

## Why are some people more resilient to health insults than others?

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Michael Ward Symposium on

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## Systems thinking

- \* The world operates through a myriad natural and man made complex adaptive systems
- \* Feedback loops and intersections between systems
- \* Butterfly wing flaps and tornadoes.
- \* Each human is a complex adaptive system
- \* With thousands of systems operating above, around and within it.

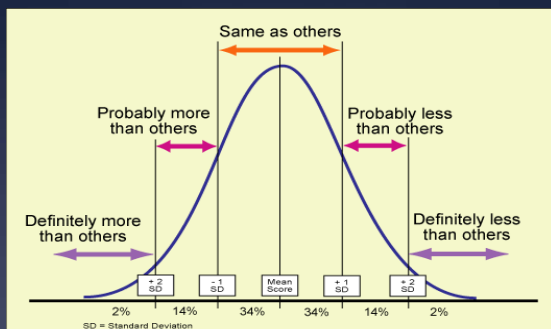
## Fritjof Capra in "The Turning Point

- \* *"In biology the Cartesian view of living organisms as machines, constructed from separate parts, still provides the dominant conceptual framework... the belief that all aspects of living organisms can be understood by reducing them to their smallest constituents, and by studying the mechanisms through which these interact, lies at the very basis of most contemporary biological thinking".*
- \* *"What is needed, is a new paradigm; a new dimension of concepts transcending the Cartesian view. It is likely that the systems view of life will form the conceptual background of this new biology".*

## A few of the complex adaptive systems involved in the health and wellbeing of an individual

- Psychological
  - Physiological
    - Neurological
    - Immunological
    - Nutritional
    - Endocrine
  - Environmental
  - Social
  - Medical care
  - Pathological
- Each of these are interacting with each other.
  - Each have systems both above and below them.
  - For all, there are complex positive and negative feedback loops.
  - Each has a threshold for malfunction

## The Normal Distribution Curve



## The Whitehall study of public servants: Control and heart disease incidence

- \* Those with low sense of job control had 2.5 times higher incidence of heart disease than those with high sense of job control.
- \* Women with low sense of control at home had 4 times higher risk of heart disease than those with high sense of control at home.

## The Michael Ward Story

- \* "Tumor times" a chronicle of his own journey with cancer, its management and its complications.
- \* Bloody minded determination to understand and control his own body and what was being done to it, permeates every page.
- \* Michael's past gives him an understanding of health systems and what makes them tick.
- \* He occupies the outer tail of the resilience curve

## The outliers to our expectations

- \* Examining people at the outer tails of the normal distribution curve of resilience could help us to develop new insights for clinical practice.
- \* Do they share other common attributes?
- \* Are they attributes that more of us could acquire?
- \* Could "sense of control" be the common attribute?

## Attributes of five cancer "outliers"

### Well known outliers

- \* Ian Gawler
- \* Michael Milton
- \* Michael Rennie
- \* Lance Armstrong
- \* Michael Ward

### Shared attributes

- Disseminated cancer at a relatively young age
- Unexpected and long lasting remissions
- Stunning single-minded determination to control their management and their lives.
- Various alternative therapies.

## Psychological resilience

- \* Psychologically resilient people tend to have:
  - \* high expectations,
  - \* a meaning for life,
  - \* goals,
  - \* personal agency, and
  - \* inter-personal problem-solving skills.
- \* Psychologists believe that these operate together to inhibit other behaviors that can be associated with learned helplessness.

## The Medical Care System

- \* Itself a large number of interacting systems with feedback loops and thresholds.
- \* Does it promote or inhibit resilience in those who use it
- \* Does it promote control or learned helplessness?
- \* Can we use systems thinking to make it more responsive to human need?

## Conclusions

- \* Our mechanistic approach to health and medicine, needs to be peppered with systems and resilience thinking .
- \* "Sense of control" is a variable already shown to influence disease incidence.
- \* Perhaps it influences resilience or adaptation to disease events in individuals.
- \* Is "sense of control" always a good thing?