



Health
and
Everything

Is There a Health Care System?



Overview

- **Changing views of organizations and systems**
 - Simple Systems
 - Complicated Systems
 - Complex Systems
- **How NOT to intervene in Complex Systems**



Frameworks

Frameworks for understanding things like organizations or systems do not merely describe them. They invariably indicate what a “well-functioning” organization or system is like. And so they place a value on certain structures and behaviours.

As our theories change, so do our views of what is good. The “well-functioning” organization or system of 1935 would be seen as dysfunctional today.

Sholom Glouberman



The Old Physics

- The Baconian Revolution
- Unlocking the secrets of the universe
- The Clockwork Universe
 - Animals as mechanisms
- Determinism and Laplace's Demon
 - The single pendulum
 - Universal laws are timeless
- Explanation, Causal links and Prediction



Simple Organizations

- The Taylorian Revolution
- Unlocking the secrets of work
- The clockwork factory
 - workers as machines
- Determinism and the Management Demon
 - The Pyramidal Command Control Organization



Simple Organizations (1935)

Pace	Measured
Structure	Command Control
Strategy from	The Top
Action	Boss decides
Work Type	Supervised
Worker	Machine Extension
Values	Smooth running
Survivability	Stability
Motif	Tradition
Planning Style	Just do it



Simple Health Care Systems (1935)

Organizational Type	Hierarchy
Accountability	Upwards
Elements of System	Hospitals, Practices
Organizational method	Levels of Care
Main Hospital Type	General
Who Knows	Doctors
What they know	General medical
Knowledge Distribution	Clinical Experience
Planning	Green Field
Boundaries	High external

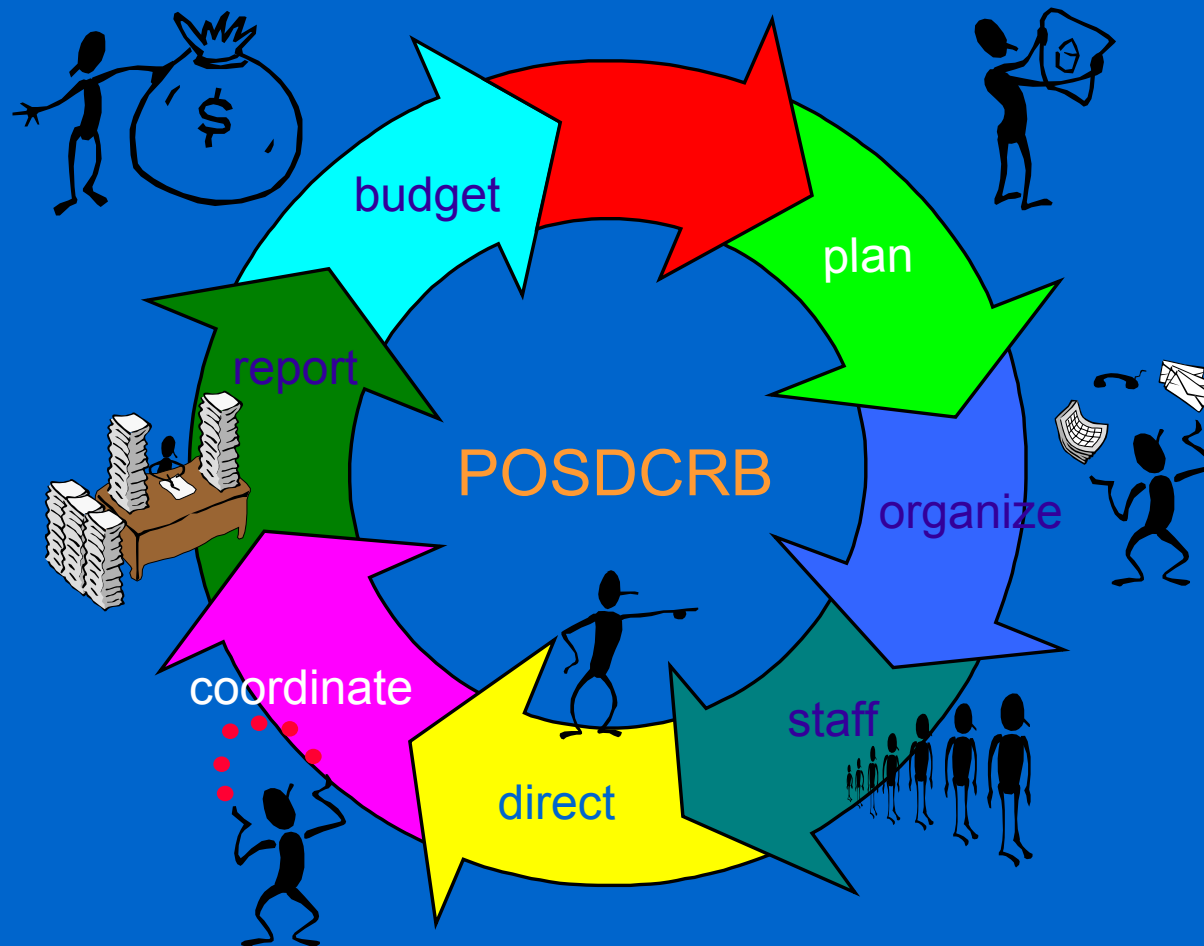


Complicated Organizations (1985)

Pace	Faster
Structure	Functional Chimneys
Strategy from	Executive board
Action	Standards
Work Type	Division of Labor
Worker	Skilled
Values	Exact knowledge
Survivability	Cost efficiency
Motif	Change
Planning Style	Strategic planning



The Rational Planning Cycle





Complicated Health Care Systems (1970)

Organizational Type	Functional hierarchy
Accountability	To silo and upward
Elements of System	Multiple health
Organizational method	Silo
Main Hospital Type	Specialist
Who Knows	Experts
What they know	Niche Knowledge
Knowledge Distribution	Scientific Journals
Planning	Problem Focus
Boundaries	High in and out



From Complicated to Complex

- Division of labour in the acquisition of knowledge
- Multiplication of specialized niches
- Unexpected consequences
- Novel interactions



30 Unions at McGill Hospitals

Association des Techniciennes et Techniciens en Diététique du Québec (ATDQ) (CEQ)
Association des Employé(e)s en Service Social de la Province de Québec (AESSPQ)
Association des Pharmaciens des Etablissements de Santé du Québec (APES)
Association des Résident(e)s de McGill
Association Professionnelle des Inhalothérapeutes du Québec (APIQ)
Association Professionnelle des Technologistes Médicaux du Québec (APTMQ)
Association Professionnelle des Technologues Diplômé(e)s en Electrophysiologie
Conseil des Syndicats Hospitaliers de Montréal (CSHM)
Fédération des Infirmières et Infirmiers du Québec (FIIQ)
Fédération des Médecins Résidents et Internes du Québec (FMRQ)
Le Syndicat des Infirmières et Infirmiers de l'Hôpital de Montréal Pour Enfants (SIIHME)
Le Syndicat des Infirmières et Infirmiers de l'Hôpital Royal Victoria (SIIHRV)
Les Infirmières et Infirmiers Unis (IIU)
Syndicat Canadien de la Fonction Publique, Section Locale 2962 (FTQ)
Syndicat Canadien des Officiers de la Marine Marchande (SCOMM)
Syndicat des Professionnel(le)s et Technicien(ne)s de la Santé du Québec (SPTSQ)
Syndicat des Coordonnateurs d'unité de l'Hôpital Général de Montréal (CSN)
Syndicat des Employés de l'Hôpital Général de Montréal (CSN)
Syndicat des Employés de l'Hôpital Royal Victoria (CSN)
Syndicat des Ergothérapeutes du Québec (CPQ)
Syndicat des Physiothérapeutes et des Thérapeutes en Réadaptation Physique (SPTRPQ)
Syndicat des Professionnelles et Professionnels des Affaires Sociales(SPPASQ) (CSN)
Syndicat des Professionnelles et Professionnels en Gestion de Projets de Montréal (CEQ)
Syndicat des Technologues en Radiologie du Québec (STRQ)
Syndicat des Travailleuses (eurs) de L'Hôpital de Montréal Pour Enfants (CSN)
Syndicat National des Employés de l'Hôpital de Montréal Pour Enfants (SNEHME)
Syndicat National des Employés de l'Hôpital Neurologique de Montréal (SNEHNM)
Syndicat Professionnel des Diététistes du Québec (SPDQ)
Syndicat Québécois des Employés de Service (FTQ)
Union des Employés de Bureau des Hôpitaux (CSHM)



57 Union Presidents at McGill

HME	Association des Techniciennes et Techniciens en Diététique du Québec (ATDQ) (CEQ)
HME	Association des Employé(e)s en Service Social de la Province de Québec (AESSPQ)
HME	Association des Résident(e)s de McGill
HME	Association Professionnelle des Inhalothérapeutes du Québec (APIQ)
HME	Association Professionnelle des Technologistes Médicaux du Québec (APTMQ)
HME	Conseil des Syndicats Hospitaliers de Montréal (CSHM)
HME	Le Syndicat des Infirmières et Infirmiers de l'Hôpital de Montréal Pour Enfants (SIHME)
HME	Syndicat Canadien des Officiers de la Marine Marchande (SCOMM)
HME	Syndicat des Ergothérapeutes du Québec (SEQ)
HME	Syndicat des Physiothérapeutes et des Thérapeutes en Réadaptation Physique du Québec (SPTRPQ)
HME	Syndicat des Technologues en Radiologie du Québec (STRQ)
HME	Syndicat des Travailleuses (eurs) de L'Hôpital de Montréal Pour Enfants (CSN) - Téléphonistes
HME	Syndicat National des Employés de l'Hôpital de Montréal Pour Enfants (Magasiniers)
HME	Syndicat National des Employés de l'Hôpital de Montréal Pour Enfants (SNEHME)
HME	Syndicat Professionnel des Diététistes du Québec (SPDQ)
HME	Syndicat Québécois des Employés de Service (FTQ)
HME	Union des Employés de Bureau des Hôpitaux (CSHM)
HNM	Association des Techniciennes et Techniciens en Diététique du Québec (ATDQ) (CEQ)
HNM	Association des Employé(e)s en Service Social de la Province de Québec (AESSPQ)
HNM	Association Professionnelle des Inhalothérapeutes du Québec (APIQ)
HNM	Association Professionnelle des Technologues Diplômé(e)s en Electrophysiologie Médicale (APTDEPM)
HNM	Fédération des Infirmières et Infirmiers du Québec (FIQ)
HNM	Syndicat des Professionnel(le)s et Technicien(ne)s de la Santé du Québec (SPTSO)
HNM	Syndicat des Professionnelles et Professionnels des Affaires Sociales du Québec (SPPASQ) (CSN)
HNM	Syndicat National des Employés de l'Hôpital Neurologique de Montréal (SNEHNM)
HNM	Syndicat Professionnel des Diététistes du Québec (SPDQ)
MGH	Association des Employé(e)s en Service Social de la Province de Québec (AESSPQ)
MGH	Association des Résident(e)s de McGill
MGH	Association Professionnelle des Inhalothérapeutes du Québec (APIQ)
MGH	Association Professionnelle des Technologistes Médicaux du Québec (APTMQ)
MGH	Les Infirmières et Infirmiers Unis (IU)
MGH	Syndicat Canadien de la Fonction Publique, Section Locale 2962 (FTQ)
MGH	Syndicat Canadien des Officiers de la Marine Marchande (SCOMM)
MGH	Syndicat des Coordonnateurs d'unité de l'Hôpital Général de Montréal (CSN)
MGH	Syndicat des Employés de l'Hôpital Général de Montréal (CSN)
MGH	Syndicat des Ergothérapeutes du Québec (CPO)
MGH	Syndicat des Physiothérapeutes et des Thérapeutes en Réadaptation Physique du Québec (SPTRPQ)
MGH	Syndicat des Professionnelles et Professionnels des Affaires Sociales du Québec (SPPASQ) (CSN)
MGH	Syndicat des Professionnelles et Professionnels en Gestion de Projets de Montréal (CEQ)
MGH	Syndicat des Technologues en Radiologie du Québec - Radio-oncologie (STRQ)
MGH	Syndicat des Technologues en Radiologie du Québec - Médecine Nucléaire (STRQ)
MGH	Syndicat Professionnel des Diététistes du Québec (SPDQ)
RVH	Association des Techniciennes et Techniciens en Diététique du Québec (ATDQ) (CEQ)
RVH	Association des Employé(e)s en Service Social de la Province de Québec (AESSPQ)
RVH	Association des Pharmaciens des Établissements de Santé du Québec (APES)
RVH	Association Professionnelle des Inhalothérapeutes du Québec (APIQ)
RVH	Association Professionnelle des Technologistes Médicaux du Québec (APTMQ)
RVH	Conseil des Syndicats Hospitaliers de Montréal (CSHM)
RVH	Fédération des Médecins Résidents et Internes du Québec (FMRO)
RVH	Le Syndicat des Infirmières et Infirmiers de l'Hôpital Royal Victoria (SIHRV)
RVH	Syndicat Canadien des Officiers de la Marine Marchande (SCOMM)
RVH	Syndicat des Employés de l'Hôpital Royal Victoria (CSN)
RVH	Syndicat des Physiothérapeutes et des Thérapeutes en Réadaptation Physique du Québec (SPTRPQ)
RVH	Syndicat des Professionnelles et Professionnels des Affaires Sociales du Québec (SPPASQ) (CSN)
RVH	Syndicat des Technologues en Radiologie du Québec - Radio-oncologie (STRQ)
RVH	Syndicat des Technologues en Radiologie du Québec - Médecine Nucléaire (STRQ)
RVH	Syndicat Professionnel des Diététistes du Québec (SPDQ)



75 Professional Groups RCN

Mental Health
 Mental Health Nursing Society
 Community Mental Health Nursing
 Forum
 Psychodynamic Nursing Forum
 Substance Misuse Nursing Forum
 Forum for Nurses Working in a
 Controlled Environment
 Child and Adolescent Mental Health
 Nursing Forum
 Cognitive and Behavioural
 Psychotherapy

 Occupational Health
 Cancer Nursing Society
 Leukaemia and Bone Marrow
 Transplant Nursing Forum
 Palliative Nursing Group
 Breast Care Nursing Forum

 Women's Health
 Midwifery Society
 Family Planning Nursing Forum
 Gynaecological Nursing Forum
 Fertility Nurses' Forum

 Nursing Practice
 Cystic Fibrosis Nurses' Forum
 Diabetes Nursing Forum
 Ophthalmic Nursing Forum
 Critical Care Nursing Forum
 Accident and Emergency Nursing
 Association
 Rheumatology Nursing Forum
 Society of Orthopaedic Nursing
 Stoma Care Nursing Forum
 Radiology/Cardiology Nursing Forum
 Respiratory Nurses' Forum
 Blood Transfusion Nursing Forum
 Dialysis and Transplant Nurses'
 Forum
 Haemophilia Nurses' Association
 Transplant Nurses' Forum
 Continence Care Forum
 HIV Nursing Society
 Ethics Forum
 Rehabilitation Nurses' Forum
 Perioperative Nursing Group

 Children
 Society of Paediatric Nursing
 Paediatric Community Nursing Forum

Paediatric Intensive Care Nurses'
 Forum
 Paediatric Nurse Managers' Forum
 Paediatric Oncology Nursing Forum

Community
 Health Visitors' Forum
 Practice Nurses' Association
 School Nurses' Forum
 Community Practice Teachers' Forum
 Community Nursing Association
 District Nurses' Forum
 Liaison and Discharge Planning
 Nurses' Association
 TB Nurses' Forum
 Nurse Practitioner Forum

Education
 Association of Nursing Education
 Higher Education Forum
 Education Support Nurses' Forum
 Community Health Tutors' Forum
 Continuing Education Teachers'
 Forum

Elderly People
 Association for the Care of Elderly
 People
 Focus on Older People, Nursing and
 Mental Health
 Society of Nurse Inspectors and
 Registration Officers

Management
 Nurses in Management
 Hospice Nurse Managers' Forum
 Forum for Independent Nurse
 Managers (INFORM)
 Occupational Health Managers' Forum
 Residential Care Managers' Forum
 Nursing Agencies Administrators'
 Forum
 Chief Nurses to Health Authorities
 NHS General Managers' Forum
 Community Nurse Managers' Forum

People with a Learning Disability
 Society of Nursing for People with a
 Learning Disability
 Community Nursing Forum for People
 with a Learning Disability



99 Clinics at Toronto Hospital

Cardiac/Vascular Centres
 General Cardiology
 Congenital Cardiac Centre
 Hypertrophic Cardiomyopathy
 Cardiovascular Surgery
 Cardiac Rehabilitation
 Hypertension
 Vascular Centre
 Neurosciences
 Peripheral Nerve
 Brain Tumour
 Brain Arterio-Venous Malformation
 Spinal Cord
 General Neurology
 Neuro-Otology
 Neuro-Ophthalmology
 Neuro-Pharmacology
 Movement Disorders
 Swallowing Centre
 Neuro-Laryngology
 Neuro-Physiology (EEG, EMG, and Evoked Potentials)
 Transplantation
 Renal
 Liver
 Lung
 Heart
 Oncology and Haematology
 Lung Cancer
 Breast Cancer
 Leukemia
 Multiple Myeloma
 Lymphoma
 Coagulation Disorders
 Melanoma
 Autologous Blood & Marrow Transplant
 Genito-Urinary Cancer
 Head and Neck Cancer
 Gynaecological Cancers
 Brain Tumours
 GI Cancer
 General Surgery
 Gastroenterology
 Therapeutic Endoscopy
 Asthma Centre
 Cardio-Respiratory Sleep Disorders
 Obstetrics & Gynaecology
 Obstetrics
 Pre-Natal Diagnosis
 Special Pregnancy
 Reproductive Biology
 In-Vitro Fertilization
 Therapeutic Abortion
 Gynaecology
 Gynaecology Research Clinic
 Urology
 General Urology
 Oncology

Impotence
 Prostate Centre
 Renal Transplantation
 Stone
 Voiding Dysfunction & Incontinence
 Plastic Surgery
 Hand Program
 Plastic Surgery Clinics
 Orthopaedics
 Fracture Clinic
 Rheumatology
 Endocrinology
 General Endocrine
 Diabetes Clinic
 Lipids
 Bone Disease
 Endocrine Oncology
 Thyroid
 Pituitary, Adrenal, or Ovary
 Anaesthesia
 Pain
 Malignant Hyperthermia
 ENT
 ENT Clinics
 Neuro-Laryngology
 Ophthalmology
 Dentistry
 Psychiatry
 General Psychiatry
 Medical Psychiatry
 Assessment Clinic
 Psycho-Pharmacology
 Competency
 Group Program
 Portuguese Community Mental Health Centre
 Kensington Clinic
 Neuro-Psychiatry
 Neuro-Pharmacology & Epilepsy
 Tourette's Syndrome
 Sleep Disorders
 Women's Clinic
 Schizophrenia
 Other Medical Clinics
 General Internal Medicine
 Medical Consultation
 Dermatology
 Family Medicine Centre
 Immuno-deficiency
 Travel
 Tropical Disease
 Chiroprody
 Thalassemia/Sickle Cell
 Rehabilitation
 Sexually Transmitted Disease
 Herpes Info Line
 Weight Control
 Detoxification



420 Job Titles: Sunnybrook Health Science Centre

Accountant	Data Co-ordinator	Laundry Helper 2	Psychologist
Accounts payable Clerk	Data Entry Co-ordinator	Laundry Helper 3	Psychometrist 1
Acting	Department Clerk	Liaison Officer	Psychometrist 2
Administrative Analyst	Department Head	Librarian	Public Affairs Officer
Admin. Asst	Department Manager	Library Assistant	Public Information Asst
Admin. Asst I	Deputy Director	Library Technician	Pulmonary Function Tech
Admin. Asst II	Development Officer	Library Technician 2	Quality Assurance Admin
Administrative Clerk	Dialysis Technician	Maintenance Helper	Radiation Physicist
Admin. Co-ordinator	Director	Maintenance Mech	Receptionist
Admin. Director	Dir. Research Trans. Unit	Maitre d'(Vaughan Estate)	Records Clerk
Admin. Secretary	Discharge Planner	Manager	Recreation Therapist
Admitting Clerk	Dispatcher	Mgr Construction	Reg. Orthopaedic Technol
Adolescent Worker	Doppler Technician	Manager, Computing	Registry - Attendant
Agency - attendant	Driver	Mgr of Accounts	Registry - Nurse
Agency - nurse	Driver Mechanic	Mgr Policy & Implement	Registry - RNA
Agency - RNA	ECG Technician	Mgr Research Coordinators	Rehabilitation Aide
Aide	Educator	Mgr Technical Team	Rehabilitation Counsellor
Aide lead hand	EEG Technician	Materials Hand	Remedial Assistant
Air cond./Vent.Mech.	Electrician	Materials Lead Hand	Research Analyst
Ambulance driver	Electronics Tech	Materials Handler 1	Research Assistant
Animal facility Attn.1	Electronics Technol	Medical Artist	Research Associate
Animal facility Attn.2	EMG Technician	Med Transcriptionist	Research Co-ordinator
Animal Health Technol.	Employee Services Rep.	Menu Clerk	Research Database Developer
Ann. Giving Telemktg Officer	Engineering Assistant	Morgue Attendant	Research Fellow
Appointments Clerk	Epidemiologist	Neurophysiologist	Research Tech 1(jr)
Apprentice	Executive Assistant	Non Registered Nursing Asst.	Research Tech 2(inter)
Assembly Technician	Executive Chef	Nurse Clinician	Research Tech 3(jr)
Assistant	Executive Secretary	Nurse Researcher	Research Technol 1(jr)
Assistant Biomechan	Facilities Planner	Nursing Admin	Research Technol 2(inter)
Asst Campaign Dir.	Financial Analyst	Nursing Mgr eve/night	Research Technol 3(jr)
Asst Co-ordinator	Financial Analyst III	Nursing Orderly	Resource Centre Co-ordinator
Asst Department Head	Food Service Cashier	Nutrition Systems & Tech	Respiratory Assistant
Assistant Director	Funding Officer(c/f)	O.R. Booking Clerk 2	Respiratory Therapy Asst
Assistant Supervisor	G.U. Orderly	O.R. Booking Clerk	Restorative Pros. Asst
Asst Systems Manager	Garbage Wandler	O.R. Technician	Restorative Prosthettist
Asst Teaching Chpman	Gardener	Occupational Health Doctor	S.S.R. Attendant
Assistant to Chief	Gardener-Grounds Person	O.T. 1	S.S.R. Attendant Ld. Hand
Assistant to Director	General Artist	O.T. 2	S.S.R. Lead Hand
Associate Dept Head	General Manager	Oper. Engineer class 2	Safety Advisor
Asso Executive Dir	Geriatrician	Oper. Engineer class 3	Safety Assistant
Associate Manager	Graduate Psychologist	Oper. Engineer class 4	Sales Representative
Asst Banquet Serv. Mgr	Graphic Artist	Operations Coordinator	Scientist
Attendant	Graphic Designer	Order Processing Clerk	Sctry to Exec.V.P.
Audiologist	Groundsperson	Personnel Tech II	Sctry Stenographer 1
Audiologist III	Head Teacher	Painter	Sctry Stenographer 2
Autopsy Room Tech	Health Care Aide	Pastry Chef	Sctry to Asst V.P.
Banquet Services Mgr	Health Educator	Pathology Assistant	Sctry to Director
Bar Attendant	Health Record Admin	Patient Care Mgr I	Sctry to Directory
Behavioural Therapist	Health Record Tech	Patient Care Mgr II	Sctry to Head of Serv
Biochemist	Hearing Aid Dispenser	Patient Rel. Officer	Sctry to Medical Staff
Biomedical Engineer	Helper Power Plant	Patient Rep.	Secretary to V.P.
Biomedical Ethicist	Host/Hostess	Payroll Clerk	Section Leader
Biostatistician	Hostel Receptionist	Payroll Officer	Security Officer
Biostatistician 2	House Manager (G. Estates)	Perfusionist	Sr. Accounting Clerk
Buyer	Human Resource Asst	Personnel Rep.	Sr. Accounts Payable Clerk
Capital Equipment Clerk	I.V. Technician	Pharmacist 1	Senior Admin. Clerk
Carpenter	Ice - Fee for Service	Pharmacist 2	Sr. Admitting Clerk
Catering Office Asst	Infection Control Nurse	Pharmacist 3	Senior Audiologist
Charge Nurse	Informatic Officer	Photographer	Senior Billing Clerk
Chart Abstractor	Information Centre Specialist	Physio Training Instruct.	Senior Biostatistician
Chief Artist	Information Co-ordinator	Physiotherapist	Senior Clerk Cashier
Chief of Service	Ins./Fixed Assets Analyst	Physiotherapist 1	Sr. Neurophysiologist
Chief Operating Engineer	Installer (Life Style)	Plaster Assistant	Sr. Nursing Orderly
Chief Perfusionist	Instructor	Plaster Room Tech	Sr. Pharmacy Tech
Claims Analyst	Insurance Clerk	Plumber	Sr. Programmer/Analyst
Cleaner	Inter. Research Asst 1	Pool Attendant	Sr. Research Asst 1
Cleaner Lead Hand	Inter. Research Asst 2	Porter Escort	Sr. Research Co-ordinator
Clerk Cashier	Inter. Research Tech	Print Machine Oper. Lead Hand	Sr. Research Tech
Clerk Messenger	Inter. Research Technol	Print Machine Oper. Lead Hand	Sr. Research Technol
Clerk Receptionist	Interior Designer	Prof. Practice Leader/CNS	Senior Scientist
Clerk Typist	Intermediate Accountant	Prof. Practice Leader/Educ	Sr. Speech Pathologist
Clinical Admin	Intermediate Clerk	Program Assistant	Sr. Systems Analyst
Clinical Data Co-ordinat	Intermediate Programmer	Program Director	Senior Teacher
Clinical Dietitian	Inter. Scientist	Program Planner	Senior Technician
Clinical Engineer	Inter./Resident	Program Specialist	Senior Technologist
Clinical Expert	Interviewer	Programmer Analyst	Sr. Telephone Clerk
Clinical Nurse Specialist	Jr. Research Asst 1	Programmer Analyst I	Sr. Urology Tech
Clinical Researcher	Jr. Research Asst 2	Programmer Analyst II	Sr. Vascular Technol
Clinical Researcher (ICES)	Jr. Research Technol	Project Accountant	Server
Co-op student	Jr. Sous Chef	Project Lead Nurse	Service Assistant
Co-ordinator	Junior Bookkeeper	Project Lead Nurse	Social Worker 1
Communications Officer	Junior Buyer	Project Manager	Social Worker 2
Computer Operator	Junior Clerk	Project Manager	Social Worker 3
Conference Asst 1	Junior Clerk Typist	Project Manager	Sous Chef
Conference Asst 2	Junior Programmer	Project Manager	Special Events Co-ordinator
Consultant	Junior Scientist	Project Manager	Special Project Researcher
Controller	Kitchen Helper	Project Manager	Specialist
Cook 1	Laboratory Assistant	Project Manager	Speech Pathologist
Cook 2	Laboratory Helper	Project Manager	Spinal Cord Program Nurse
Cook Lead Hand	LAN Administrator	Project Manager	Sr. Prosthetic Tech
Cook's Assistant	Laundry Helper 1	Project Manager	Senior Prosthettist/
Cranche Aide		Project Manager	Orthottist
Data Analyst		Project Manager	Sr. Med Photographer



Health Organizations in SE Toronto

- Health Care Services and Organizations 450
- Health Related Services and Organizations 2560
- **Total 3010**



The New Physics

- What we see and how we explain
 - There are lots non-forecastable phenomena
 - Long term stockmarket, weather, the next throw of the dice
- Heisenberg's Uncertainty Principle
- Complexity Theory
 - Attack/Escape uncertainty
 - Butterflies and Hurricanes
- Instability and Stability go together



Frameworks

Frameworks for understanding things like organizations or systems do not merely describe them. They invariably indicate what a “well-functioning” organization or system is like. And so they place a value on certain structures and behaviours.

As our theories change, so do our views of what is good. The “well-functioning” organization or system of 1935 would be seen as dysfunctional today.

Sholom Glouberman



Complex Organizations

Pace	Unstable & Unpredictable
Structure	Self organizing
Strategy from	Project team
Action	Customization
Work Type	Mutual adjustment
Worker	Adaptable professional
Values	Learning
Survivability	Adaptability
Motif	Order from Messes
Planning Style	Relationship building



Complex Health Care Systems

Organizational Type	Interactive network
Accountability	Down, across & up
Elements of System	Health and related
Organizational method	Self-organization
Main Hospital Type	Networked
Who Knows	Collaborative groups
What they know	Horizontal & vertical
Knowledge Distribution	Electronic Networks
Planning	Appreciative Inquiry
Boundaries	Good cross boundary



Three Stages of Organizations

	Simple	Complicated	Complex
Pace	Measured	Faster	Unstable & Unpredictable
Structure	Command Control	Functional Chimneys	Self organizing
Strategy from	The Top	Executive board	Project team
Action	Boss decides	Standards	Customization
Work Type	Supervised	Division of Labor	Mutual adjustment
Worker	Machine Extension	Skilled	Adaptable professional
Values	Smooth running	Exact knowledge	Learning
Survivability	Stability	Cost efficiency	Adaptability
Motif	Tradition	Change	Order from Messes
Planning Style	Just do it	Strategic planning	Relationship building



Three Stages of Health Care Systems

	Simple	Complicated	Complex
Organizational Type	Hierarchy	Functional hierarchy	Interactive network
Accountability	Upwards	To silo and upward	Down, across & up
Elements of System	Hospitals, Practices	Multiple health	Health and related
Organizational method	Levels of Care	Silo	Self-organization
Main Hospital Type	General	Specialist	Networked
Who Knows	Doctors	Experts	Collaborative groups
What they know	General medical	Niche Knowledge	Horizontal & vertical
Knowledge Distribution	Clinical Experience	Scientific Journals	Electronic Networks
Planning	Green Field	Problem Focus	Appreciative
Boundaries	High external	High in and out	Good cross boundary



Simple

Complicated

Complex

Following a Recipe

- The recipe is essential
- Recipes are tested to assure replicability of later efforts
- No particular expertise; knowing how to cook increases success
- Recipes produce standard products
- Certainty of same results every time
- Optimism re results

A Rocket to the Moon

- Formulae are critical and necessary
- Sending one rocket increases assurance that next will be ok
- High level of expertise in many specialized fields + coordination
- Rockets similar in critical ways
- High degree of certainty of outcome
- Optimism re results

Raising a Child

- Formulae have only a limited application
- Raising one child gives no assurance of success with the next
- Expertise can help but is not sufficient
- Every child is unique
- Uncertainty of outcome remains
- Optimism re results



In Health Care Nothing is Simple

- In health care we might distinguish between “complicated” and “complex” problems
- Although some aspects of health care systems are complicated others are best viewed as complex
- Dealing with complex problems as if they are merely complicated is like looking for your car keys in the lamplight
- The advantage of the distinction is that intractably complicated problems can be viewed more optimistically and unraveled when they are seen as complex

Complicated



Complex



Acute Conditions

Chronic Conditions

- Abrupt onset
- Often all causes can be identified and measured
- Diagnosis and prognosis are often accurate
- Specific therapy or treatment is often available
- Technological intervention is usually effective: cure is likely with return to normal health
- Profession is knowledgeable while laity is inexperienced

- Gradual onset over time
- Multivariate cause, changing over time
- Diagnosis is uncertain and prognosis obscure
- Indecisive technologies & therapies with adversities
- No cure, pervasive uncertainty: management, coaching & self care over time is needed to improve health
- Profession & laity must be reciprocally knowledgeable to improve health



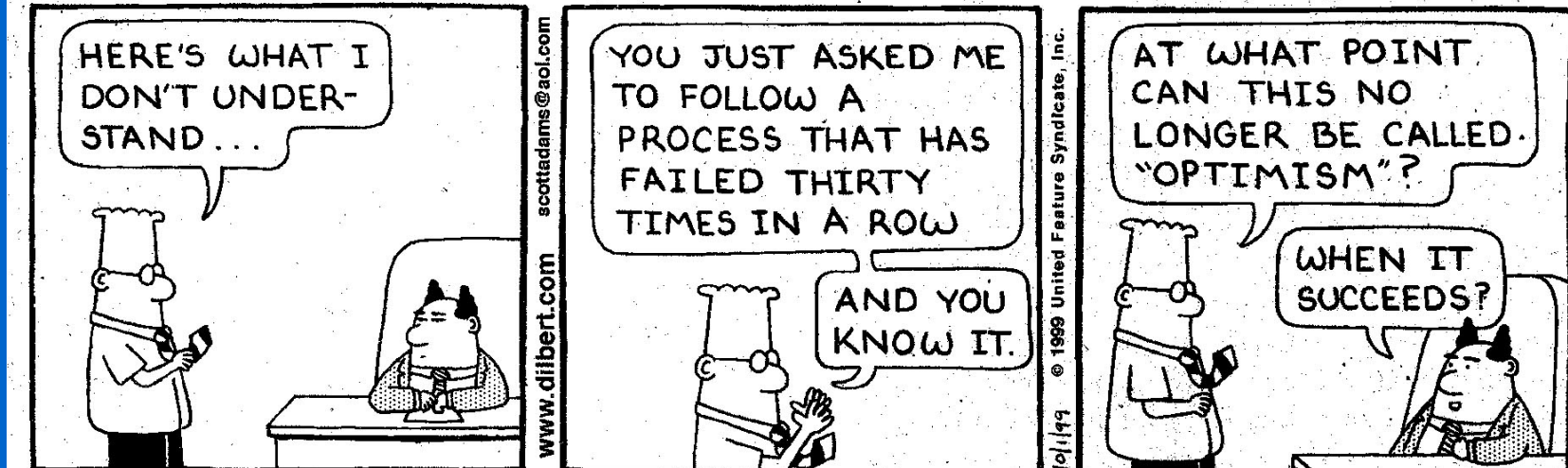
A Failure to Understand How to Intervene

- If there is a complicated structural solution then it should be universal but:
- Opposite “complicated” solutions to the same “complicated” problems appear internationally
 - 1990 While Canada regionalizes, UK which was regionalized creates independent organizations
 - 1992 While US vertically integrates insurance and provider organizations, UK separates purchasers and providers
 - 2000 While Canada considers increased privatization, US considers increased public funding
- All of this suggests a fundamental failure of understanding
- **Conclusion:** Maybe its time to consider a shift in perspectives on the problem



A failure to Understand How to Intervene

DILBERT by Scott Adams





A failure to Understand How to Intervene

- If it is not a complicated system then it is not a system at all
- If I can't predict the consequences of change then it is not a system
- If I can't completely control it then it is not a system at all
- If interventions fail then the false conclusion that there is no health care system



Evidence Cluster

Complicated Systems

- Reductionism/Analysis
- **Averages dominate**
 - ignore outliers
- Classical economics ignores historical evidence
- **Measures of efficiency fit and best practice**
- Search for structural constancy

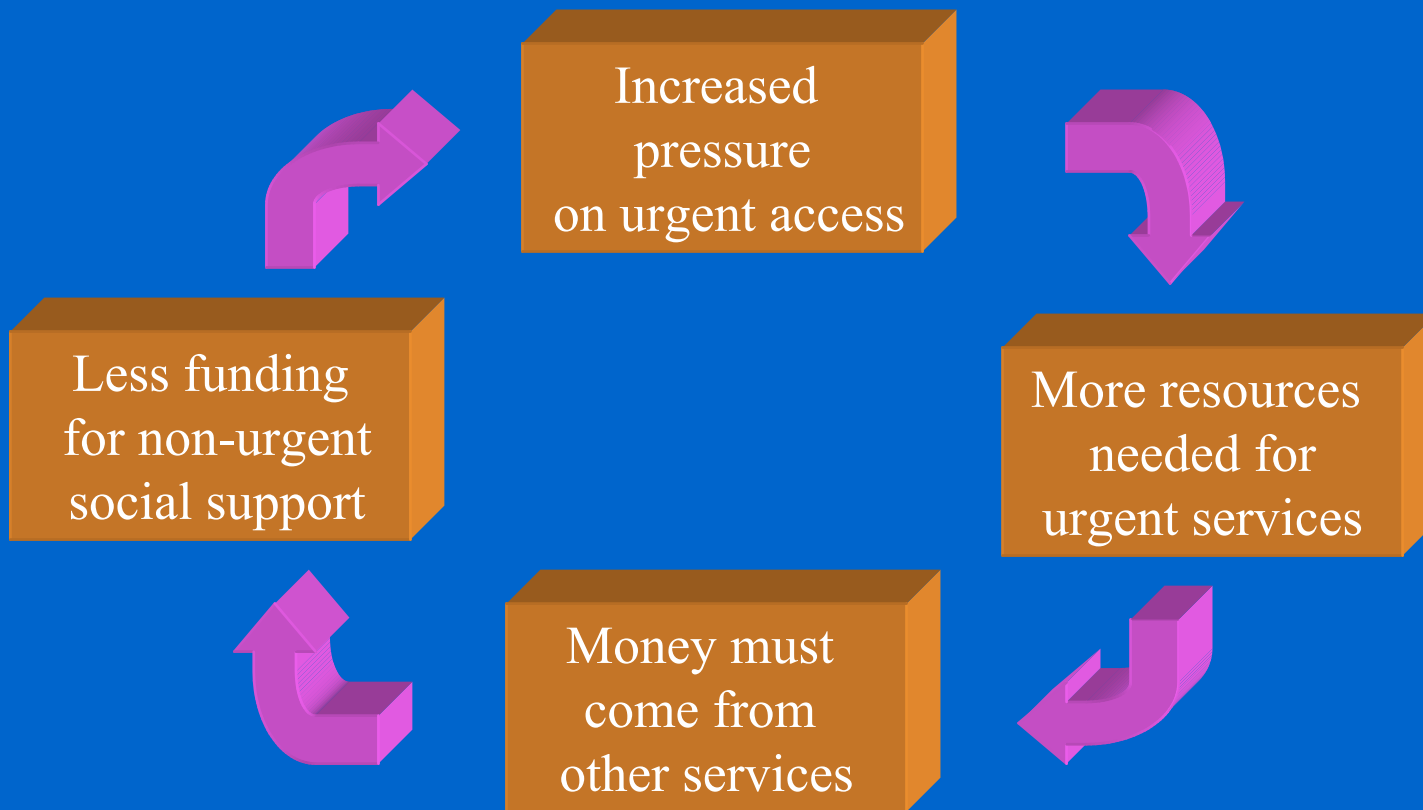
Complex Adaptive Systems

- Holism/synthesis
- **Outliers can be key determinants**
- History contains meaning of change
- **Feedback loops that affect relationships**
- Experience coevolves with the field

Example: Why Emergency Rooms are Overloaded



A Vicious Cycle in ERs





Planning Cluster

Complicated Systems

- Convergent thinking
- **Reductive characteristics**
- Optimizing
- **Environmental scan**
- Big issue needs big change

Complex Adaptive Systems

- Divergent thinking
- **Emergent characteristics**
- Satisficing (Simon)
- **Developing insights into own practice**
- Butterfly effect

Example: Health Service Restructuring Commission



Ontario HSRC Methodology

- **STEP 1: Determine Net Expenses**
- **STEP 2: Calculate Program & Related Transfers**
- **STEP 3: Calculate Clinical Efficiency Savings**
- **STEP 4: Determine Support Service Efficiencies**
- **STEP 5: Re-allocation of Other Expenses**
- **STEP 6: Calculate Site Closure Savings**
- **STEP 7: Determine Administrative Efficiencies**
- **Step 8: Add back Selected Expenses**
- **Step 9: Establish the Cost of the Reconfigured System**



Conclusion

- We are learning to recognize complexity
- We must not confuse complex systems with no system at all
- We are beginning to understand how to intervene in complex systems but no time for a case study here



Is there a health care system?

“If you think there is no health care system, just try to change it!”

Victor Rodwin, NYU



The Ontario Case

- There has been a steady decline in public confidence
- Five principles of CHA threatened
- Economic problems remain
- Tensions remain despite many interventions
- Everyone is more unhappy
- The system is destabilized



4 Sample Questions that Make the Problem Complicated

- How do we design a sustainable health care system?
- What structures and relationships must change to create a health care system?
- What can we afford and what must we eliminate?
- What is an appropriate public - private mix? How much should Ontarians pay for their health care?



Sample Responses to the Complicated Problem

- To make a sustainable system you must
 - Organize elements into a coherent system
 - Select services
 - Create appropriate funding streams
- Break down the dysfunctional structures and relationships - i.e. focus on what isn't working and fix it.
- Choose which services to keep and which to eliminate.
- Increase regulation or let market decide - choose one approach.



Other Questions are Possible

Complicated Problem

- How do we design a sustainable health care system?
- What structures and relationships must change to create a health care system?
- What can we afford and what must we eliminate?
- What is an appropriate public - private mix? How much should Ontarians pay for their health care?

Complex Problem

- How do we build on current structures and relationships to *stabilize* and enhance medicare?
- How can we provide care and treatment that makes everyone feel that the system will be there should their family need it?
- How can we help health care institutions and professionals enhance the *quality of services and innovation* in technology and drugs?
- How can a viable medicare system *contribute even more to the Ontario identity*?



Some Responses to the Complex Problem

- Stabilize and build on current structures and relationships
- Make the system available when needed
- Support efforts to improve care
- Restored medicare will reinforce Ontarians' identity



Stabilize & Build on Current Structures and Relationships

- Restabilize the system
 - Provide security of employment for nurses
 - Lengthen budget period for hospitals to 3 years AND reward for innovation
 - Stabilize support for health related organizations
 - Provide Drs with stable level of income
- Recognize the local informal relationships that support flow through the system
 - Local providers and users of the system can identify what makes the flow happen
 - Provide recognition and support for those who make the system work - look for the pockets of excellence and share information on this (report cards are one step in this)
- Do not change structures to disrupt those relationships
 - Consider economic cost of disrupted relationships in planning change

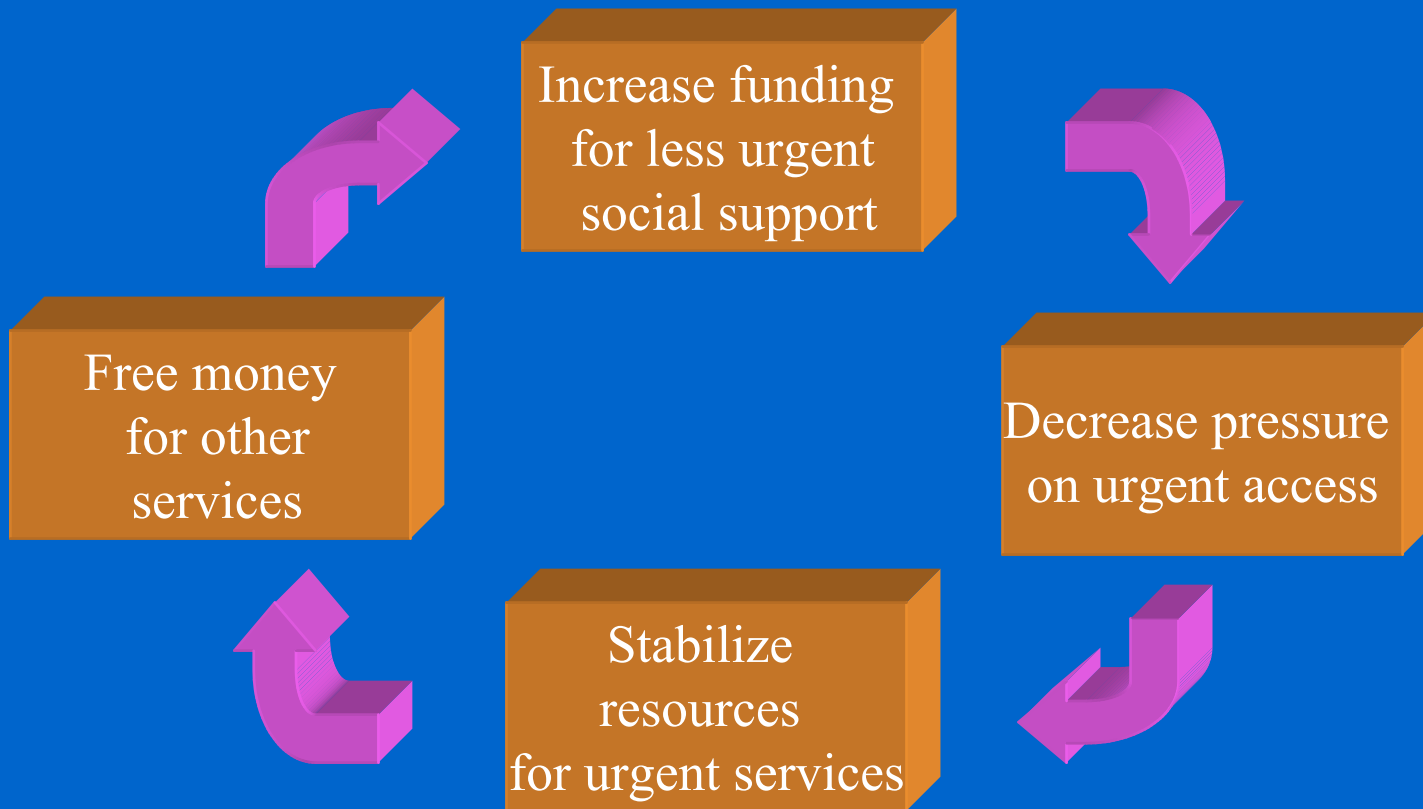


Make the System Available When Needed

- **Provide multiple access points**
 - increase the number of support points
 - e.g. telecounselling
 - increase information points to the system
 - e.g. Ontario telehealth
 - e.g. Province wide bed availability services
- **Make waiting times more transparent and safer**
 - e.g. Emergency room clock for non-urgent cases
 - e.g. Clearing house of posted waiting time for procedures
 - e.g. Explanation of safe waiting times for procedures
- **Provide support for patients and carers**
 - Increase support for self carers
 - e.g. tobacco cessation programs
 - Increase support for carers of others
 - e.g. training and support for elder carers



A Virtuous Cycle in ERs





Support Efforts to Improve Care

- Recognize and reinforce altruistic motives of providers
 - Increase respect for the differentiated knowledge they bring to patient care by means of recognition programs
- Give all groups greater freedom and responsibility to do what they do best for patients. (Confucius)
 - Use the natural learning/innovation resources and relationships that exist
- Give everyone increased capacity to monitor and introduce effective innovations to care.
- Allow for many small pilots of innovation
 - Don't wait for the "perfect" answer - evolving, emerging system within stability of values/principles



Restore Medicare to Reinforce Ontarians' Identity

- Success in answering the first three question will make Ontarians more confident that health care will be there should they need it.
- A healed system will contribute to health by reinforcing such determinants of health as social generosity, equity and security
- It will also provide improved care



Conclusion

- We have been trapped into a narrow way of thinking about health care systems. We treat them as if they are complicated when they are in fact complex
- There are many resources in the system that are undervalued or even untapped that do not appear in complicated views
- We are ingenious enough to rise to the challenge to mobilize and use those resources to cope with complex problems
- These are merely sample questions and answers. Similar ones can be applied to other contexts after understanding local conditions