 2	Lists of ideas of criteria for evaluation of performance categorised according to a basic process model.
Attachment 3	Probable audiences and possible uses for evaluation data pertaining to each level of the process model.
Attachment 4	An initial draft of a measure of quality of gait—trialed for inclusiveness and discriminant ability, but not yet for scaling properties. ('Flexibility' (see Table 3, p. 38) criteria have been deliberately placed in another instrument to allow cross validation.
Attachment 5	Summary sheet on chest infections indicator.
Attachment 6	Theory model for chest infections indicator.

Attachment 1

Medical service.

*Average LOS/DRG.

*Toxic Drugs

*Hospital aquired infections.

* Discharged patients follow up.

Nursing Department.

* Pressure areas.
- origin.
- Treatment.
- Result.

* Chest infections.
- Type.
- Complications.
[with Physio.]

* U.T.I.s

* Drugs.
- Errors.
- Toxicity.
- Levels.

* Nosocomical infections.

* Injuries.
- cause.
- in P.T.A.

* Tracheal granulation.
[with Physio.]

*Rehab process.
- Functional gains.
- therapy stats.

*Obs.-Neuro.
-consistancy.

* Nerve Blocks

* Behavioural management.

Physiotherapy.

* Tracheal granulation.
{ with nursing}

*Non- humidified episodes.

* Pressure problems.
- splints.
- plasters.

* Falls.

* Apsiration Pneumonia.
-specific.

* Contractures.

* Atelectasis.

* Anti pelvic tilt.

* Transfer and Quality.

* A.P.A. Community ambulator.
- Pilot study.

Social Work Dept.

* Self esteem.

* New identity.

* Acceptance of loss.

* Job potential.

* Physical abilities.

* Anger management.
- decision making.

* Family
-grief.
-restructuring
-realistic but hopeful.
- decreased anxiety.
- support group.

-education.

* Access to sercices.

* Refusal of treatment.

Recreation Dept.

* Access to recreation.

* Meeting clients.
- needs.
-Expectation.

*Staff training.
- Universal precautions.
- Epilepsy.
-Choking-resus.

* Behavioural management knowledge.

Occupational therapy.

* Independence in planning.

* Upper limb splints.
- application consistancy
- Effectiveness.

* Attendant Care.
- procedures.
- follow up.

* Functional memory training program.
- effectiveness.

* Discharge patients follow up.

* Adequacy of services arranged on discharge.

Speech Pathology.

* Speech intelligability measure pre post therapy.

* Changes in resonance and/or nasal emission pre & post palatal lift appliance.

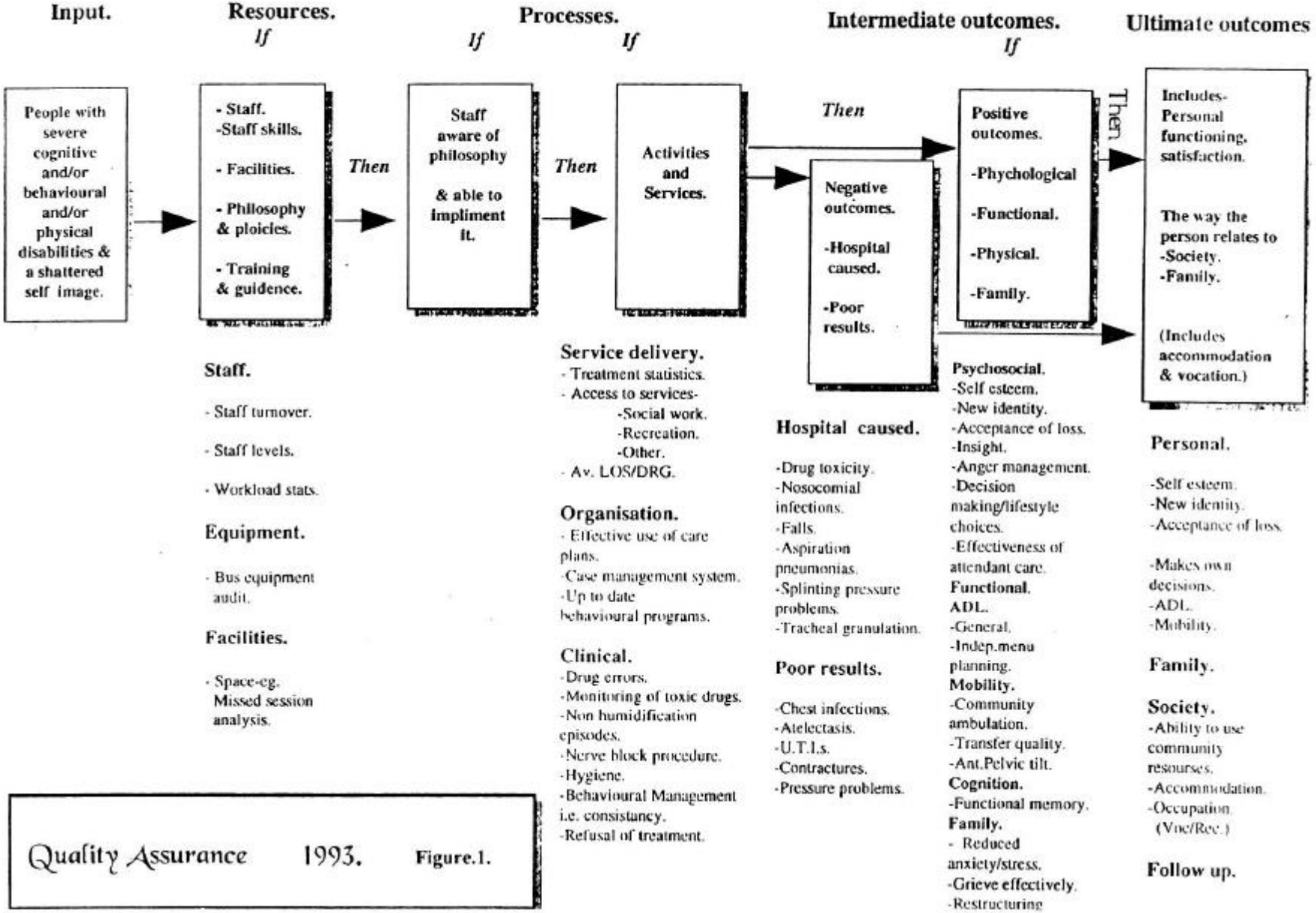
* Measure of communicative ability via Functional Rating Scale re: Photo book VS. alphabet board VS. electronic communicator VS. gesture VS. voice.

*Language performance via standardized tests pre-post treatment.

* Measurement of voice pre-post Treatment.

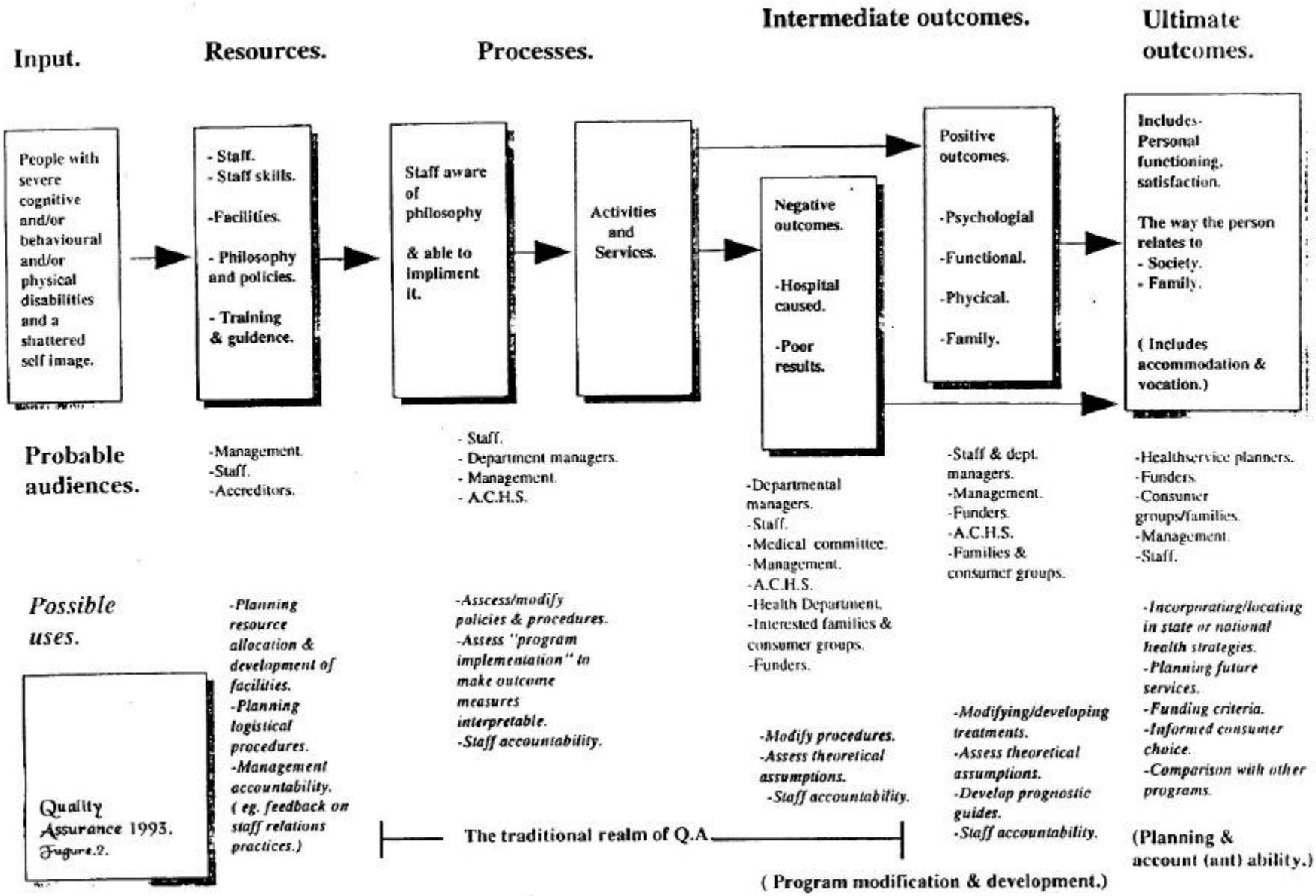
* Swallowing skills measurement.
- measurement of transitional feeding and swallowing programs.

Attachment 2



Quality Assurance 1993. Figure.1.

Attachment 3



Attachment 4

Physiotherapy Department.

Quality Mobility Indicators.

Gait.

7. Able to ambulate without aids, with a symmetrical gait which conforms to the appropriate parameters of step length, cadence step width etc., with normal trunk elongation and rotation. Gait must not include compensatory measures or encourage abnormal movement patterns.

6. Able to ambulate without aids and with all normal gait components present including: heel toe gait, hip extension at the end stance, full weight transfer and trunk rotation, but with decreased step length and speed.
May be a minor Trendelenberg compensation for decreased hip control (but not hip retraction compensation for decreased knee control) or there may be some evidence of associated reactions.

5. Able to ambulate with a gait aid over functional ranges with adequate weight transfer, hip extension and knee control (i.e. without hip retraction compensation for decreased knee control)

or

Ambulates without an aid but with marked hyper-extention, hip retraction and/or Trendelenberg compensations.

4. Able to ambulate independently with a frame or a single point stick but without adequate weight transfer or hip extension and using obvious compensations.

or

Ambulates with one assistant and able to achieve good weight transfer and hip protraction with facilitation or assistance.

3. Able to ambulate with a frame or single point stick with supervision and instruction but gait is not safe for independent mobility.

or

Independent on a four prong stick but with inadequate knee or hip control (high risk of falls and deterioration.)

2. Ambulate with one assistant but without adequate weight transfer and still dependent on major compensations. Does initiate recognizable attempts at weight transfer and stepping.

1. Non ambulant.

Attachment 5

Clinical Indicators.

1. Chest infections.

Assessor:

Definition of terms:
Pneumonia refers to inflammation of the lung with consolidation and exudation.

Type of indicator:
This is a comparitive study that addresses the incidence of pneumonias acquired by the High Dependency Unit admissions who aquire a pneumonia during their hospitalisation at Ivanhoe Manor Private Rehabilitation.

Indicator format.
1.Numerator- The number of H.D.U. admisions who aquire a pneumonia during their hospitalisation at I.M.P.R.H.
Denominator- The total number of of H.D.U. admissions minus the number of H.D.U. admissions admitted with a chronic chest infection or the presence of antibiotic resistant bacteria in the sputum.

2. Numerator-The number of pneumonias detected by routine observation and auscaltation.
Denominator- The number of clinically diagnosed pneumonias(ie x-ray.)

3. Numerator- The number of pneumonias where skin organisms, MRSA or pseudomonas are detected but were not present on admission.
Denominator- The total number of clinically diagnosed pneumonias.

4. Numerator- The number of pneumonias where E-Coli is present.
Denominator- The total of clinically diagnosed pneumonias.

Data Elements:	*Data Sources.*
O/A. Sputum cultures.	Patient medical record. Melbourne & Tresize Pathology computer central file
O/A. Chest X-Rays.	Patient medical record. Livingston St. radiology central computer file.
Sputum cultures.	As for O/A. sputum cultures.
Chest X-Rays.	As for O/A. chest X-Rays.
Pre-transfer culture & X-Ray results.	Patient medical record. X-Ray file.
Signs & symptoms.	Neurological observations chart- Patient medical record.
Medical assessment.	Patient medical record.

Attachment 6

Processes which may impact on mediating factors.

Quality of nursing care.
- Humidification FiO2 appropriate.
- O2 flow rate appropriate.
- Cuff seal checks.
- Aseptic technique.
- Regular suction.
- Inner cannilae changed at least 1 per shift.- Trachaeostomy change 4th weekly.
- Observations taken routinely & appropriately.
- Regular positional changes & positioning.
- Cuff releases.
- Appropriate type of Tape.
- Appropriate feeding techniques.
- Reporting / documentation.

Quality Speech Pathology.
- Regular assessment of cough, gag & swallow.
- Appropriate type of feeding.
- Reporting / documentation.

Quality of Physiotherapy.
- Assessment.
- Appropriateness of treatment.
- Regular positive percussion, hyperinflation as appropriate.
- Suction technique.
- Asepsis.
-Fracture management.
- Reporting / documentation.

Factors directly impacting on Indicators.

1. Type of pneumonia.

Lobar	_ %
Bronchial	_ %
Primary atypical	_ %
Aspiration	_ %
Hypostatic	_ %
Interstitial	_ %

2.

Atelectasis	_ %
Sputum retention	_ %

3. Infective organism.

M.R.S.A.,	_ %
Staphylococcus	_ %
Streptococcus	_ %
Pseudomonas	_ %
Klebsiella	_ %
Haemophillus	_ %
Pneumococcus	_ %
Acinetobacter	_ %
Influenza	_ %

4. Presence of artificial airways.

Guedels	_ %
Nasopharyingeal	_ %
Endouracheal	_ %
Trachaeostomy	_ %
Trachaeostomy button	_ %

Indicators.

1.
Number of aquired pneumonias in High Dependency Unit patients.

Total number of High Dependency Unit admisions minus those admitted with a chronic or resistant chest infection.

2. Number of pneumonias detected by routine observation and auscalation.

Number of clinically diagnised pneumonias (i.e X-Ray.)

3.
Number of pneumonias where skin organisms, MRSA or pseudomonas are detected but were not present on admission.

Total number of clinically diagnosed pneumonias.

High quality outcome.

Minimisation of incidence of pneumonia developed at I.M.P.R.H. Acute Unit.

Early detection of infection before the development of major respiratory signs and symptoms.

A low incidence of acquired pneumonias by skin, flora, MRSA/ pseudomonas is suggestive of good infection control.

Quality of Medical Care.
- Regular assessment.
- Early & appropriate investigations.
- Treatment.
- Diagnosis.
- Communication.

Communication/ team co-ordination.
- Team meetings.
- Team members accompany Rehab Consultant on rounds.
- Case conference (regular.)

Appropriatness of policies.
- Infection control.
- Decannolation.
- Entubation.
- Suction.
- Staffing levels.

5. Humidification type.

Puritan	_ %
Aquapak	_ %
Trachaevent	_ %
Episodes of non humidification.	_ %

6. Incidence of predisposing lung disease/ trauma.

Smoker	_ %
Asthma	_ %
C.O.A.D.	_ %
Pneumothorax	_ %
Haemothorax	_ %
Lung absess	_ %

7. Number of admissions with chronic/ resistant infections O/A Organism.

M.R.S.A.	_ %
Staphyloccus	_ %
Klebsiella	_ %
Haemophylls	_ %
Pneumococcus	_ %
Acinetobacter	_ %
Escherichia	_ %

8. Timing & reason for extubation.

Cough present	_ %
Gag present	_ %
Swallow present	_ %
Team assessment	_ %

4.
Number of pneumonias where E- Coli is present.

Total number of clinically diagnosed pneumonias.

The low incidence of E-Coli pneumonia suggests that treatment is successful as E-Coli is a common secondary infection to prolonged chronic chest infections.