

# University of CQI

## Part Two

### Women and Children's Services

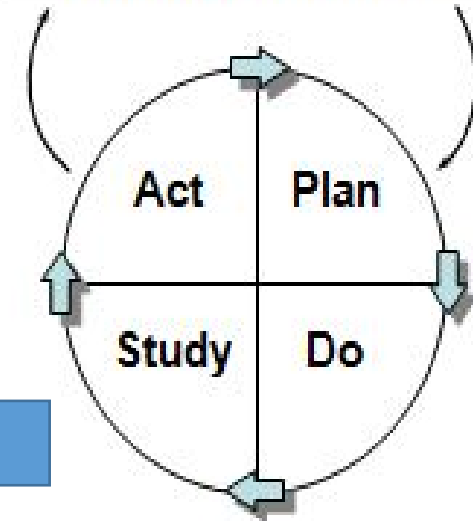
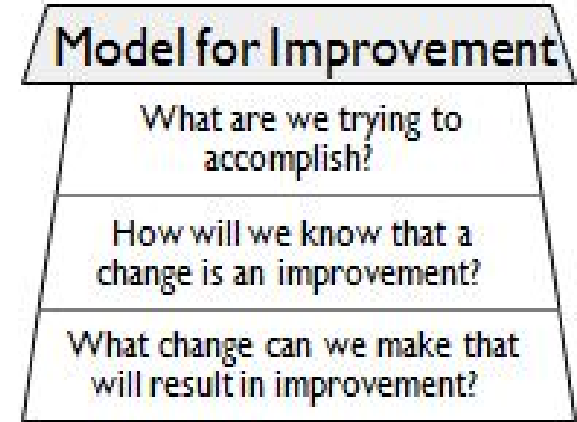
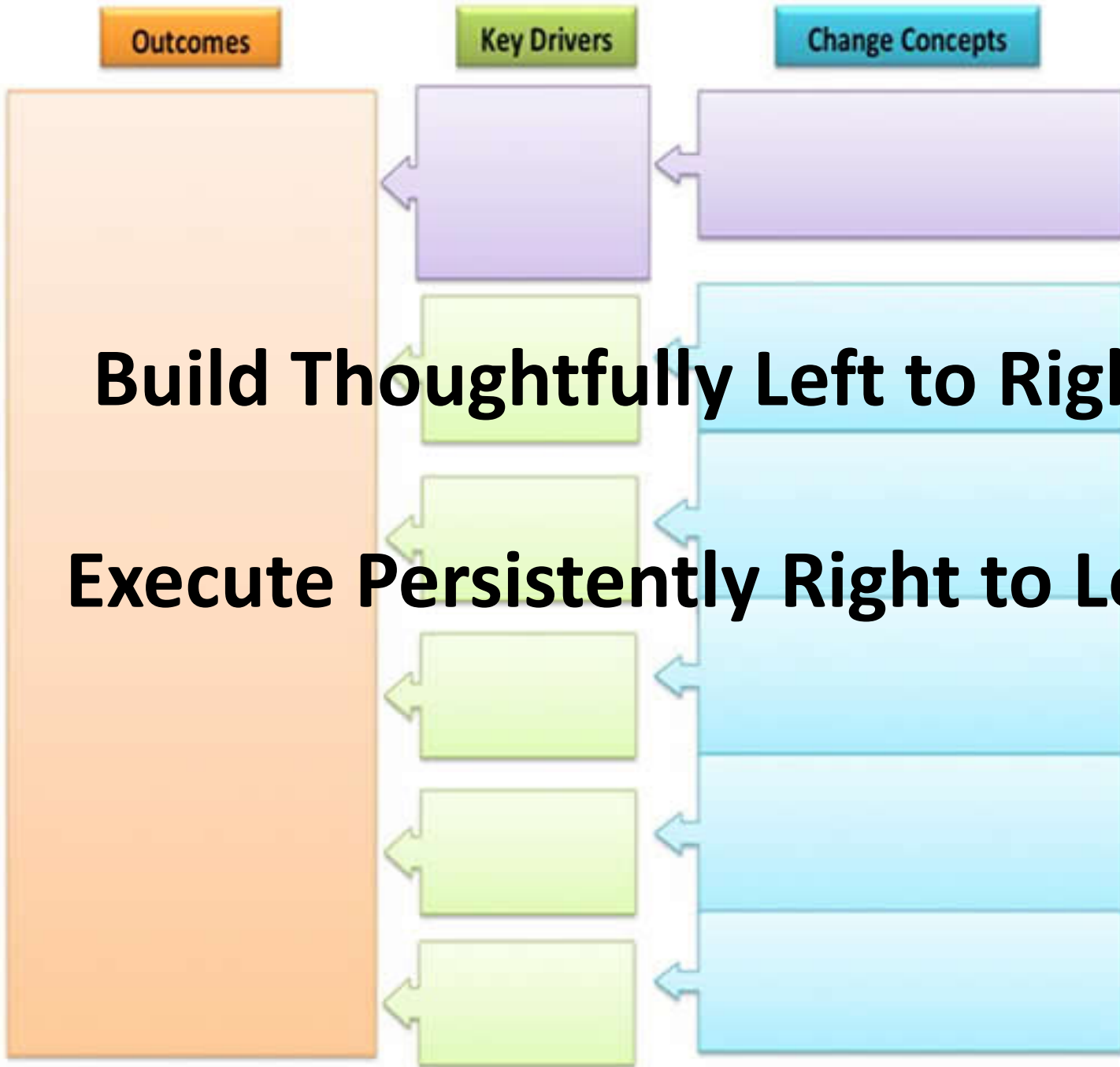
### Providence Health

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**Medical Director - Innovation Research Value**

**2021**

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**Aim Statement – Driver Diagram**

## CQI Practical Tips

- Pick one 3-6 month project – low-hanging fruit
- Pick one higher impact 12-18 month project  
– aligned with larger “strategic goals”
- Input from everyone – all disciplines
- Meet regularly – 20-30 minutes every week – concise, clear tasks
- Accountability?,.....Who belongs?

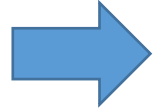
## CQI Practical Tips

- Visibility – Aim/Driver Diagram posters that are color-coded,....bulletin boards,....email summaries,....minutes of meetings,....huddles and debriefings,.....
- Recruit measurers to report at weekly concise meetings – the catalytic enzyme
- Evidence based guidelines to test what works,....promoting safety, value, satisfaction via reason, compassion, and standardization.





Reality



Our Mind



Our Life



We can garnish reality all we wish....

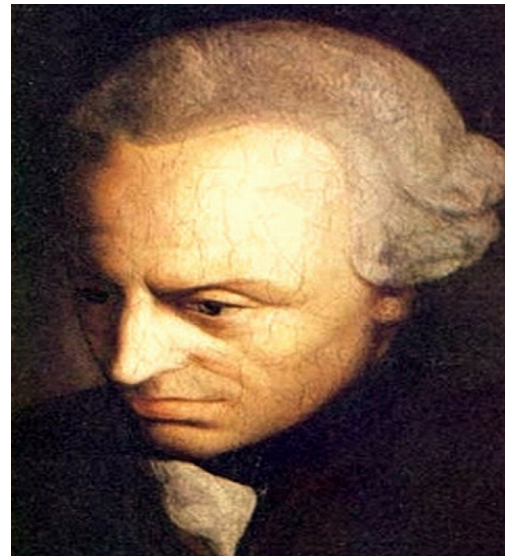


It's still batter.

Immanuel Kant's  
singular contribution.

Our minds reformat  
reality.

It's inescapable.  
Be vigilant of this.



**What are you proposing to change?**



**Why are you proposing the change?**



**How will this change be accomplished?**

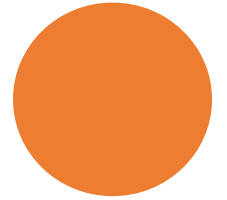


**What adjustment/disruption will this mean for us all?**

**Just be clear, inclusive, and discuss with your team.**

# Evidence Based Medicine

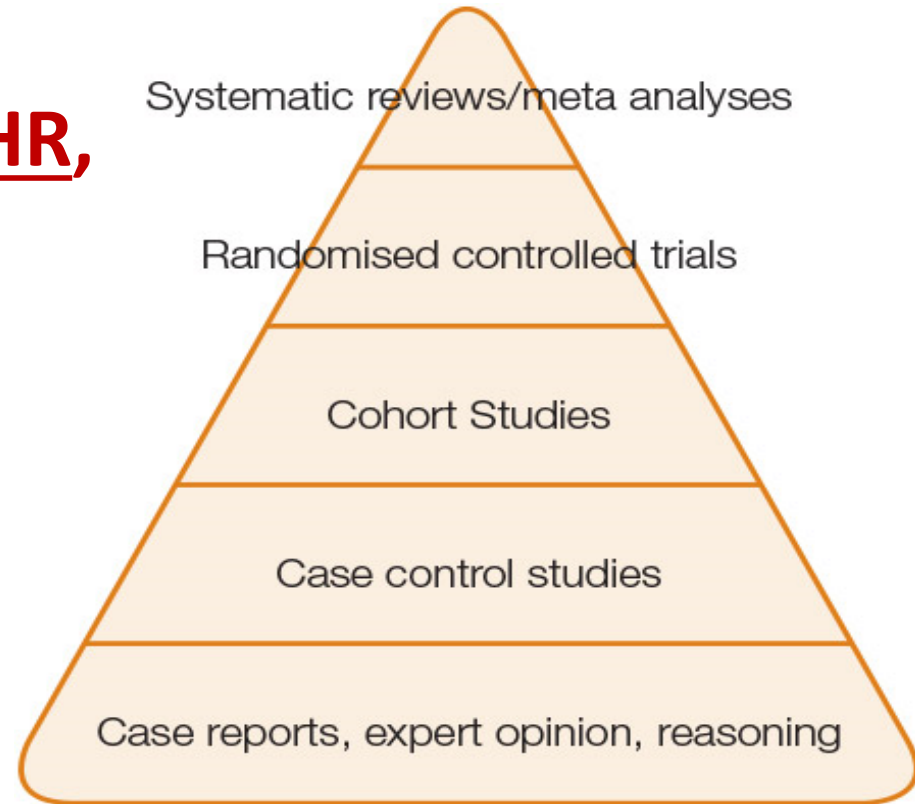
1. The conscientious use of current best available evidence to make decisions.
2. Integrate individual clinical expertise with the best available evidence and track process and results.
3. Values and preferences of the patient are integrated into all decisions.
4. Adherence to clinical practice guidelines minimizes provider "*individual expertise*" morphing into easy opt-outs, thus variation is reduced.
5. Enhance diagnostic and therapeutic skills using mentors and formal instruction.



**Archie Cochrane and David Sackett**

# What's missing from the EBM paradigm?

6. **Augmented intelligence imbedded in EHR, routinely collected data for RCTs, the *learning health system*.**
7. **Rigorous CQI-testing of potentially better practices, CPGs.**
8. **Harness social media to minimize misinformation, and enhance online tools and virtual visits for truth-telling and education.**



I bike by a McDonald's right across the street from a Jack-in-the-Box, have done so hundreds of times.

The drive-thru line at the Jack-in-the-Box is longer  
75% of the time.

*“Therefore, the food is better at  
Jack-in-the-Box.”*

**Right?**

# What does “better” mean? Taste or expense?

What time of day.....?

Access and traffic flow comparable....?

McDonald’s line ever longer....?

Menus similar....?

Something free at Jack-in-the-Box not at McDonald’s....?

Dine-in areas equally used....?

How fast do the drive-thru lines move....?

How large are the drive-thru orders....?

Other locales of McDonalds and Jack-in-the-Box to compare....?

Cars different in the drive-thru....?

Car occupants different in the drive-thru....?

Drive-thru length changed during COVID-19?

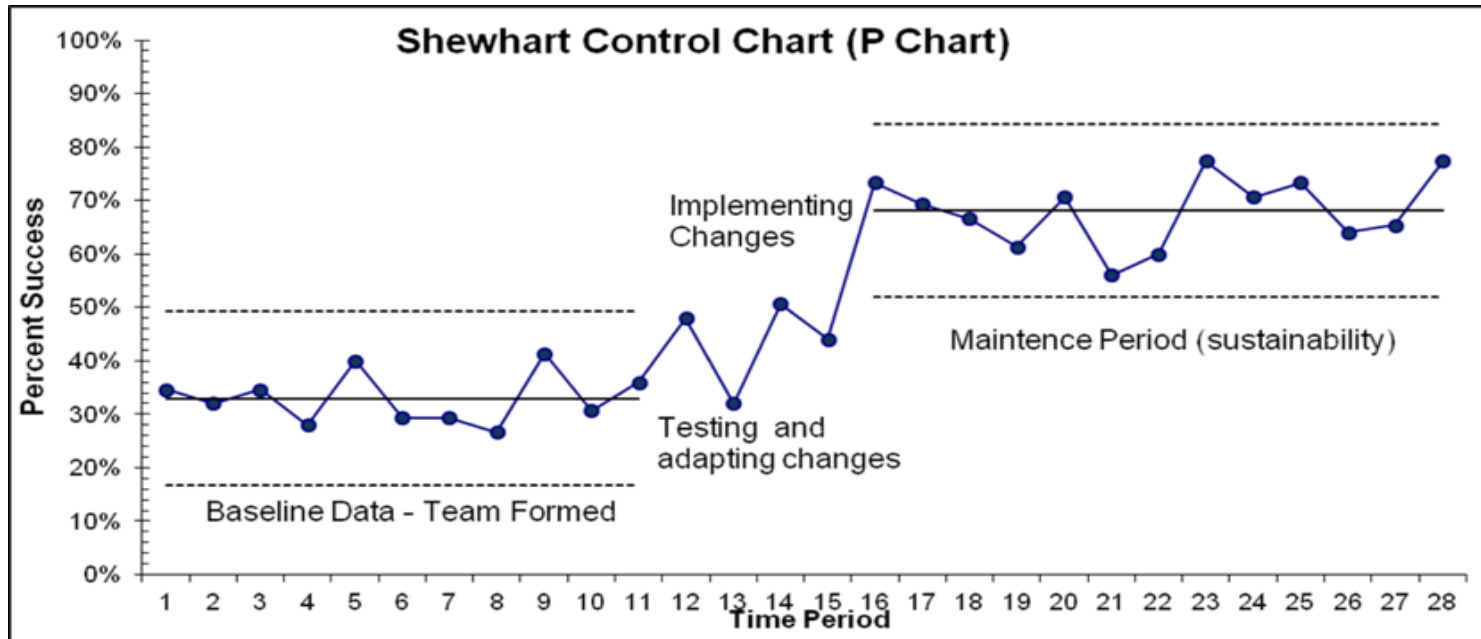
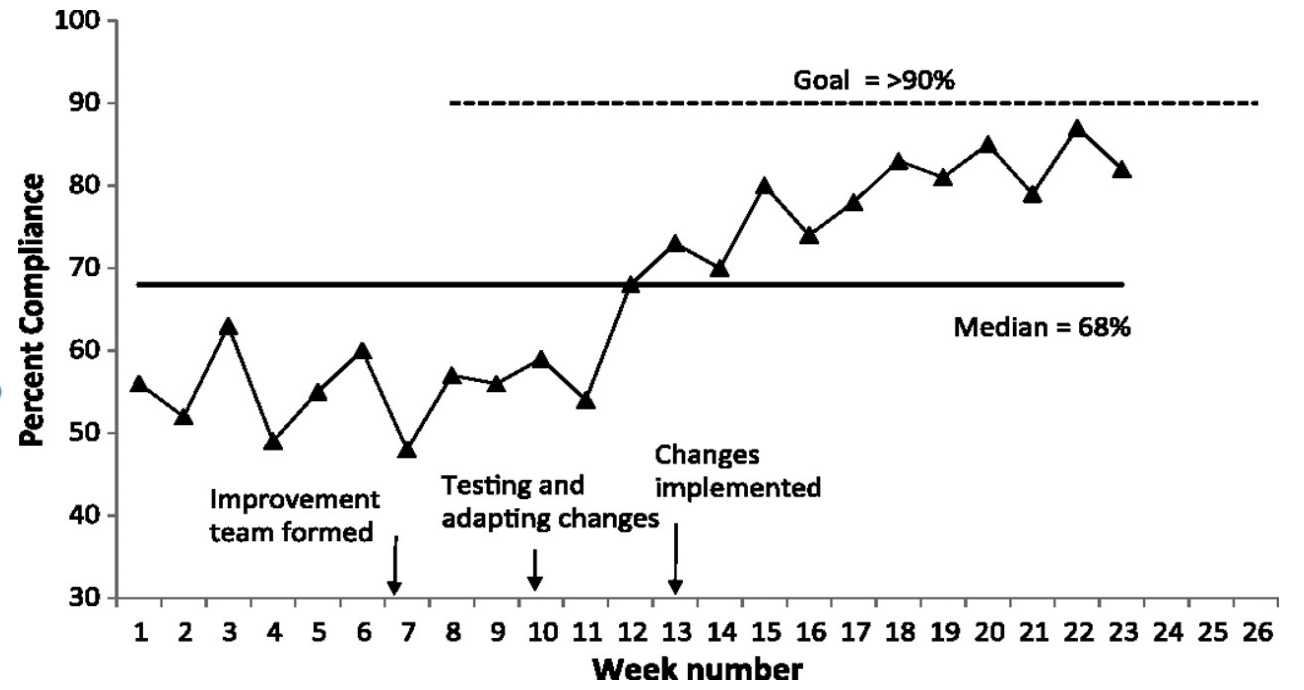
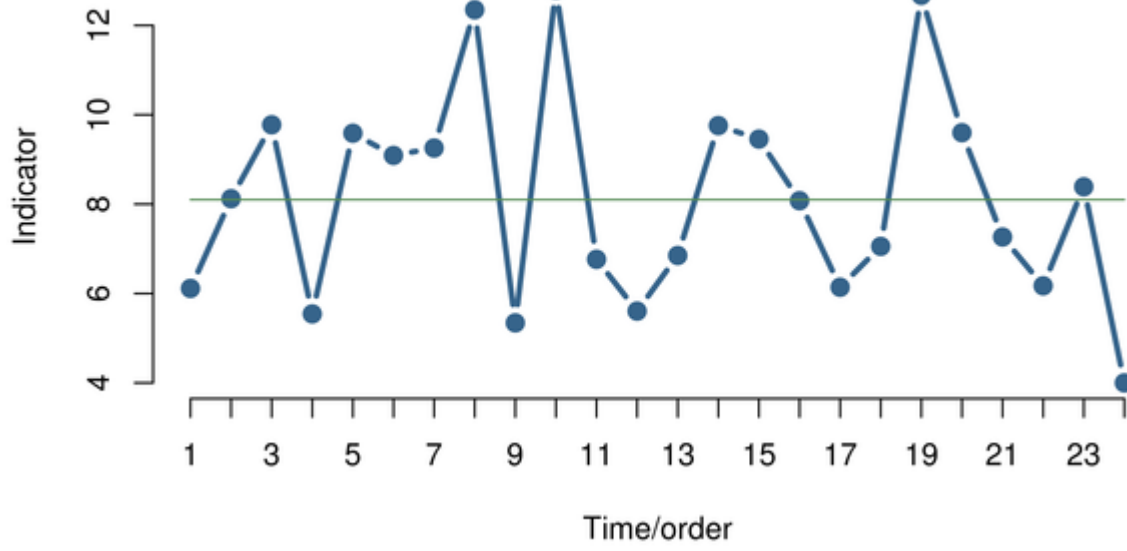


Only conclusion - There is something *different* about that Jack-in-the-Box compared to that McDonald's,...as defined by drive-thru line length.

It is likely true, *significant*, because the sample size is several hundred.

It might be *important*,...if you purchase fast-food.

*Cannot* conclude with any confidence that food is "*better*" at Jack-in-the-Box.



**Run Charts**



**Statistical Process Control Charts**







**ESPN – “Who taught you how to shoot,.....your NBA or college coach,.....your Dad Mychal?”**

**Klay – “My grade school coach Dr. Joe.”**

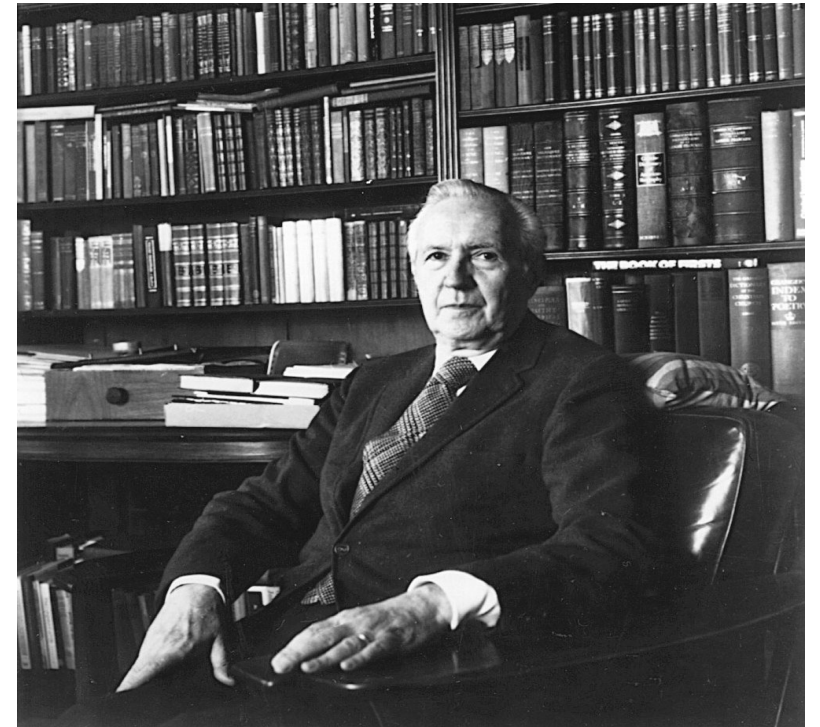
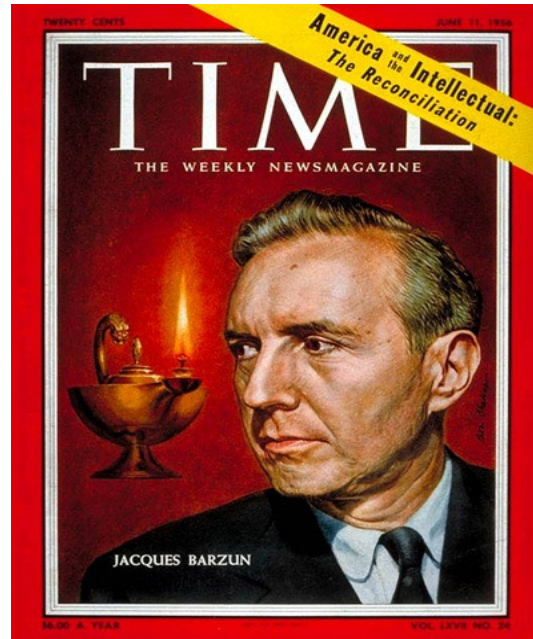
**Klay Thompson**

***“Purest shooter in the NBA”***



# *What is the principal lesson of history?*

**Jacques Barzun**  
**1908-2012**



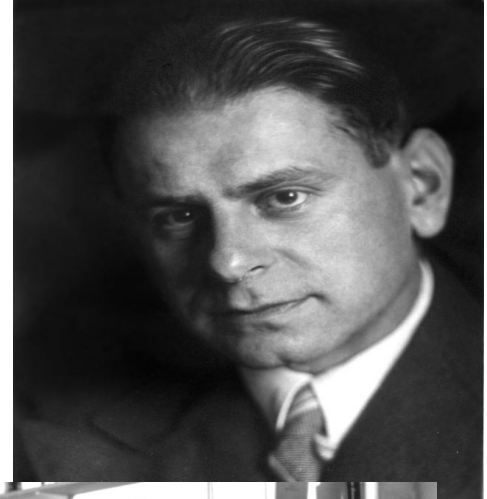
*In the battle for hearts and minds, pragmatism simply cannot compete with the ideals, the martyrs, above all the passion, of ideology and idealogues.*



**If any claim is not falsifiable,  
then it is not science.**

**Science sporadically provides truth, and  
rarely certainty. It's a method to  
help us determine what is false.**

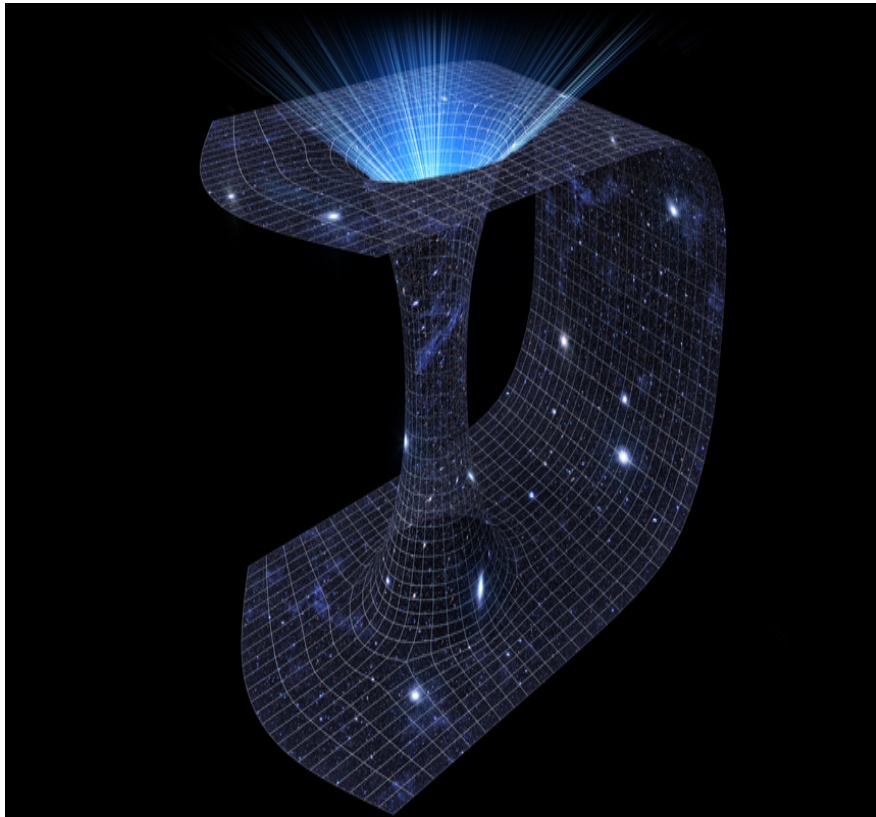
**The growth of knowledge  
depends entirely upon contention.  
Agreement isn't harmony, it's apathy,  
or worse, hierarchy.**



**Karl Popper, 1902-1994**

**Newtonian physics is 100% comprehensible,  
but only approximates truth.**

**Quantum physics is 100% true,  
but largely *incomprehensible*.**



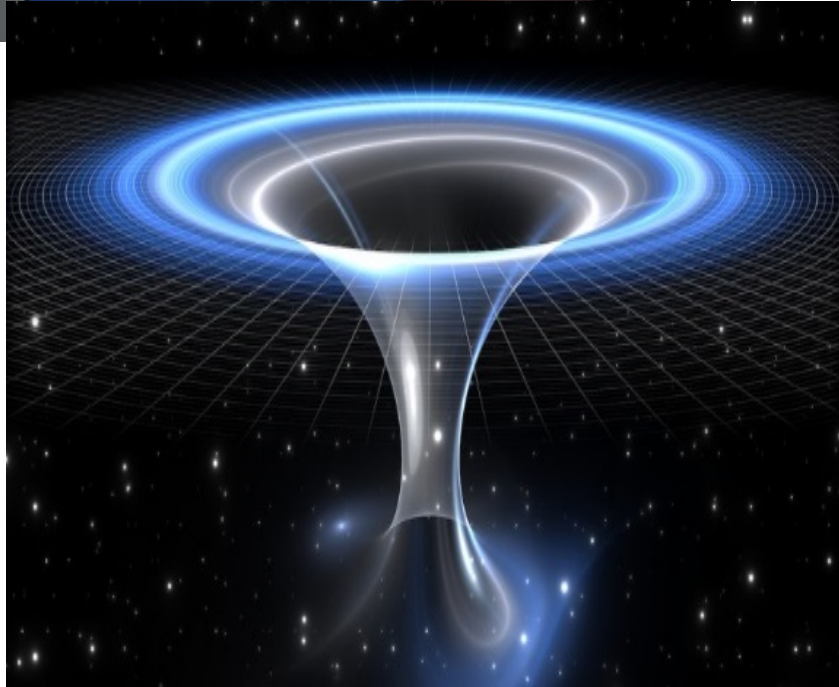
**Quality outcomes are true,  
but only approximate truth.**

**Quantum CQI,...we know some units outperform  
others.**

**We often don't know how or why.**

**Volatility Uncertainty Complexity Ambiguity**





**Think networks!**

**Not linear relationships, not pyramids.**

**Think interactions!**

**Not stability, not fixed entities.**

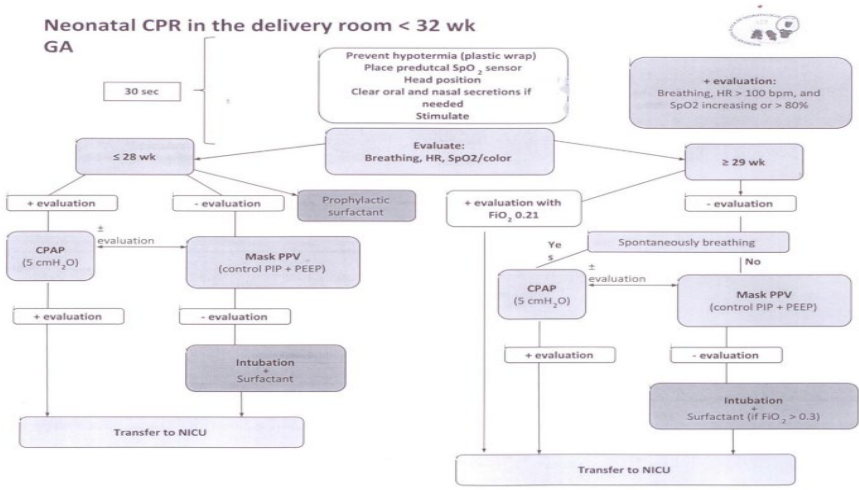
**Parts can only be understood via dynamics with the whole.**

## **Quantum CQI**

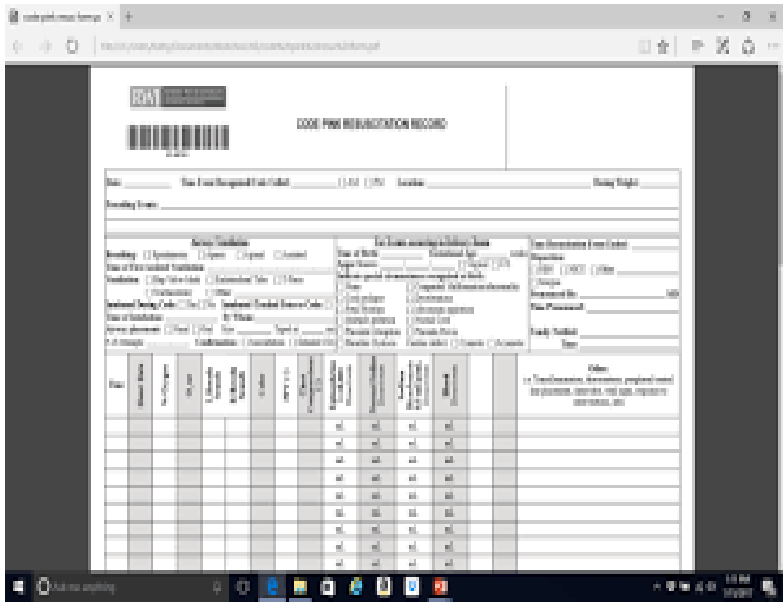
**It's futile trying to measure as if "things" are stable.**

**But we can measure interactions and flux.**

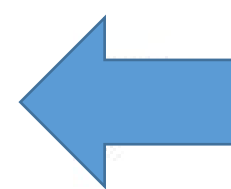
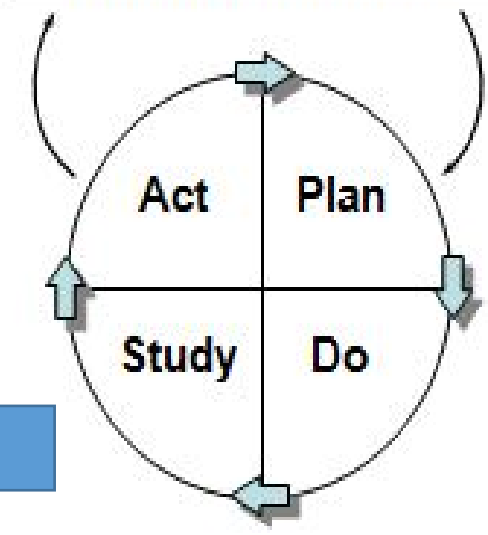
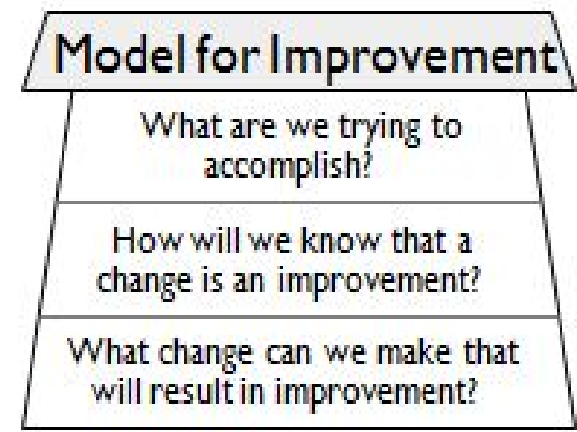
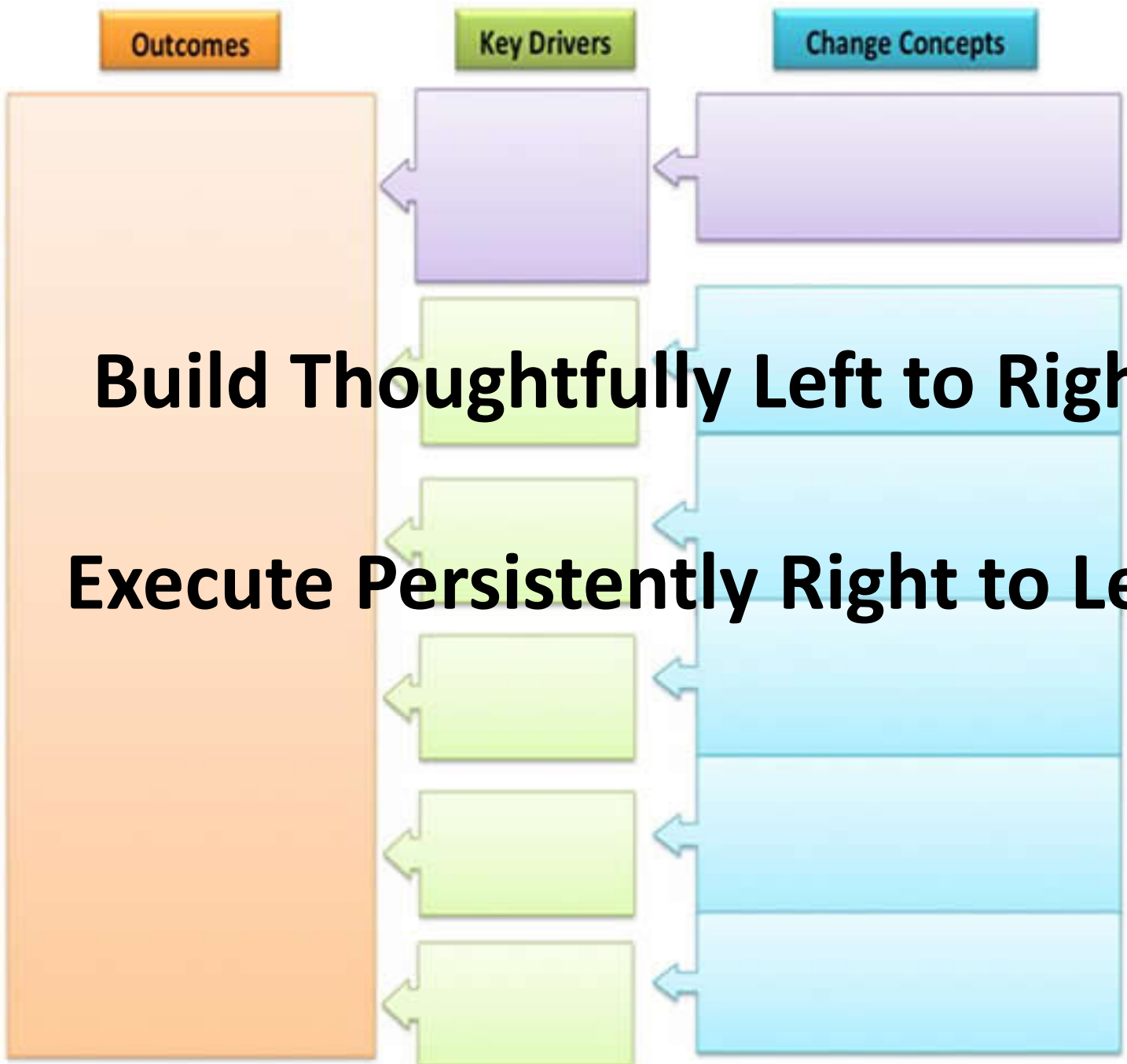
**Medical units are complex adaptive networks: heterogeneous, full of interactions, mostly unmeasured and undisclosed.**



**Actual Video and Audio**  
**Stable “thing” vs.**  
**a 3-Dimensional interaction**



**2-Dimensional “Measures” of  
 Newborn Resuscitation**



**Aim Statement – Driver Diagram**

# Randomized Controlled Trials

## The Gold Standard ???

Remember CQI weaknesses – chance, bias, confounders

RCTs minimize chance (large 'n'),...bias (pre-designed rigorous methods, measurements),...confounders (randomization)

## RCT weaknesses

Defined population sample is artificial

Non-representative subjects enrolled

Narrow question addressed

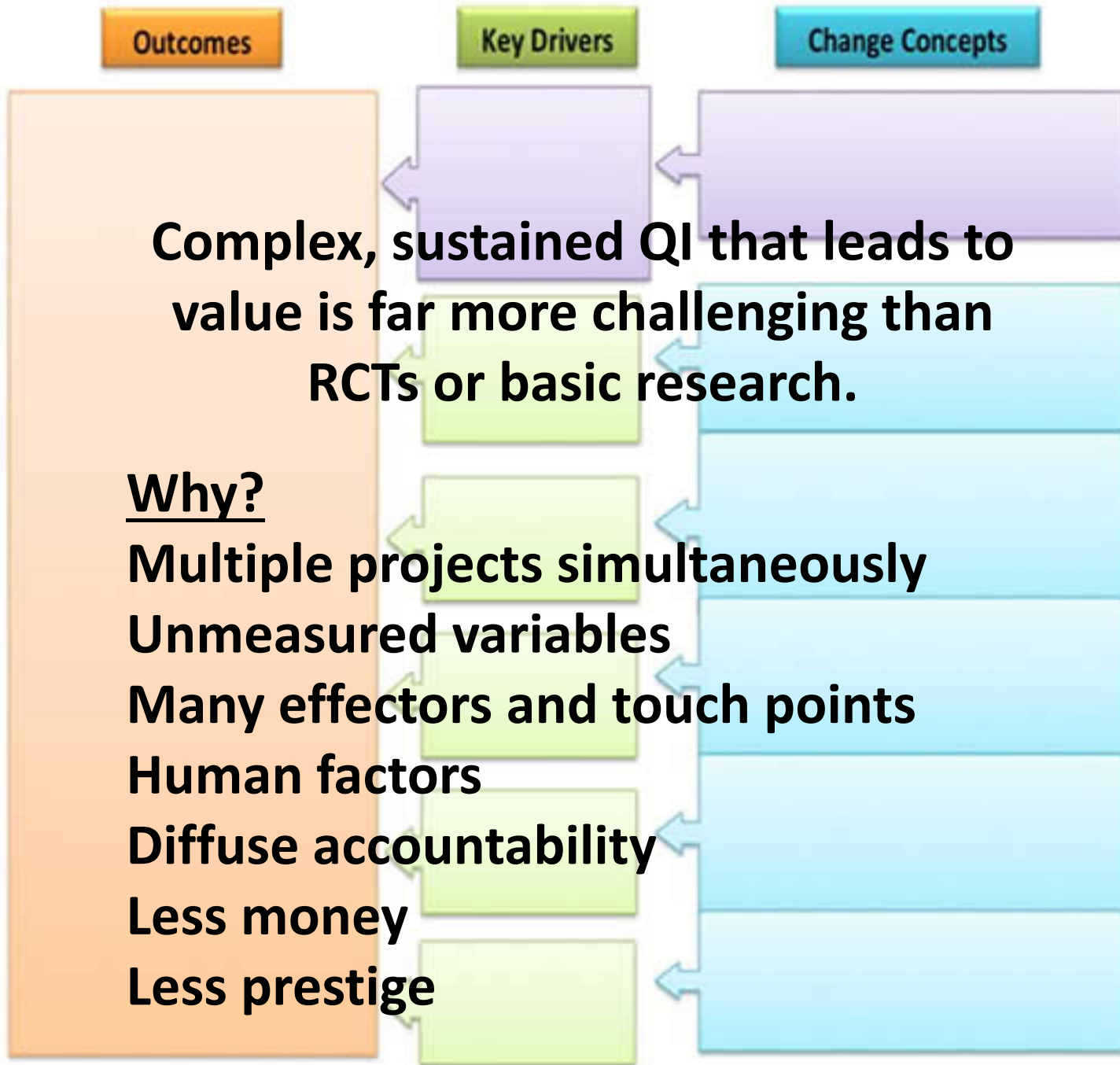
Variable consent rate and unexplained declines

Expensive

Time lags

Diffusion of findings difficult, prolonged, resisted





# Aim-Driver Diagram

## PDSA Cycles

**Common language.**

**Not a panacea.**

**Not a quick-fix.**

**Clarity.**

**Iterative.**

**Flexible.**

**What is “context”?**

**It’s everything other than  
your quality improvement  
intervention.**

# Context + Methods = Outcomes

Culture Matters – it's a big part of "Context"

Morale

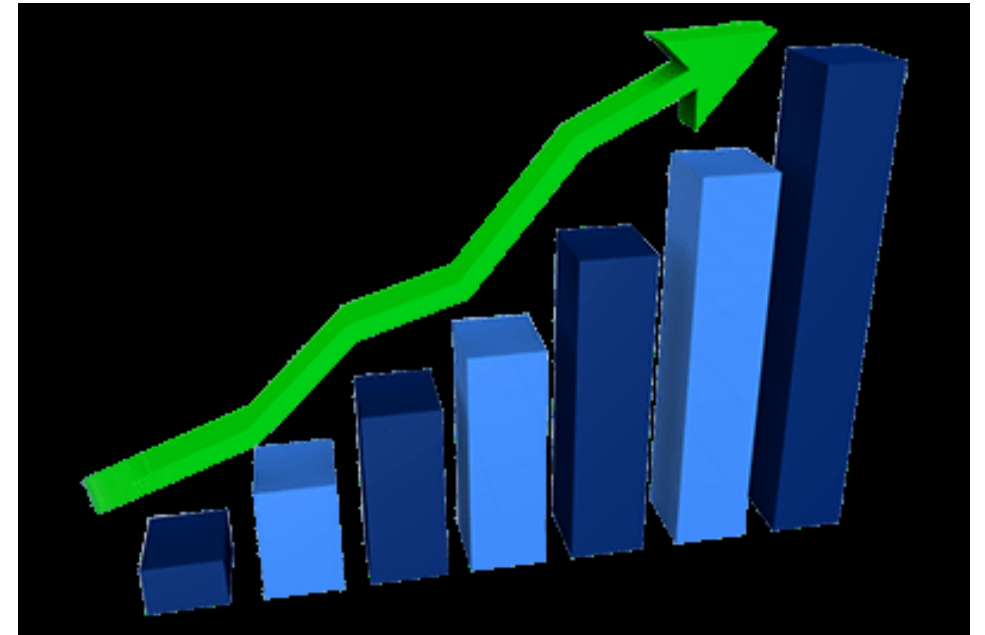
Team Work

Fun and Enthusiasm

Learning environment

Embrace change

Respect



**Healthy NICU culture = Less Morbidities**

Arch Dis Child FNN 2018

Kaempf, et al



**Clear**

**Concise**

**Meaningful**

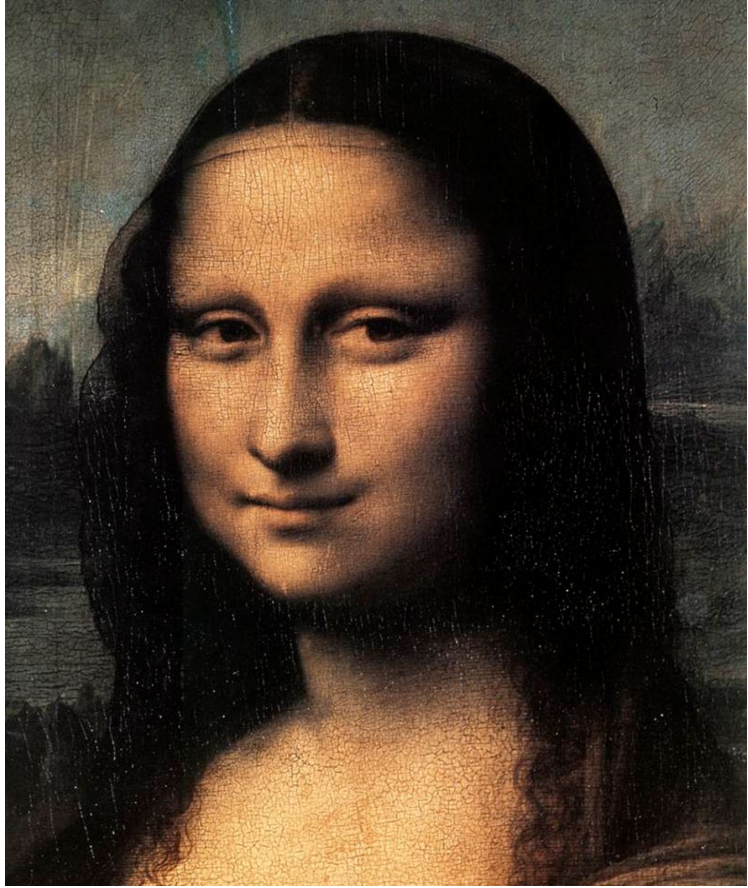
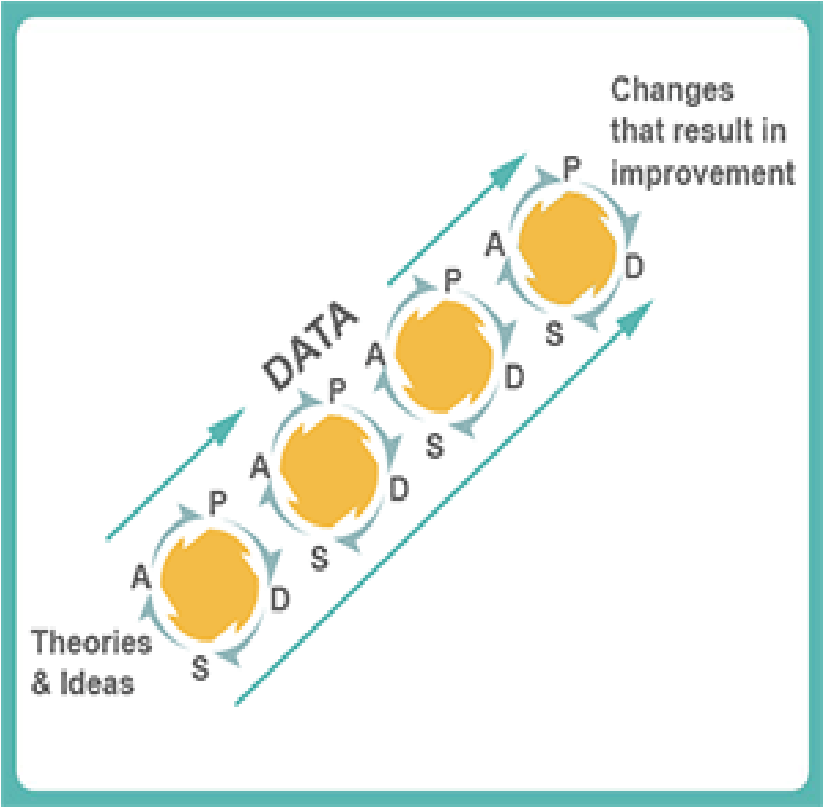
**Accurate**

**Persistent**

# Even geniuses improve....



***Ginerva de Benci 1474***



***Mona Lisa 1503***



**The most  
abundant  
element on  
Planet Earth  
is iron.**



The most common nutrient deficiency in humans is iron.



If there was no maternal iron, zinc, and iodine deficiency the world's IQ would be 8-10 points higher.

**Iron rich diet**

**MVI with Fe**

**Placental Transfusion**

**Lessens need for pregnancy intravenous iron infusion clinics.**

# Karma

Action driven by intention leads to consequence.

If this, then that.

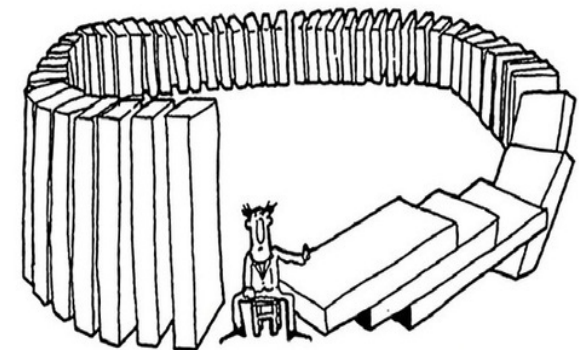
Not fate, not retribution, not reward,  
just a perfectly natural process.



“Man is his deeds.”  
Goethe



**KARMA**

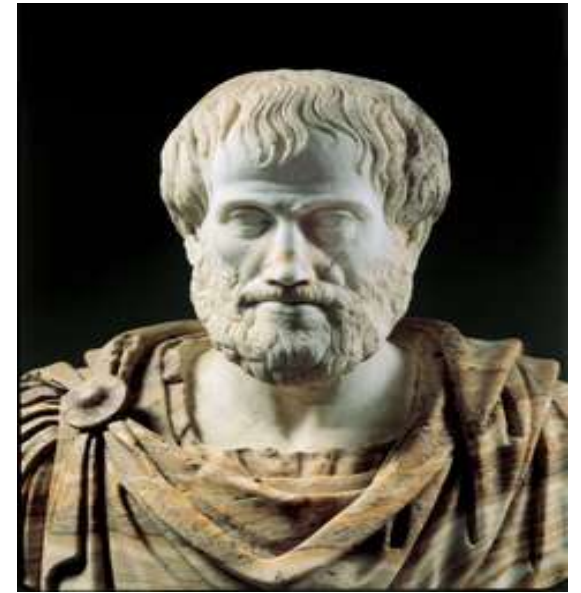




## Quality and Value Lessons from Classic Philosophers

**Telos** – inherent purpose or full potential of all things, the supreme end goal. For mankind – the perfect virtue of knowledge.

**Aristotle, 384-322 BCE**



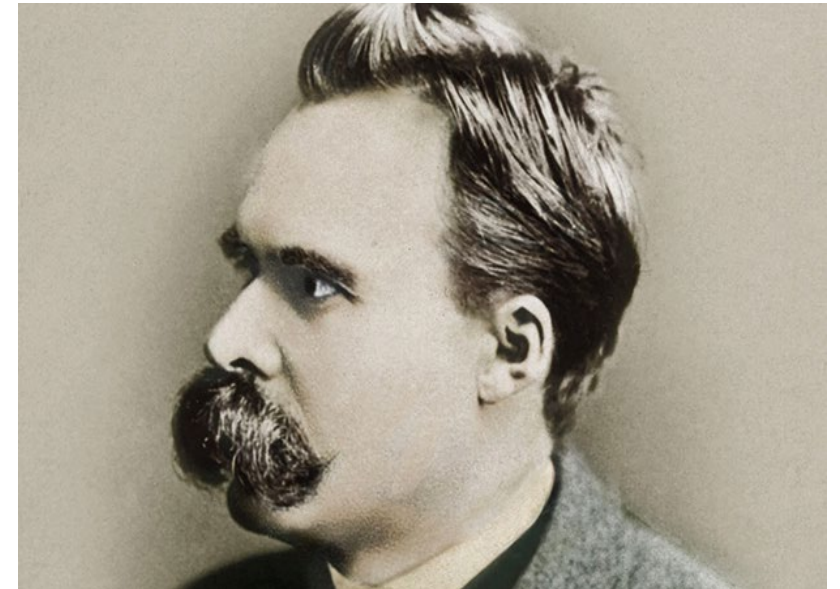
**Will to Power** – the essential driving force, the core energy in all living things. Two parts - “irrational”, and “rational”,..... unconscious and conscious.

**Will to Power** is not a force to procreate or pursue pleasure,....it is the dialectic of developing the self-control (reason and discipline) to harness our innate energy to self-create, transcend, achieve excellence. Suffering is intrinsic to this.

**Cause-and-effect** is a gross over-simplification of reality.

*In-und-Durcheinander* Into-and-Through-One-Another

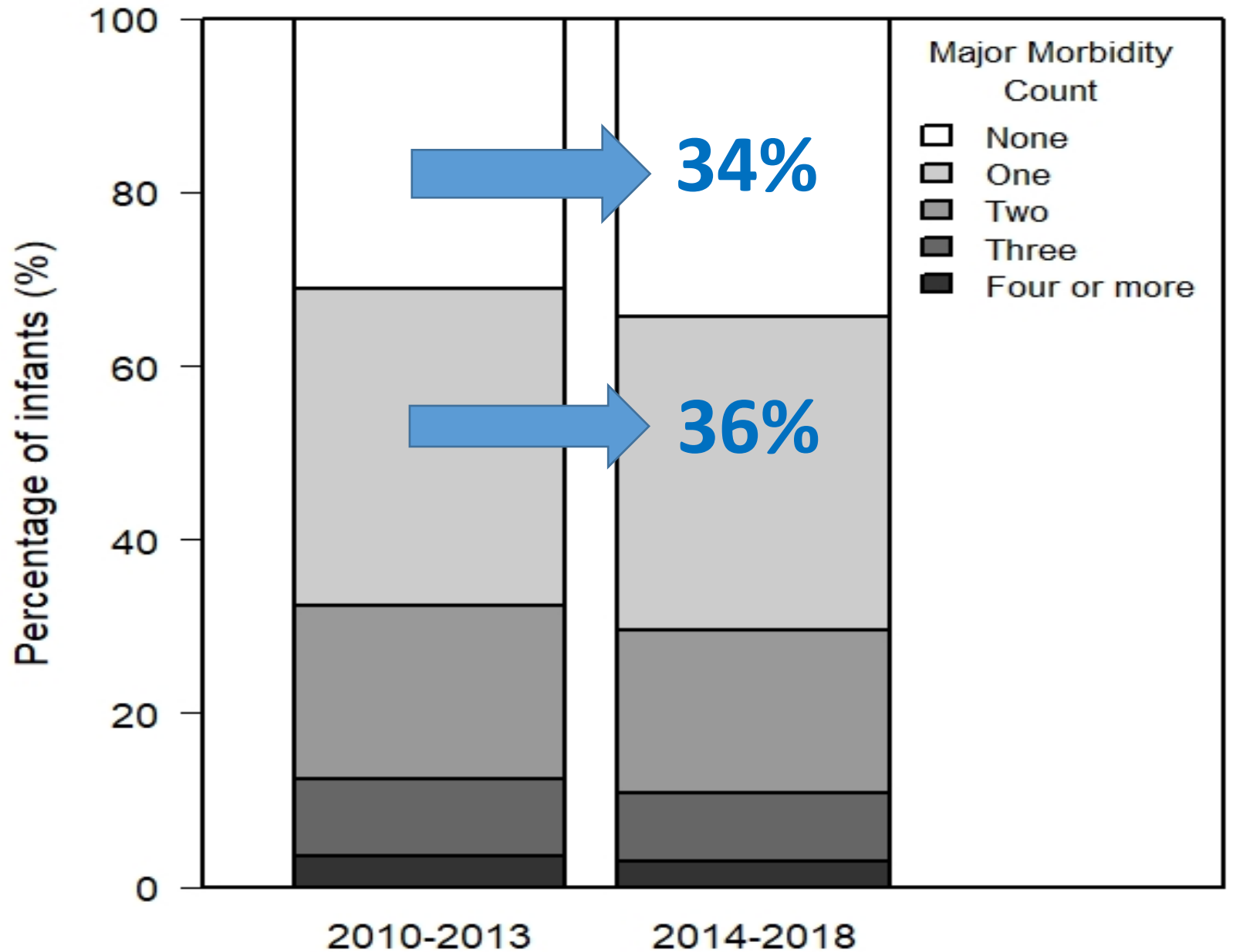
**Friedrich Nietzsche, 1844-1900**



The best “no-or-just-one” morbidity rate reported for 23-27 week infants

Arch Dis Child, 2020  
Kaempf et al.

Institute for Healthcare Improvement and Vermont Oxford Network CQI fundamentals are effective.



# Aim

*Improve the  
POD Composite  
Risk-adjusted  
Mortality  
Morbidity  
Metric in 23-27  
Week Infants  
by 30%*

**Aim Statements  
Driver Diagrams  
are effective!**

# Primary Drivers

Reduce All 8 Major Morbidities using a PBP Matrix

Family Integration and Support

Multidiscipline Teamwork and Accountability

Sustain POD Ethos of Sharing, Trust, EBM and CQI Methodology

# Secondary Drivers

CLD PBPs

IVH and PVL PBPs

Nosocomial Infection PBPs

ROP PBPs

NEC and FIP PBPs

Growth Failure Prevention PBPs

Small Baby Team Development

# Change Concepts (See Matrix) PDSA examples

Adopt Placental Transfusion

Breast Milk Only

Kangaroo Care

Reduce Painful Procedures and Handling

Regular Family Case Conferences

NCPAP as the Primary Respiratory Support

**Grade A people,...and maybe a genius leader?**

**or**

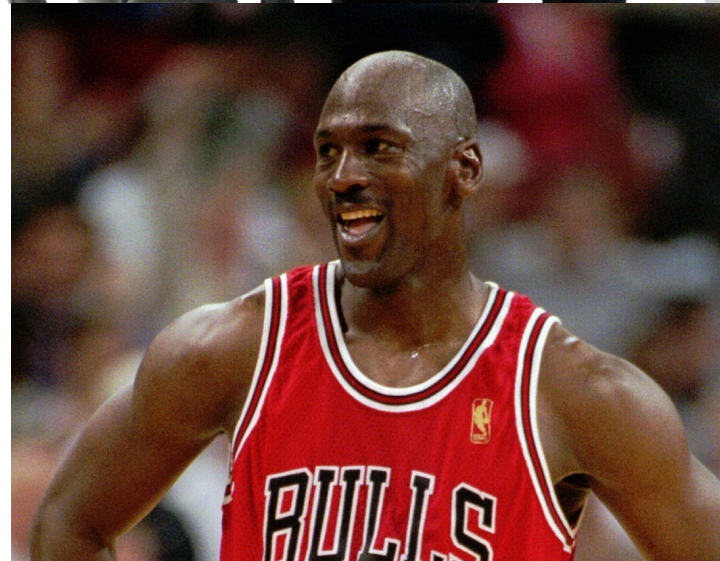
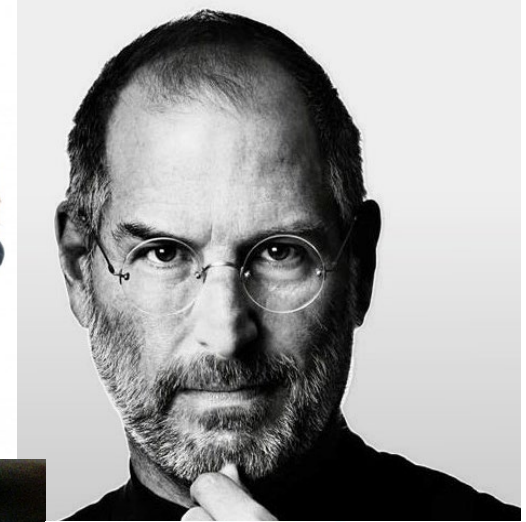
**Grade A systems?**

*Culture eats strategy for  
breakfast every time.*

*Culture eats best practice  
guidelines and CQI projects  
every time.*

**No 'I' in *TEAM* Michael....**

**MJ – But there is in *WIN*.**





1. Healthcare “success” leads to social “failure”. Fewer deaths in childhood - vaccines, surgery, antibiotics, thus we live to develop cancer, heart disease, dementia,....

Preventive medicine doesn't necessarily save \$\$\$.

2. Expansion of “diseases” - depression, anxiety, joint replacement, transplants, infertility, gender, prematurity....

3. Technology + market economics – powerful \$\$\$ motivation to find “cures”.

4. “*Healthism*” – aging and death are not part of life anymore,.... be a battling survivor,....the meaning of life has become to resist Nature.

*Daniel Callahan, False Hopes, 1999*



## Quality

**Do you consistently get the specific health goal you wish from 'X'?**

## Value

**Health Benefits Obtained/Resources Consumed**

## Impact

**Which benefits are most important?**

**Where are you devoting resources/money/time/energy?**

**Who is receiving the above?**

**How do we balance what is 'do-able' with what is high impact?**

## Prioritize

**Low-Hanging Fruit for inclusion, experience, confidence goals**

**Mid- and High-Hanging Fruit in the resource consuming sectors**

# Children with Medical Complexity (CMC)

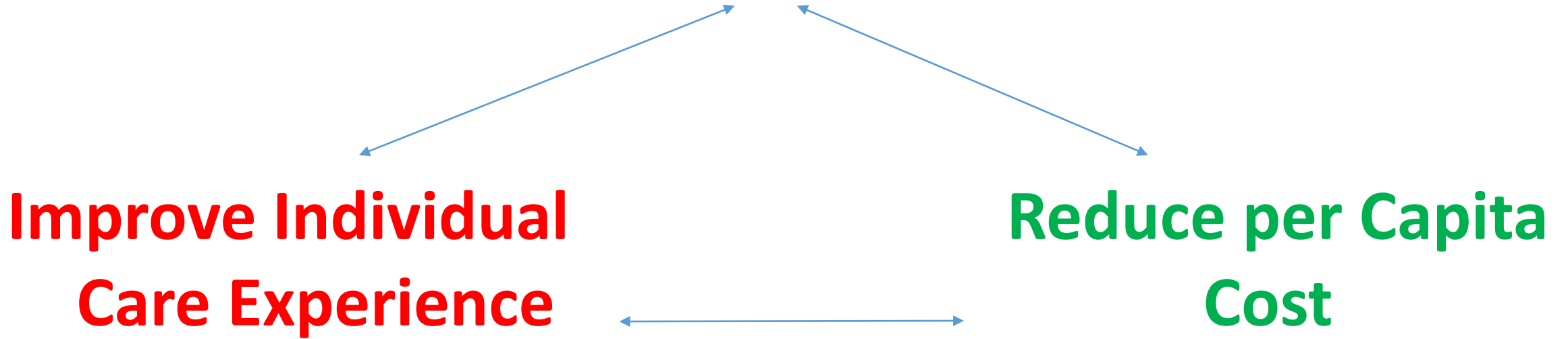
- a) Multiple significant chronic health problems
- b) Multiple organ systems involved
- c) Significant functional limitations
- d) Often require medical technology

1-2% of children

25-30% of healthcare spending in children

40-45% of children's healthcare spending is hospitalizations

**Improve Population Health**



**Triple Aim = Value equation**

**Improve population health + Improve individual care  
experience / Reduce per capita cost**



# CQI Triple Aim

## LOVE

Inclusive – Multidisciplinary – Encourage Champions

Passion to Improve

Compassion to Listen

Respect Family Preferences

*Arête - Virtue - Excellence*

*Arch Dis Child 2018, Kaempf et al*

## SMART

Understand, not just Knowledge

Safety First

EBM and Biostatistics

Curious – Read Deeply

Cost and Value Conscious

Information not just Data

Networks

*Aletheia*

*J Perinatology 2019, Kaempf and Suresh*

## GRIT

Passion

Persistence

Accountability

Observe - Measure - Feedback

Open to Innovation and Alternatives

*Sophrosyne – Restraint, Responsible Limits*

*J Perinatology 2018, Kaempf and Dirksen*



**Ideas matter.**

**Truth matters more.**

**Ideas are not equivalent to Truth.**

**Standardize and test ideas!**

**Beware of the seductions of**

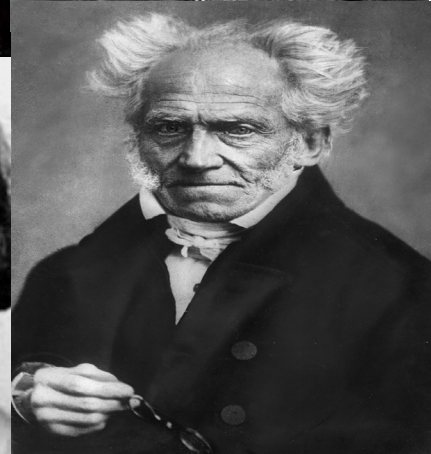
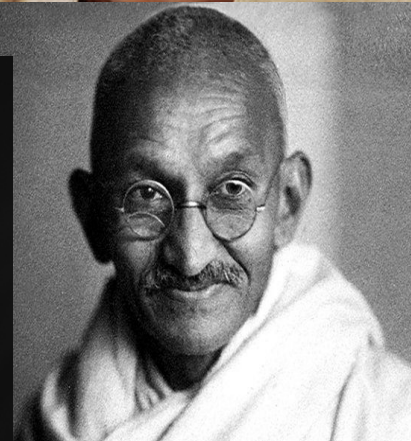
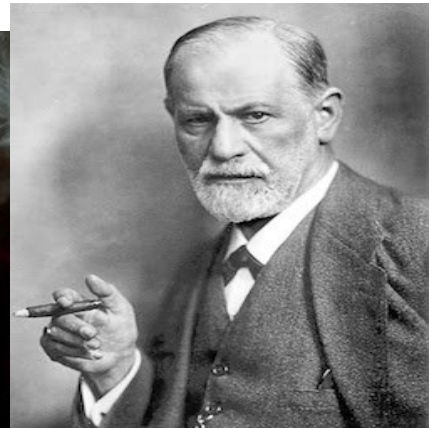
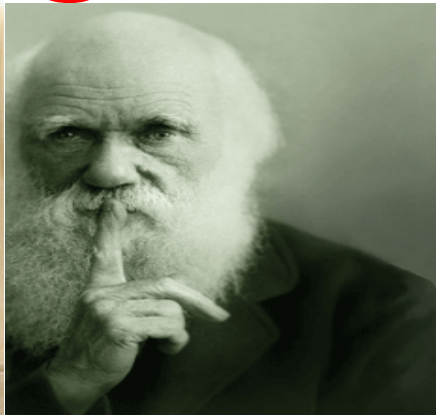
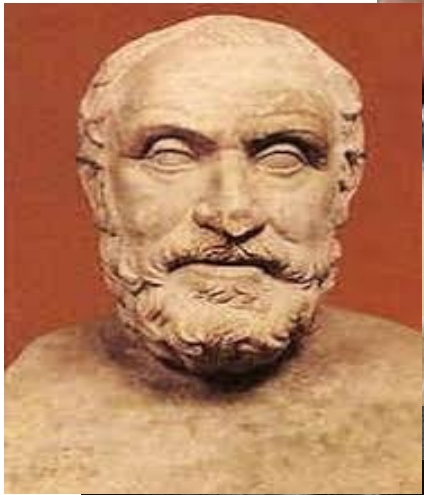
**cause-and-effect.**

*David Hume 1711-1776*

**Distinguish constant connection from  
causation - that's why less is often more!**

Is there a common thread in history,  
philosophy, and literature?

Can we agree on **ONE THING**?



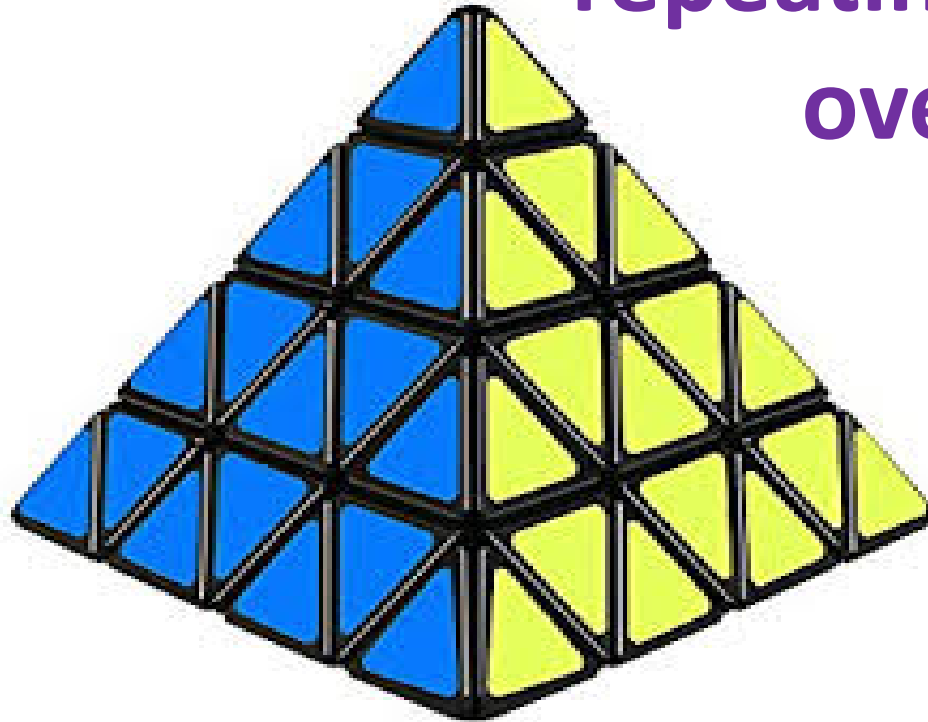




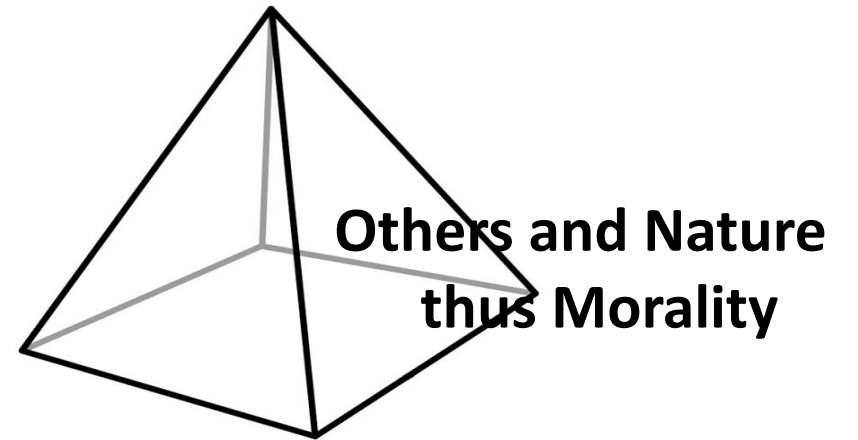
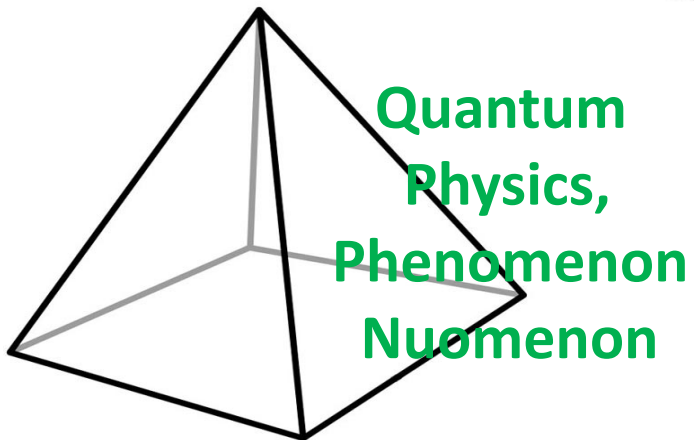
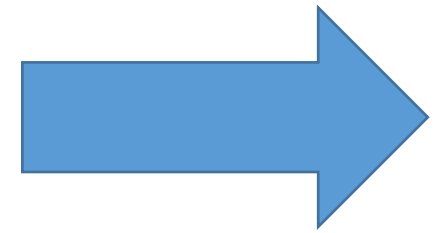
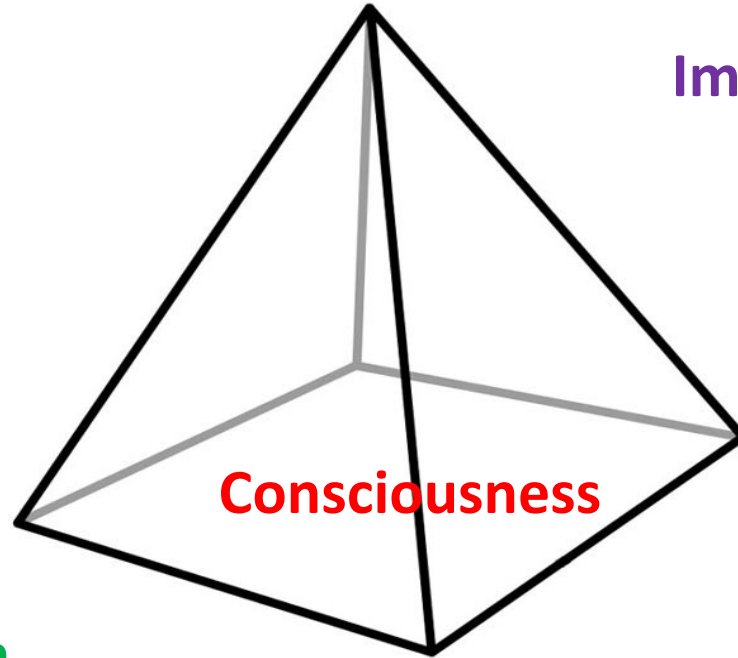
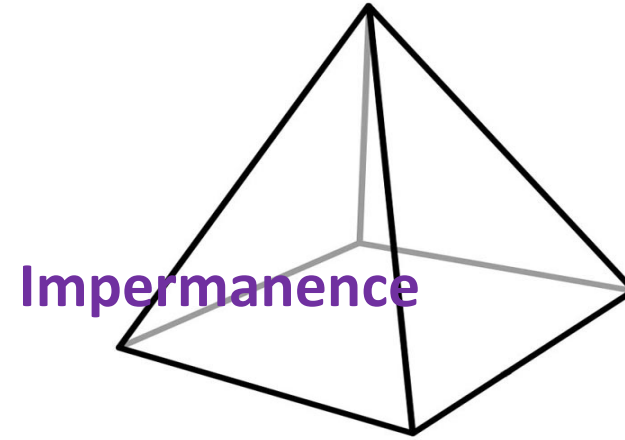
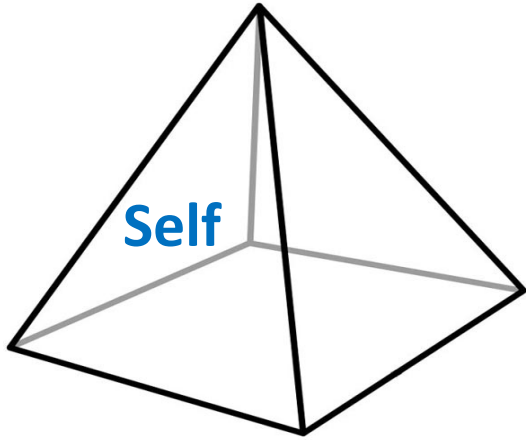
A fractal is an object or quality that displays self-similarity, on all scales,...created by repeating a simple process over and over...



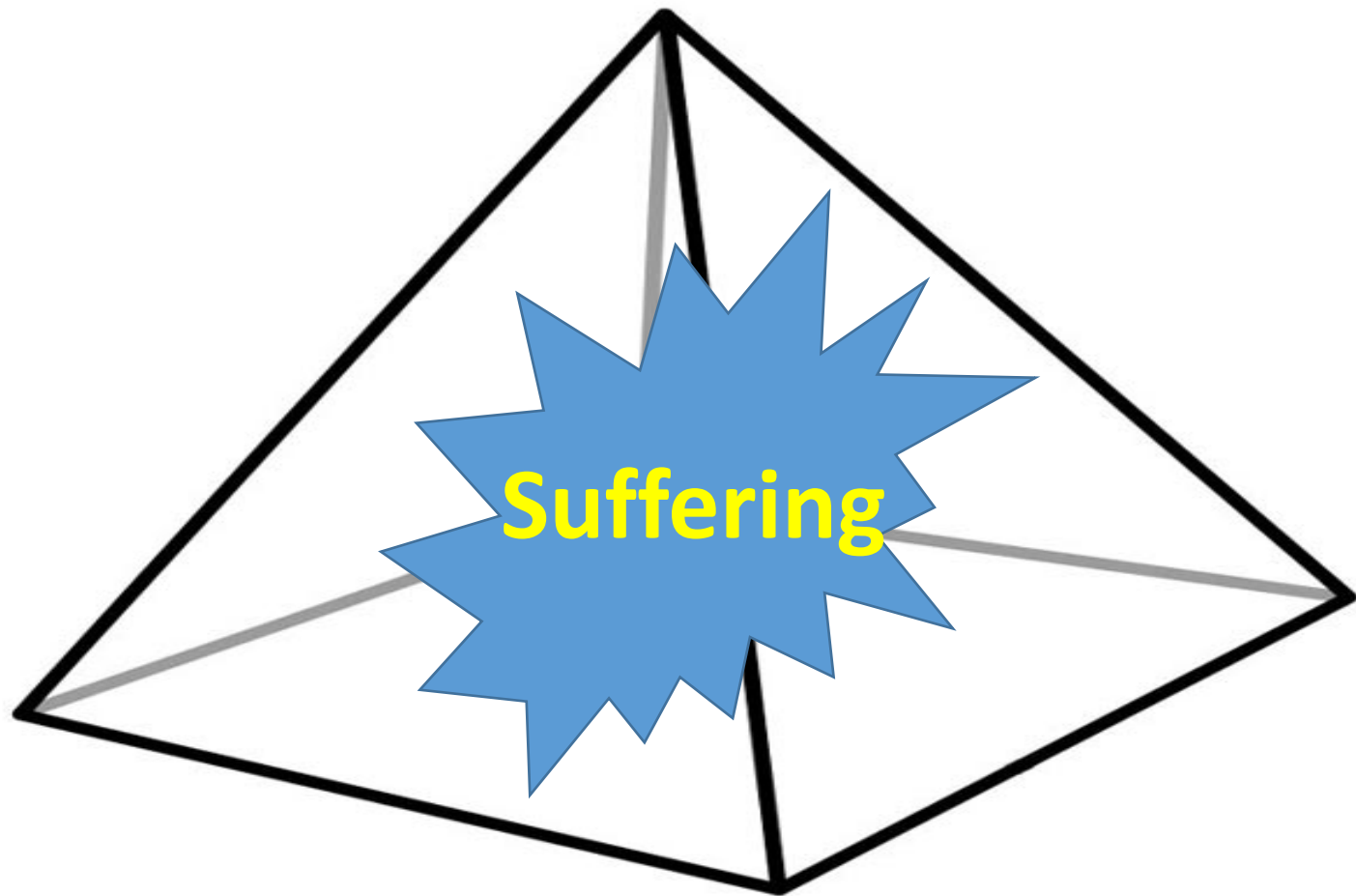
Driver Diagrams are fractals.



Is there a human life fractal?







**Convergence Fractal**

**Suffering is the  
one constant of  
humanity's  
concern.**

**Every culture has  
acknowledged its  
primacy.**

**The suffering of infants and children is undeserved, largely unnecessary, often preventable.**

**Children don't understand suffering, and it endures forever.**

**Children's joy starts with the pregnant woman.**

**The undisputed common good of humanity is to nurture young families and children.**



# What is burnout?

Emotional exhaustion, physical fatigue

Depersonalized, detached, cynical

Reduced personal accomplishment



# Burnout boils down to motivation

Extrinsic – money, recognition, stature, power

Intrinsic – the activity itself brings meaning, internal needs are satisfied, *telos*

## What supports intrinsic motivation in healthcare providers?

Competence - core of value-add skills, enhanced judgment and reasoning

Autonomy - volition, choice, nuanced flexibility

Relatedness - belonging, teammate, participation, community

*Gagne and Deci, 2005*

**AKA – The W&CS CQI Triple Aim**

**Smarts - Grit - Love**



# CQI Triple Aim

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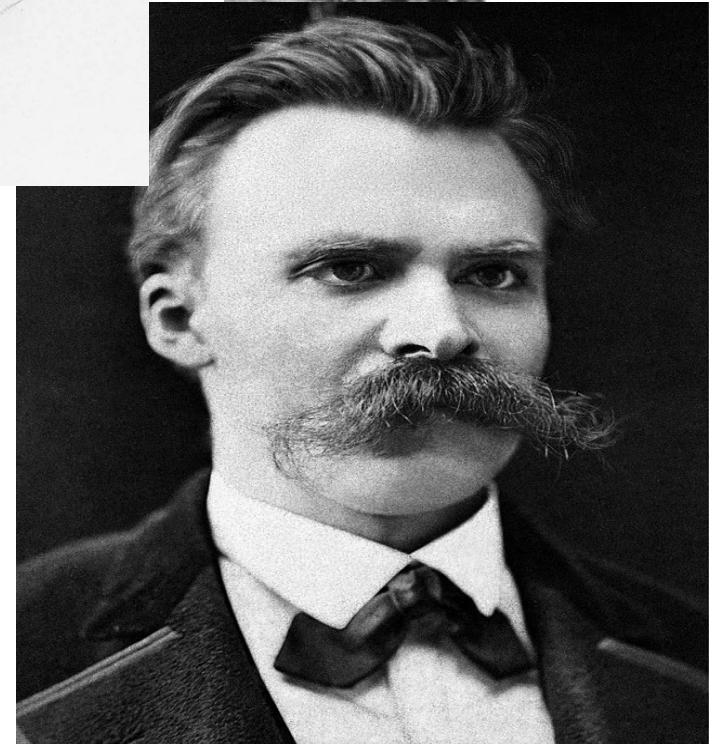
*Sophrosyne – Restraint, Responsible Limits*

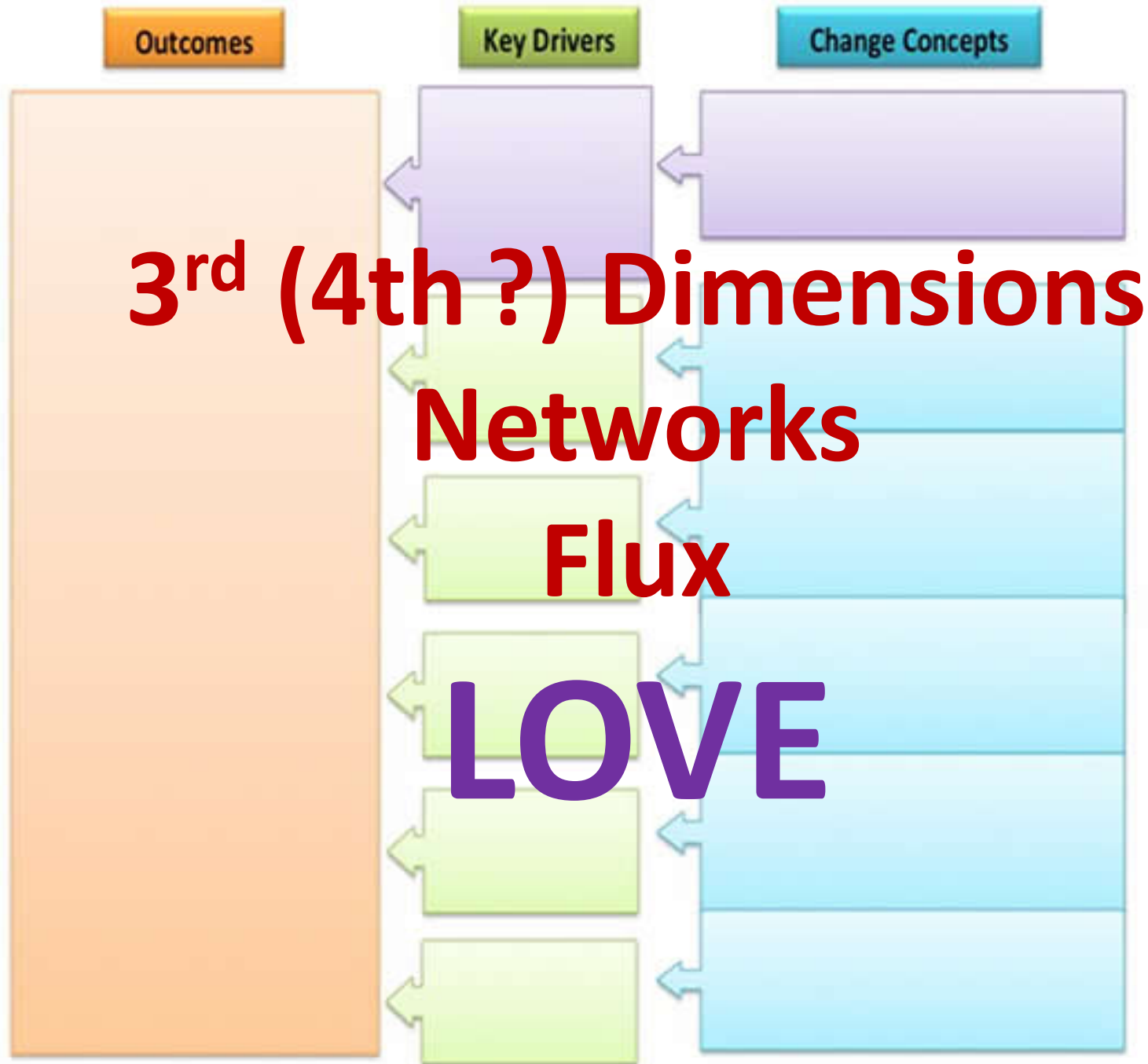
*J Perinatology 2018, Kaempf and Dirksen*



# Telos Will-to-Power Suffering

When denied, thwarted,  
stolen, destroyed,.....  
burnout soon follows.





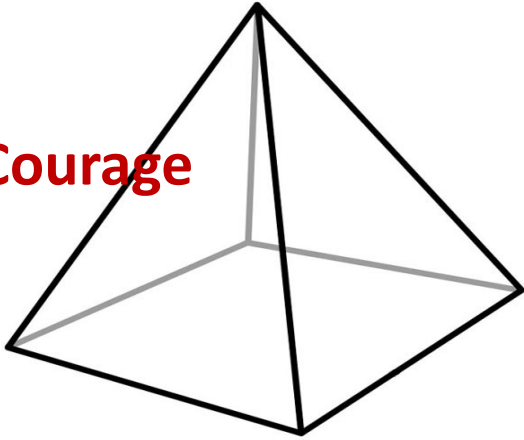
# IHI Model for Improvement Aim-Driver Diagram

Common  
language.

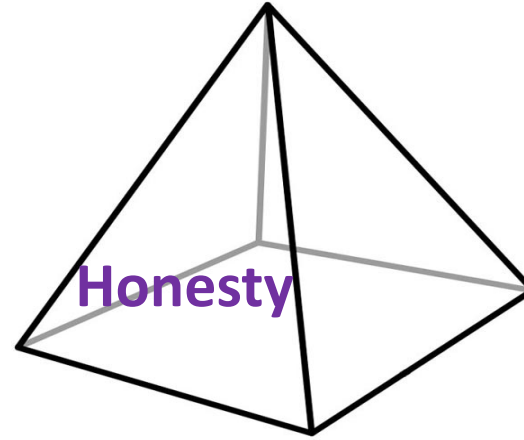
Not a panacea.  
Not a quick-fix.

Clarity.

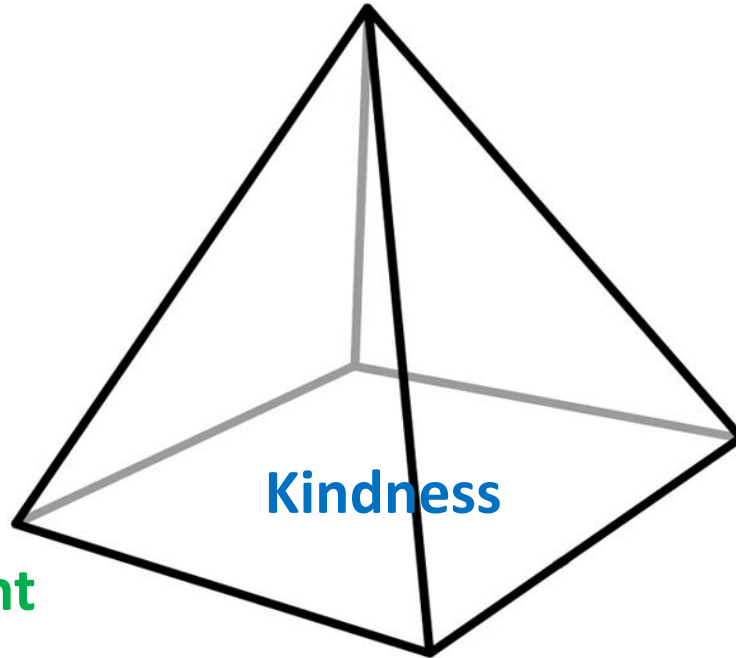
**Courage**



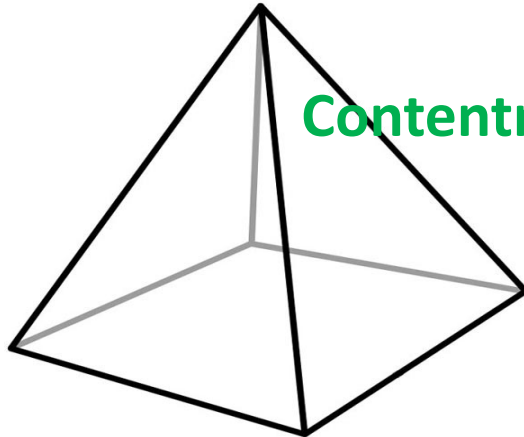
**Honesty**



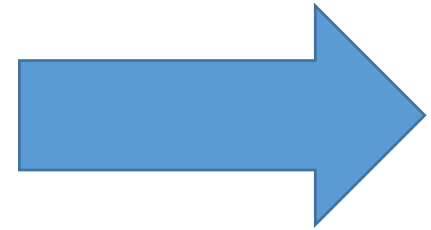
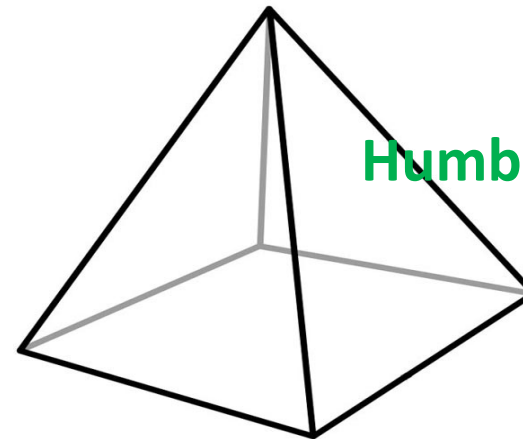
**Kindness**



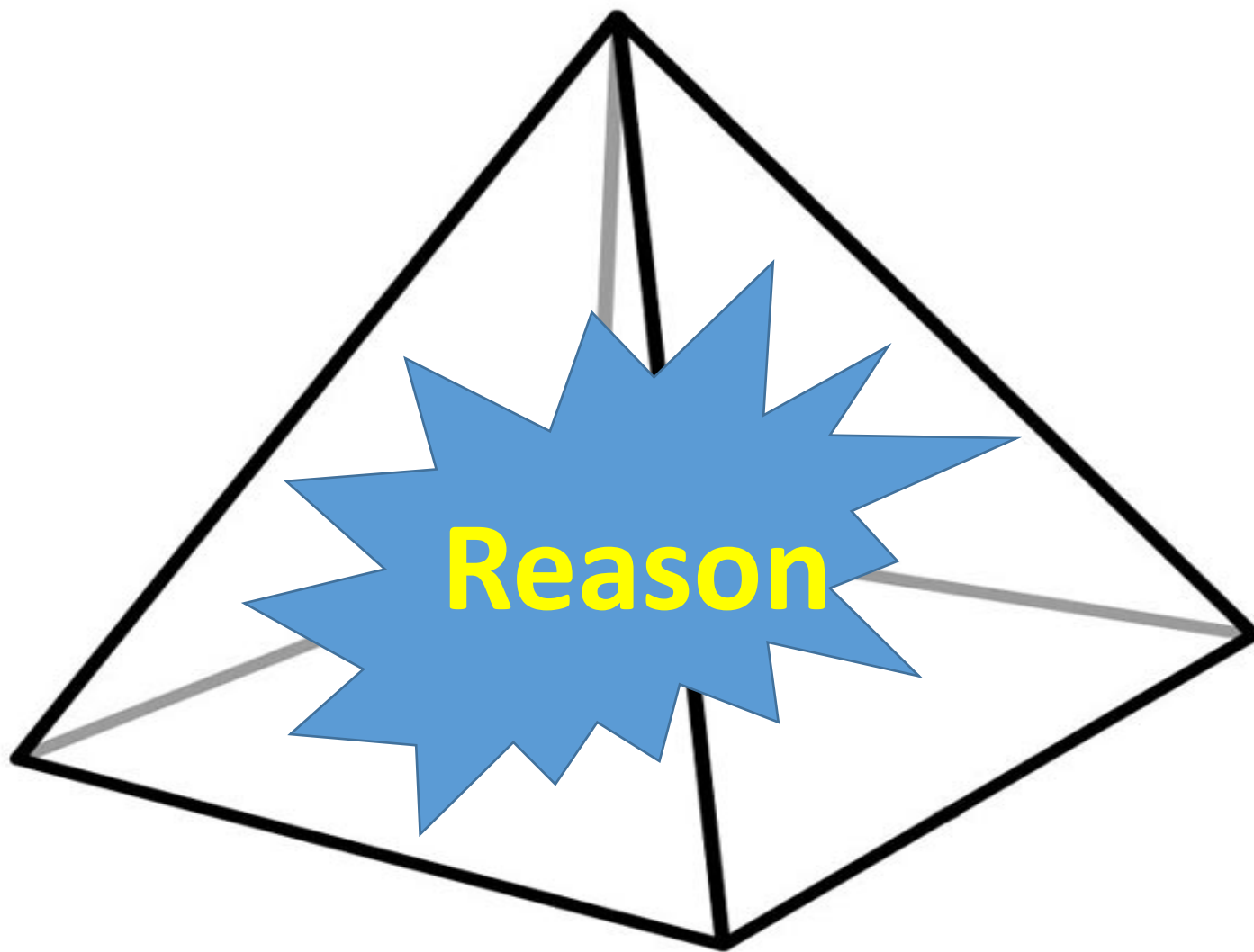
**Contentment**



**Humbition**



**5 Primary  
Virtues**



## Virtue Fractal

**Reason-ing is the substance of the virtues.**

**Cultures-of-excellence compassionately choose to understand.**

**Reason is, and ought only to be, slave of the passions.**

**But,...CQI divided by Reason leaves a remainder.**



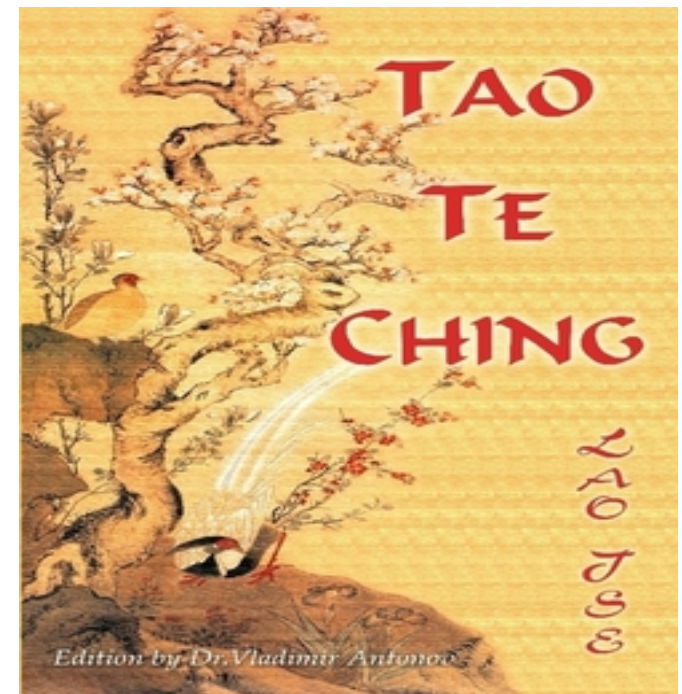
# Lao Tzu - Tao Te Ching

*Colors blind people's eyes,  
sounds deafen their ears,  
flavors spoil their palate.*

*The chase and the hunt  
craze people's minds.*

*Goods hard to obtain  
make people's actions harmful.*

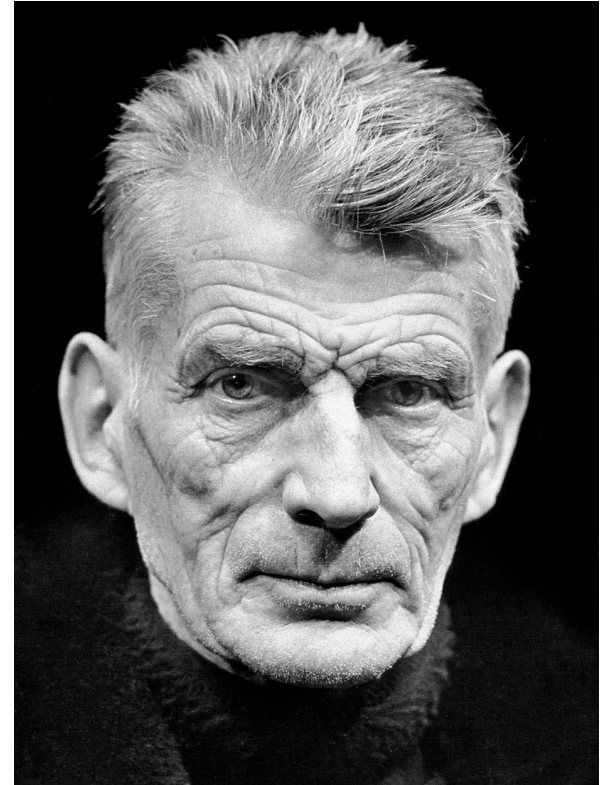
*Sages work for inner spaciousness  
and not the external,  
leaving the latter and taking the former.*





# CQI Projects Will Fail Without:

1. Money, time, and institutional support
2. Inclusiveness and camaraderie
3. EBM and CQI fundamentals imbedded as culture
4. Deep reading, knowledge of history
5. Clear, defined, realistic goals
6. Consistent, accurate measurement
7. Broad discussion and feedback
8. Persistence, passion, grit



*Ever tried. Ever failed. No matter.  
Try Again. Fail again. Fail better.*

*Samuel Beckett*

**Weekly, concise meetings**

**Suggestion Box**

**Email and Poster Updates**

**Form a QI team**

**Aim Statement and Driver Diagram**

**A3 Roadmap**

**Bulletin Boards**

**Measurers**

**Run Charts**

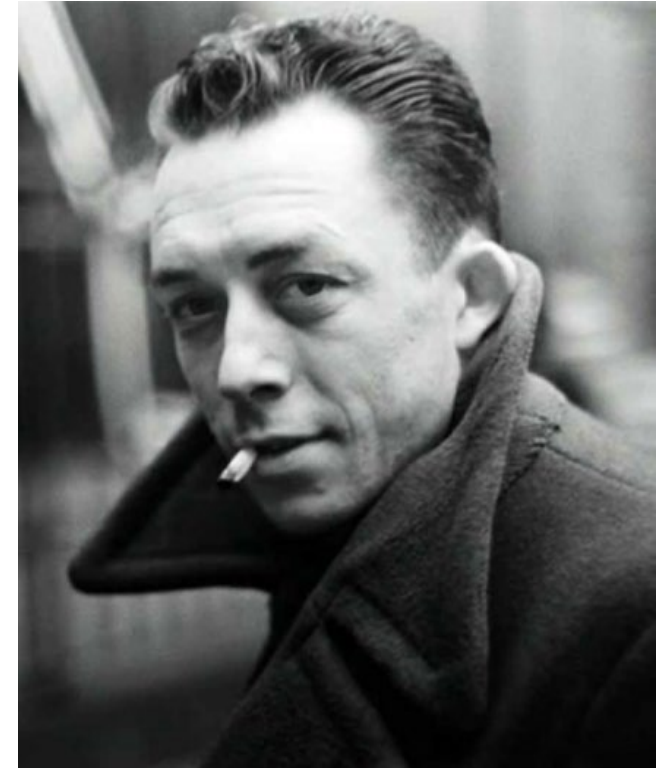
***I want to live with what I know and nothing more.***

***Sisyphus concludes all is well.***

***This universe without a master seems to him  
neither sterile nor futile. Each atom of that stone,  
each mineral flake of that night filled mountain,  
itself forms a world.***

***My rule here is to get along with the  
immediate evidence.***

**Albert Camus, 1913-1960**





**If not now, when?**

**If not us, who?**



**Acknowledge our choice, and the cost  
of us not improving.**

**The opportunity!**

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