

<b>COMPLEX SYSTEM / HUMAN BODY</b>	<b>HEALTH CARE</b>	<b>SOLUTIONS</b>
1. Numerous & variable <u>components</u> which generate system's <u>emergence</u> /value; all <u>components participate</u>	Not all are included; value is inconsistent; unfocused responsibility [22-24]	All must be included; greater value to be created; responsibility for health-from individual to society
2. <u>Relationships</u> optimize system with <u>feedback loops</u> <u>Organized complexity</u> characterizes function	Relationships are not pro-system Disorganized complexity [23-25]	Integrate all relationships Reestablish organized complexity
3. <u>Communication is reciprocal</u> and resembles a <u>self-learning</u> neuro-net	Communication is non-uniform; choices are not based on existing knowledge [23,26-30]	Interoperability of communication; life-long education
4. System seeks <u>homeostasis/steady state</u>	Choices override system needs	Set energy balance via diet/exercise/stress management; track fitness/performance status;* increase epigenetic research
5. Balance of function/dysfunction leads to <u>cost/energy stability</u>	Health/disease imbalance increases cost/energy loss [23,26-30]	Combine life and health insurance
6. Horizontal and vertical <u>hierarchies</u> are reciprocal	Vertical hierarchy controls [24,31]	Reestablish reciprocity; create system-optimizing policies/tort/ research support
7. <u>Boundary is semipermeable</u> ; in synch with external environment	Boundary is defective; poor adaptation to environment	Reestablish semipermeability; flexible adaptation**
8. All- <u>systems relatedness</u> exists	Many systems don't relate [26]	Connect all systems
9. Systems change with <u>cycles</u>	Diffuse asynchrony [32]	Synchronize system with other systems/cycles (ecologic, climate)
10. Systems' cycles are intelligently <u>reset</u>	Resetting through crises [6]	Introduce rational resetting
11. Systems are of <u>proportionate size</u> to maintain viability of feedback loops, semipermeability of boundary, and actionable resetting	Disproportionality exists [30]	Allow re-sizing of healthcare units/subsystems through self-organization
12. Systems show <u>balanced growth</u> as outcome of reciprocal hierarchies	Imbalanced growth [33]	Formulate mission/goals/ authority/functional space for each hierarchy

Additional file 1: Comparison of features between a Complex System, mirrored in the Human Body, and Health care with corrective Solutions. (\*endurance, speed, strength and flexibility) (\*\*impartial regulation seeking optimal functioning of the system)