

System Dynamics Society

1988 International Conference

POSTER PRESENTATION

Title: THE RELATIONSHIP BETWEEN HEALTH CARE INTERVENTIONS AND MORBIDITY: SOME COUNTER-INTUITIVE IMPLICATIONS OF A SOCIO-ECOLOGICAL MODEL

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ABSTRACT

The most fundamental health studies issue is the discrepancy between expected and actual performances of the Health Care System: deployment of curative biomedicine is expected to decrease morbidity and costs, but we see everywhere a rise in both. Technological lag, environmental damage, administrative slippage, professional pressures, and new wealth consumption are conventional but, at best, partial explanations. It appears that the rationale is flawed by the use of an inappropriate image of the system out of which morbidity phenomena emerge. The Socio-Ecological Model proposed here links HCS operations with a more appropriate morbidity construct. The individual's subsystems interact with the social-physical environment to create two distinguishable types of morbidity: anatomico-physiological conditions constituting the 'lesions' of the disease process, and interacting experiential, behavioural, and role changes of the illness state. The HCS becomes a significant part of the sick person's environment, and affects the four resulting sub-populations differentially. Care and prevention goals are to move sick individuals/populations toward illness-free and disease-free quadrants and to prevent/slow movement away from them. The counter-intuitive HSC production of morbidity (through, e.g., coronary care, increased life expectancy, pursuit of fitness, early diagnosis, and psychosocial counselling) is no longer surprising. The model suggests a revision of health planning goals, with major shifts in resource allocation.

THE BASIC HEALTH CARE PROPOSITION

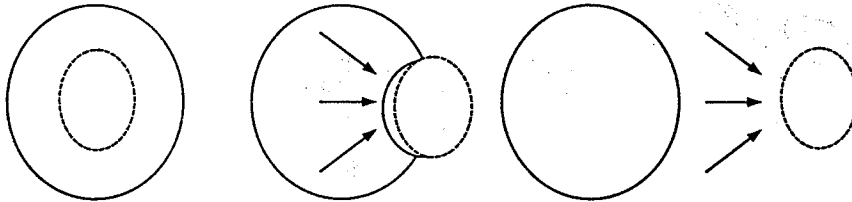
- the most fundamental expectation of Health Care System planning is that an efficient deployment of biomedical technology and skills will reduce both morbidity and costs
- the actual results are complicated but, in general, show increases in utilization-and-prevalence-based morbidity rates, and unrelenting increases in costs
- why this expected-vs-actual discrepancy occurs is the central question in modern health studies
- the expectation comes from this simple supposition

(since)...all morbidity is from disease (and)...curative biomedicine can remove disease (then)...health care will reduce morbidity
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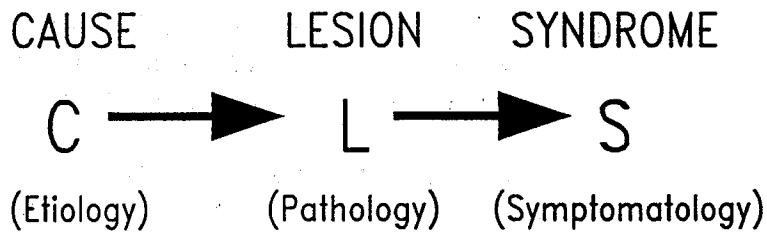
- the elements in this planning rationale are based upon assumptions, including:
 - disease is not part of the normal organism/population and can therefore, in principle, be eliminated
 - remedial interventions (can) have no/few side-effects ('clean strike', or 'magic bullet')
 - psychosocial 'side-effects' are 'noise' in the system, and are avoidable through effective HCS management
 - the health care 'system' is simply a delivery apparatus (i.e., not really a system)

THE CONVENTIONAL ASSUMPTIONS

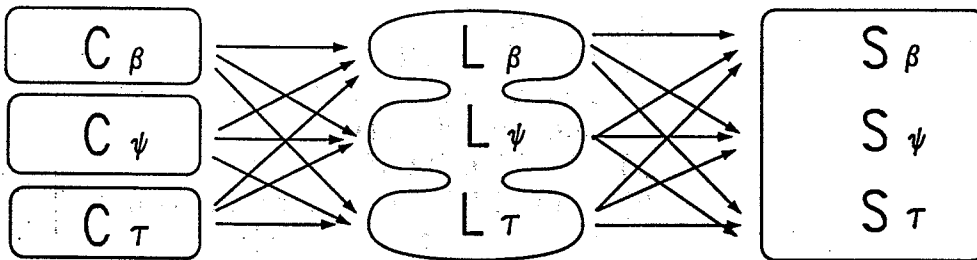
- all sickness/morbidity is understood to arise from some sort of LESION with origins and life course separate from the normal functioning of the body



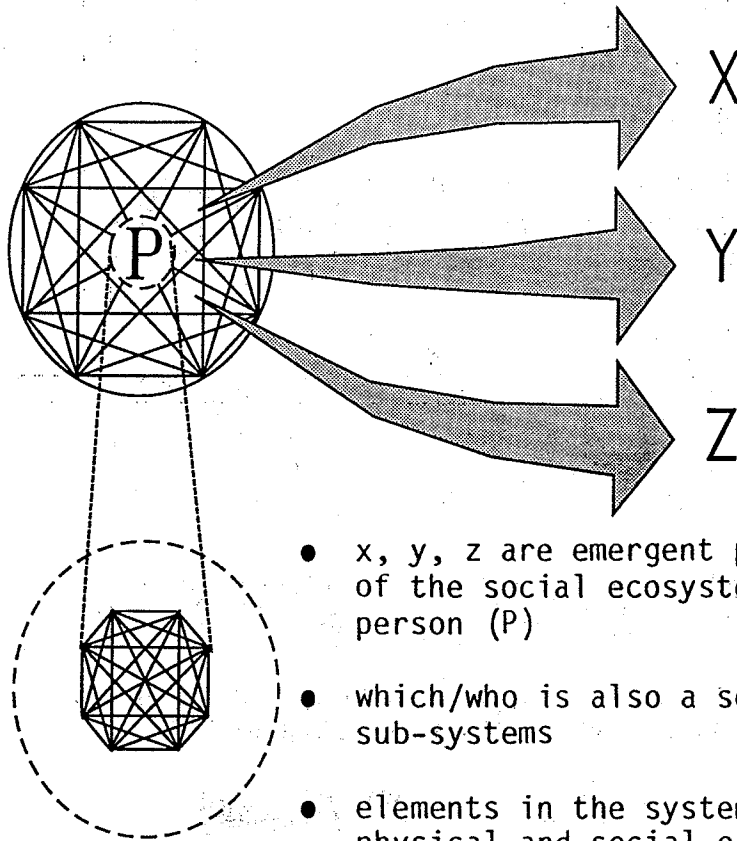
- the body resists its invasion, responds to it and, when successful in fighting it, is 'cured'
- the linear tripartite causal sequence from cause to syndrome is the BIOMEDICAL DISEASE MODEL



- in its latest BIOPSYCHOSOCIAL variant an effort is made to accommodate biological, psychological, and social factors

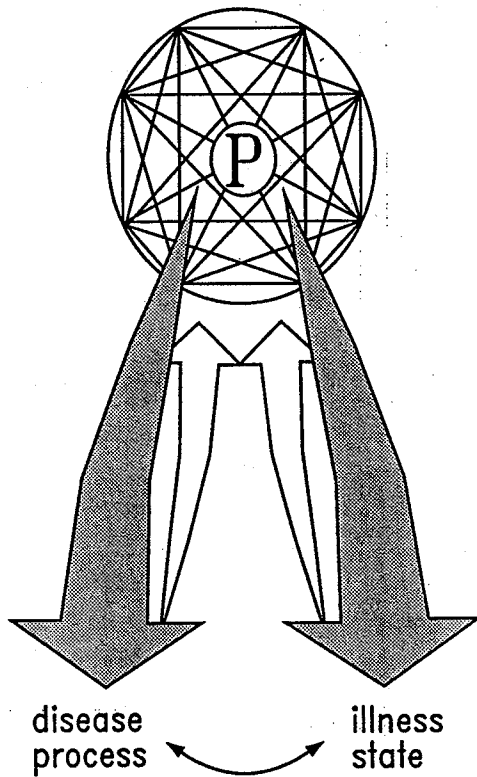


MORBIDITY IN A SOCIO-ECOLOGICAL CONTEXT



- x, y, z are emergent properties of the social ecosystem around person (P)
- which/who is also a set of sub-systems
- elements in the system(s) are physical and social entities at many levels of organization
- interactions occur between sub-systems and between levels
- morbidity is any emergent property of the system which is undesirable and includes some combination of...
 - a) DISTRESS
 - b) DYSFUNCTION
 - c) DANGER to comfort/competence/continued life
 - d) DISFIGUREMENT
 - e) DEPARTURE from norm portending a, b, c, d
- ...at any level of organization

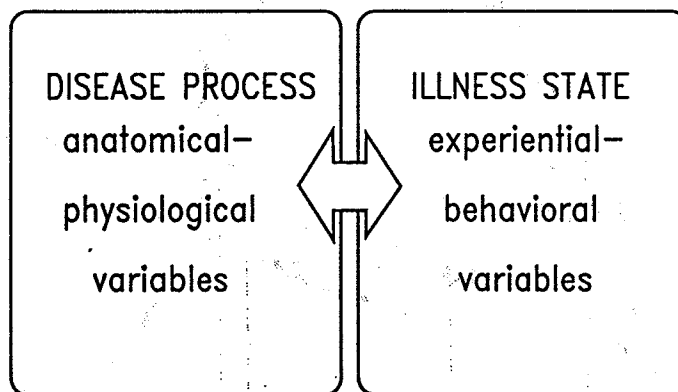
DUAL MORBIDITY MODEL



- it is useful to cluster phenomena from 2 levels
- to constitute the 2 principal species of morbidity
- which require different descriptive methods and data
- have dynamics obeying different laws
- and do not simply co-vary (not mutually inferrable)
- the DISEASE PROCESS consists of anatomical and physiological conditions

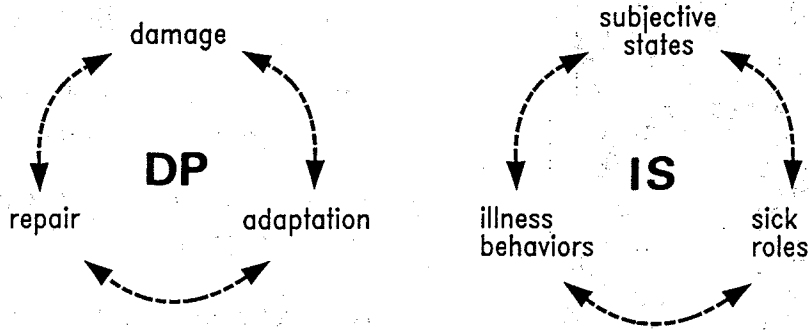
- the ILLNESS STATE consists of subjective states (esp. symptoms), (illness) behaviors, and (sick) roles
- they interact

MORBIDITY

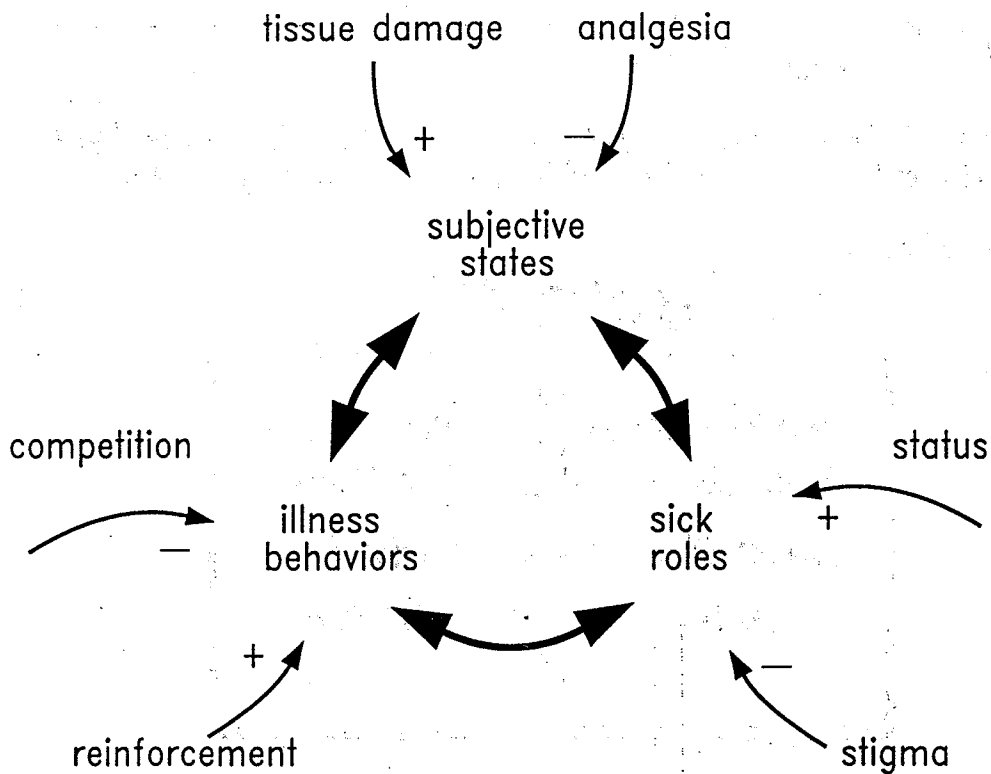


DISEASE PROCESS AND ILLNESS STATE AS SYSTEMS

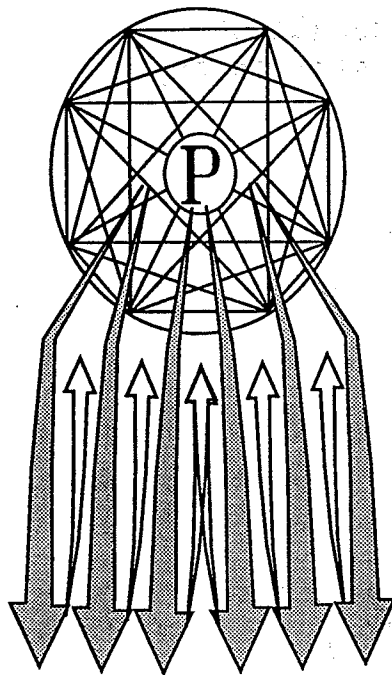
- both the DP and the IS have their own structures and dynamics



- the IS, conventionally misunderstood as a simple reflection of tissue damage, actually emerges from a complex set of interactions



THE SOCIO-ECOLOGICAL MODEL

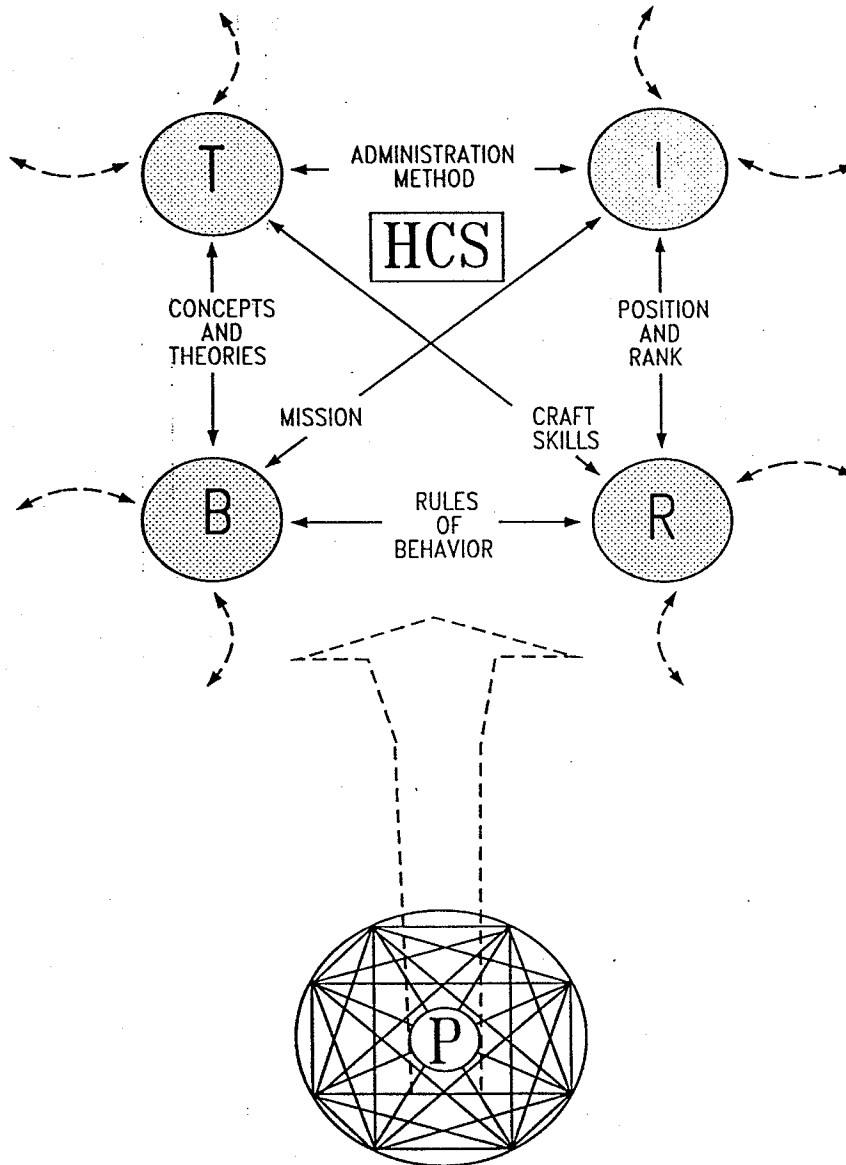


- the two interacting sets of morbid properties, or systems
- which have emerged from interactions between a social ecosystem
- and its person (P) sub-system
- also interact with the overall system
- and trigger responses from the system which have predictable morbid consequences.

- (e.g.) designation as 'sick' demands specific behaviors, self-perceptions, and social locations of sufferer, helper, and observer
- and the ill/health status of the person is influenced by the TECHNOLOGIES used in interventions, INSTITUTIONS which define tasks and rights, BELIEFS which view sickness according to the BDM, and ROLES which determine illness identities and behaviors
- together these phenomena constitute another sub-system abstractable from the overall social ecosystem
- ...the Health Care System (HCS)

THE HEALTH CARE SYSTEM (HCS)

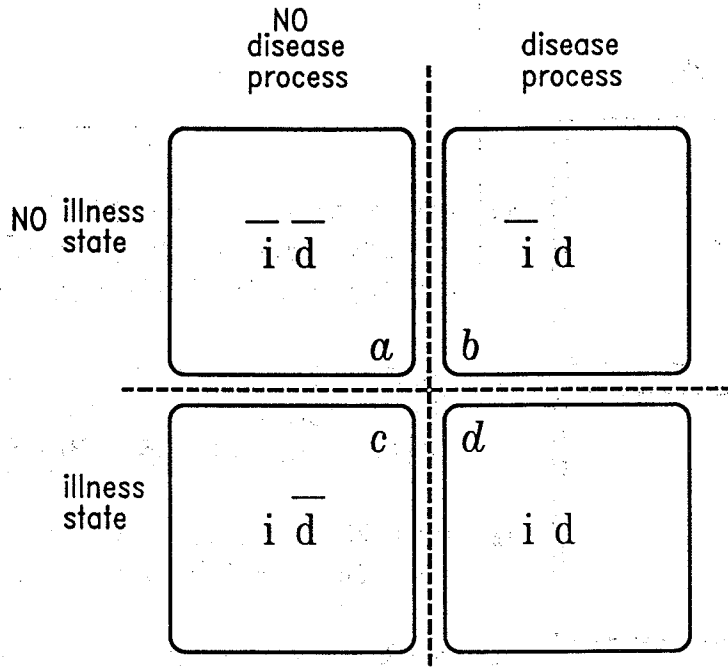
- the interactions of HCS elements (Technologies, Institutions, Beliefs, and Roles) generate the descriptive characteristics of the system in any locale



- it is highly coherent and stable system, linked through each of its elements to large external systems
- for all individuals it is an influential environment (dominant for the sick person), but with different effects depending upon their morbidity status

STRATEGIC IMPLICATIONS OF A DUAL MORBIDITY CONSTRUCT

- based upon the two types/levels/systems of morbidity, we have four health populations, or quadrants

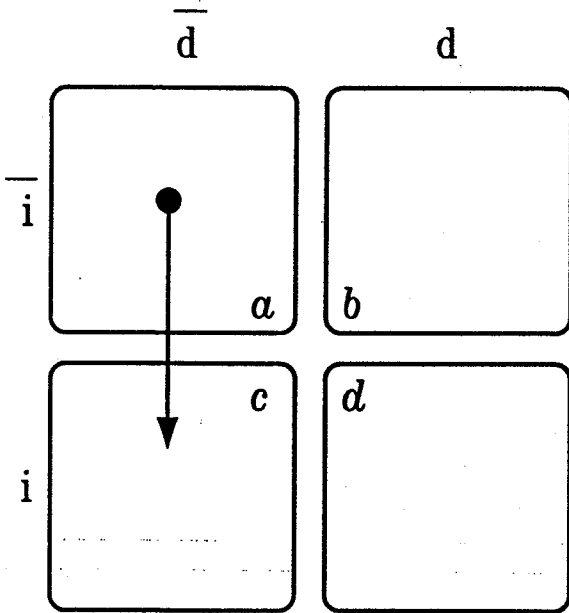


- each quadrant has its own properties, responses to HCS interventions, and requirements
- the key strategic approaches for preventive and remedial interventions differ between quadrants

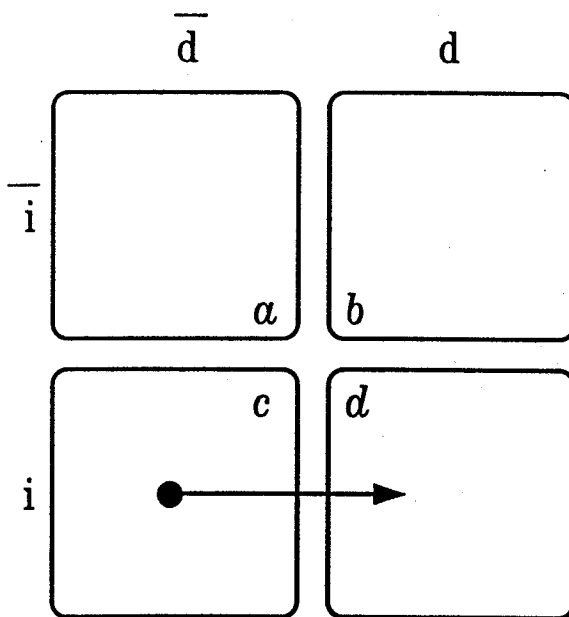
	PREVENTION		REMEDY	
	DP	IS	DP	IS
<i>a</i>	X (Avoid a→b)	X (Avoid a→c)		
<i>b</i>		X (Avoid b→d)	X (Promote b→a)	
<i>c</i>	X (Avoid c→d)			X (Promote c→a)
<i>d</i>			X (Promote d→c)	X (Promote d→b)

- when the distinctions are not recognized, certain morbid consequences occur (with readily calculable probabilities)

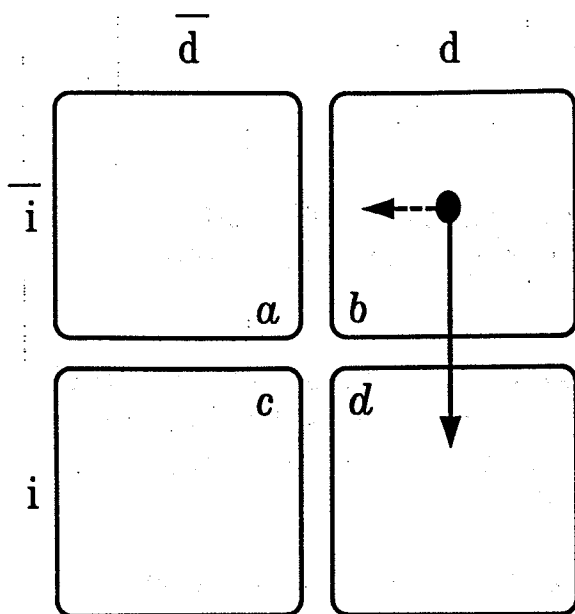
MORBIGENIC IMPACTS OF HCS INTERVENTIONS



- when social-existential distress/dysfunction with no DP is taken into HCS
- medicalization results in an IS through obligatory sick roles and illness behaviors
- the distresses/dysfunctions become symptoms/syndromes
- which call for 'treatment'
- that will be aimed at 'curing' an assumed disease(-like) condition

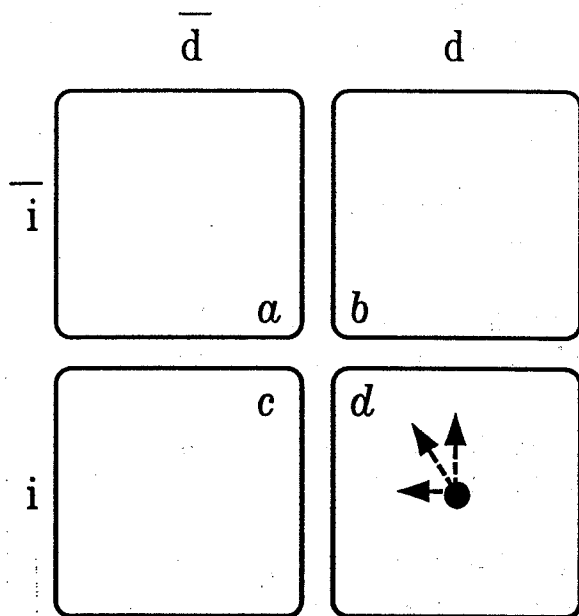


- with medicalization (e.g., anti-depressants, sedatives, analgesics) there are inevitable side effects (remote system effects)
- so that curative biomedical intervention thus confers a DP



- when occult/asymptomatic DP is diagnosed/labelled (e.g., through 'early detection' screening in hypertension)
- medicalization confers IS
- if treatment is ineffective (due, frequently, to low adherence to regimen)
- the result is a net increase in morbidity

- in chronic (symptomatic) disease...
- if the DP is mitigated, controlled, or slowed...
- or in successful rescue from acute disease...



- so that the patient lives (longer)
- residual morbidity, increased susceptibility to other DP, maintenance until terminal morbidity, may all occur
- and result in net increase in morbidity

SUMMARY COMMENT

- a classification of Iatrogenous Morbidity developed from this model corresponds to observed HCS phenomena

FAILURES OF SUCCESS

Residual Morbidity
Increased Susceptibility
Terminal Morbidity

MEDICALIZATION

Non-Disease Morbidity
Optional Morbidity
Mandatory Morbidity

TECHNICAL MORBIGENESIS

Over-treatment
Over-investigation
Error

- HCS-generated morbidity occurs increasingly, inevitably, and (to a significant extent) desirably
- planners should not assume lower morbidity/costs as desired HCS outcomes
- actual consequences are wholly predictable from the properties of the social ecosystem, with the Health Care System, and DP/IS morbidity systems, operating at their respective levels

- substantially different intervention strategies are required for each of the four quadrants
- proportionately greater resource allocation should be made for the study and care of Illness State morbidity...
- including a specific effort to prevent its generation through the misguided application of curative biomedicine
- the Socio-Ecological Model, offered here as a heuristic tool, has shown promise as a framework for research and intervention program design