I think that complexity will be the science for the 21st century - Stephen Hawking, 2000

Proposal: “Thinking complexity” for educating health professionals for the 21st century.

Abstract

• Complexity, considered the science for the 21st century, is a paradigm shift over 400 yrs
• Now used in medicine, health and education as better able to address complex
dynamic social/biologic/other interactions.
• Features include nonlinearity, emergence, uncertainty, network effects, etc. (see table).
• A 30 year experience learning, using and teaching health professionals complexity is
described from 1990 to 2020.

Introduction

• 2010 Lancet Report on Educating Health Professionals for the 21st Century lists
1) science 2) PBL (McMaster) 3) systems
approach (complexity), as the three major
20th century reforms in medical education.
• Chaos and complexity, the science for the 21st century, and of systems and complex
systems should be taught and used for the
complex in medicine, health and society.
• This extends now to the complex dynamics of COVID-19, health, medical, social, etc

Methods

• Review of literature and the authors’
30 year experience teaching complexity.

Results

Cambridge U UK, 2014/15 ASME Brighton UK, OMA Toronto,
• Books: on chaos/complexity in medicine/health/society
• Commentaries, Can J Cardiol, Letters to the Ed and Blogs eg.
Lancet, BMJ, Royal College ICENET, femmefractal.com
• Nursing UT symposia, Chaos as Science of Nursing, etc.
• McMaster as complexity method of education, beyond PBL
• Proposing Complexity Based Medicine to update EBM with
21st century science, and book Chaos Based Medicine.
• Using chaos and complexity in health and medical practice
• Using/teaching chaos and complexity for community health
promotion and to reduce disparities, etc.
• Proposing complexity as the Science for Health/Creating a
Pandemic of Health, Dalla Lana SPH Global Summit 2014
• Brief Report 2010 – “Thinking Complexity” for
Educatings Health Professionals for the 21st Century.
• Letters to Ed BMJ, CMAJ 2020 and advocacy for/on
Chaos Complexity and COVID-19 complex dynamics

References

Search Rambihar complexity health or Rambihar
ICENET medical education, or Tsunami Chaos Global
Heart for free complexity book or at femmefractal.com

Summary

30 Years of Teaching Complexity
Advocacy: complexity as a science of medicine
and health, complexity based medicine/practice
Lectures, books, conferences, networking, health
promotion, community and global change
Use as art/science/practice of medicine/health
Use for diversity and health/disparities in health
Thinking complexity for 21st century global issues

Conclusions

• The Lancet Report on Educating Health Professionals for the 21st Century
proposes systems (includes complexity)
as an innovation for medical and health
education for the 21st century.
• A 30 year experience using and teaching health professionals
complexity is described, and “Thinking Complexity” is proposed for
educating health professionals for the 21st century.
• This extends to the social, biological and
other complex dynamics of COVID-19
and help prevent/contain/manage.