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Pathway to Excellence: Framework for Continuous Learning

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Conflict of Interest Disclosure

Robert Moore, MD, MPH reported no relevant financial relationships or relationships he has with ineligible companies of any amount during the past 24 months.

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Presenter

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As the Chief Medical Officer for Partnership HealthPlan of California, Dr. Robert Moore is responsible for the appropriateness and quality of health care delivered through the PHC. He leads and oversees PHC's team of medical directors and keeps staff and providers informed and up to date on changing health regulations and guidance.
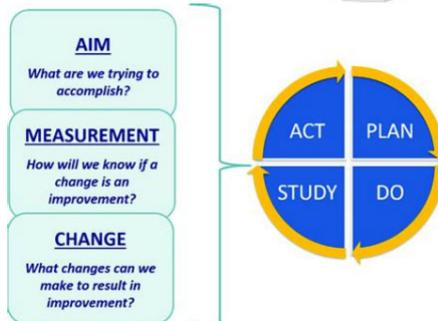
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PARTNERSHIP HEALTHPLAN of CALIFORNIA — A Public Agency

What is a Framework?

• A skeletal structure designed to support or enclose something

• A simplified conceptual structure for explaining key elements of something

AIM
What are we trying to accomplish?

MEASUREMENT
How will we know if a change is an improvement?

CHANGE
What changes can we make to result in improvement?

ACT | PLAN
STUDY | DO

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Some Frameworks for Quality

- Toyota Production Model
- Lean Six Sigma
- Baldrige Quality Framework
- Accreditation Standards: Joint Commission, NCQA
- Utility maximization and other micro-economic theories
- Prospect Theory and other psychological frameworks
- Stakeholder theory and other theories of corporate governance
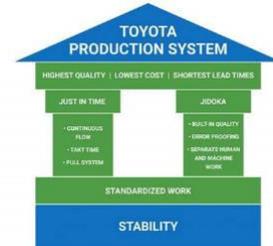
Source: automachi.com

Source: Next level purchasing.com

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Why a Framework for Continuous Learning?

Challenging implementations: what was missing?
- Pediatric Palliative Care
- Diabetes Prevention Program
- Transitions of Care

Goal: Optimizing success of post-COVID initiatives

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My Goals for You

- Develop a basic understanding of the Pathway to Excellence Learning Framework
- Consider how you can apply the elements of this framework to your hospital

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Foundational Definitions

- Knowledge
- Learning
- Innovation
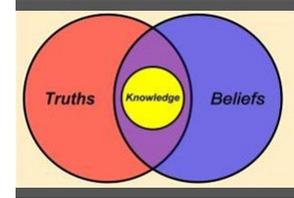- Learning Organization

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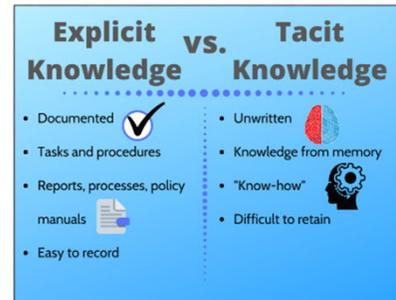
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Definitions: Knowledge

Knowledge: 2 definitions
- True belief or understanding of the relations which things and ideas bear to each other and to themselves
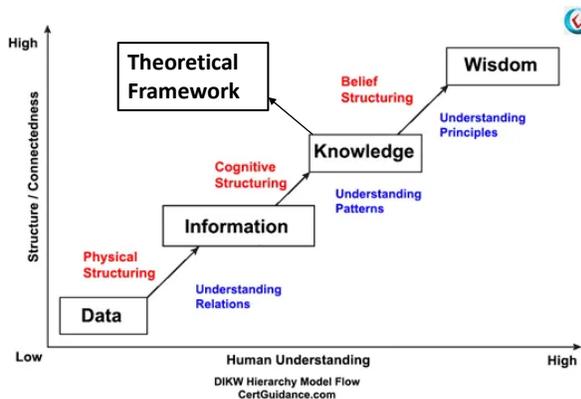- Processed information

Organizational Knowledge
- Individual knowledge: within the brain of an individual, based on their experience, learning or analysis = *tacit knowledge*
- Individual knowledge: written down or recorded for reference by one person = *explicit individual knowledge*
- Group knowledge, written, recorded or programmed processed information for use by a multiple individuals in an organization = *explicit group knowledge*

Explicit Knowledge vs. Tacit Knowledge

Explicit Knowledge:
- Documented ✓
- Tasks and procedures
- Reports, processes, policy manuals
- Easy to record

Tacit Knowledge:
- Unwritten
- Knowledge from memory
- "Know-how"
- Difficult to retain

Foundational Principles: Knowledge

DIKW Framework

- **Data**
- **Information**
- **Knowledge**
- **Wisdom**

DIKW Hierarchy Model Flow
CertGuidance.com
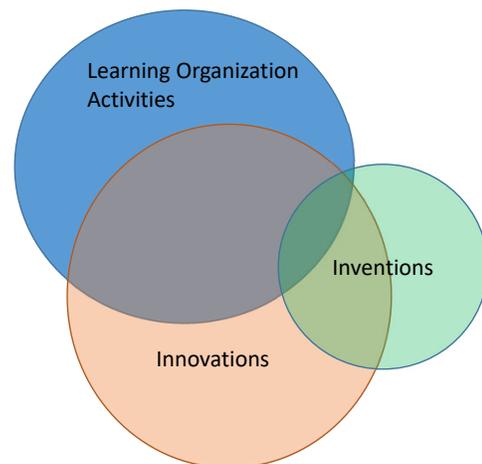
Definitions: Learning

Learning (noun):
1. Process of acquiring information, knowledge, or understanding/wisdom
2. The process by which (tacit) knowledge is *created* through the transformation of experience

Machine Learning
1. A form of Artificial Intelligence (AI). The use and development of computer systems able to learn and adapt without following explicit instructions

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Definitions: Innovation

1. <u>Invention</u>: brand new concept/idea

2. <u>Innovation</u>: The **creation, development and implementation** of a new product, process or service, with the aim of improving efficiency, effectiveness or competitive advantage.


Learning Organization Activities

Inventions

Innovations

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Learning Organization

Definition: "An organization that facilitates the learning of its members and continuously transforms itself."

–*The Fifth Discipline: The Art and Practice of the Learning Organization,* 1990, P.M. Senge

The Five Disciplines of a Learning Organization
1. Personal Mastery
2. Mental Models
3. Shared Vision
4. Team Learning
5. Systems Thinking
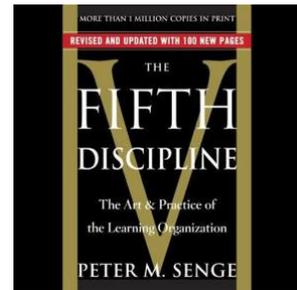
Learning a Key Component of Quality Improvement

"What are necessary and sufficient conditions for improvement in large systems? **Will, ideas, and execution**!"

- Tom Nolan, creator of the Model for Improvement

"Providing **will** refers to the tasks of fostering discomfort with the status quo and attractiveness for the as-yet-unrealized future. Providing **ideas** means assuring access to alternative designs and ideas worth testing, as opposed to continuing legacy systems. And **execution** was his term for embedding *learning* activities and change in the day-to-day work of everyone, beginning with leaders."

- Don Berwick, founder of the Institute for Healthcare Improvement

The Mindset of Continuous Learning

- We are all very proud of our organization, the work we do and the systems we have developed.
- Nonetheless, we recognize that we as individuals and as a company can do better.
- We strive as individuals to be curious and continuously learn.
- We also strive as an organization to learn and grow.

Pathway to Excellence: What is it?

Using the scientific method to optimize implementation of quality improvement initiatives

- Learn from the past before building for the future
- Test new ideas before implementing them widely
- Avoid bias through appropriate application of logic and statistics
- Implement/scale scientifically, not haphazardly
- Manage and leverage the knowledge gained

Concetual Framework

Source: Slideshare.net

Organizational Contributors

Leadership activities
- Ensure activities are related to organizational priorities
- Motivate staff
- Ensure smooth inter-departmental working relationships
- Ensure a supportive organizational culture

"Knowing is not enough; we must apply.
Willing is not enough; we must do."

- Johann Wolfgang von Goethe

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Five Elements

"If you can't explain it simply, you don't understand it well enough"

--Albert Einstein

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Pathway to Excellence (P2E): Five Elements

Manage Knowledge
- What has been done before? What does data show?

Test
- Small test of change

Analyze
- Data and Statistical Analysis

Evaluate
- Lessons learned and opportunities for improvement

Spread
- Framework for Spread
- Applied Implementation Science

Manage Knowledge
- Searchable system to record improvement activities

Organizational Factors:

Organizational Values, Culture, Structure, Processes that support approach, fit it in with overall strategy

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Knowledge Management

- Beginning of the P2E Process: Building on prior research/ experiences

- End of the P2E Process: Capturing results of improvement projects, case studies, best practices in systematic way that is easily searchable

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Overall aim of Knowledge Management

Ensure that knowledge that is <u>relevant to the business</u>,
from any <u>source internal or external</u>,
is available at the <u>right place at the right time</u>
<u>to enable the right person</u> in the company
to make the <u>right decisions</u>
<u>and implement them</u> so they help you
achieve your <u>strategic business objectives</u>.

Source: *Foreign Policy*

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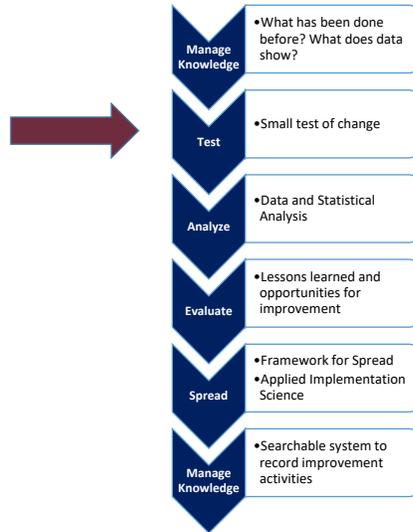
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Goals of Knowledge Management

- Make knowledge accessible
- Avoid reinventing knowledge
  - ✓Don't reinvent the wheel
  - ✓Don't test or implement without finding out how previous efforts have succeeded or failed
- Easy and effective application of existing knowledge
- Create new knowledge

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Small Test of Change

- Manage Knowledge
  - What has been done before? What does data show?
- Test
  - Small test of change
- Analyze
  - Data and Statistical Analysis
- Evaluate
  - Lessons learned and opportunities for improvement
- Spread
  - Framework for Spread
  - Applied Implementation Science
- Manage Knowledge
  - Searchable system to record improvement activities
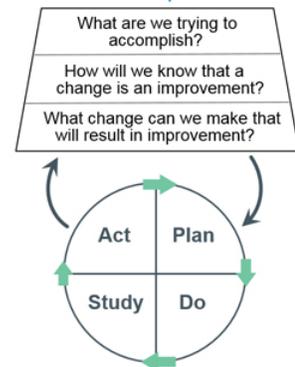
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Small Tests of Change:

Consistently test new ideas before implementing widely

- Model for Improvement as the prototype for Improvement Projects
- DHCS mandated model for responding to low performing areas
- Consider the subsequent steps in designing small test of change


Model for Improvement
- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What change can we make that will result in improvement?

Act | Plan
Study | Do

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Small Tests of Change: Variations

- <u>Agile product development</u>: build early stages/prototype before completely scoping entire process.

- <u>Modular implementation</u>: Reduce the size of the project to the smallest module that can produce product, then build overall project one module at a time (Monju Breeder Reactor vs. Tesla battery factory)

Source: orionadvisortech.com
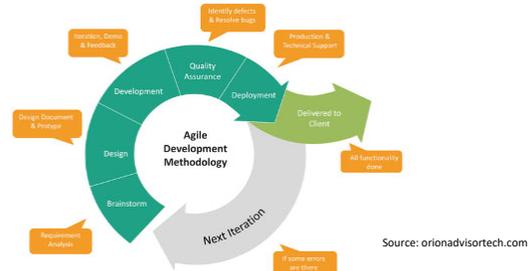
Source: Wikipedia commons

Source: Tesla

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What scale of testing?

Three variables:

1. Readiness to Change
2. Confidence that change idea will work
3. Cost of Failure

Pilot = Larger scale test

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Factors to Consider When Designing Pilot

Design the pilot to scale successfully

1. Large enough to see if it works
2. Similar population
3. Similar intervention
4. Similar incentives
5. Same staff planned for scaling up

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Data and Statistical Analysis

Stage	Description
Manage Knowledge	• What has been done before? What does data show?
Test	• Small test of change
Analyze	• Data and Statistical Analysis
Evaluate	• Lessons learned and opportunities for improvement
Spread	• Framework for Spread • Applied Implementation Science
Manage Knowledge	• Searchable system to record improvement activities

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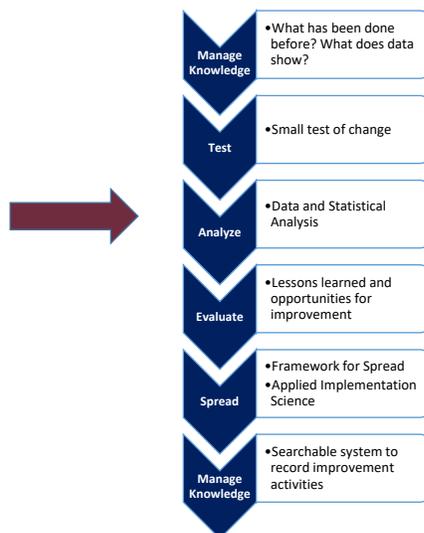
Standardized Data and Statistical Analysis

- Use the right test for statistical significance.
- Before asking for data, be clear on what question you hope to answer, and what action you would take.
- Democratize the ability to understand data and analysis
- Use the data you have!
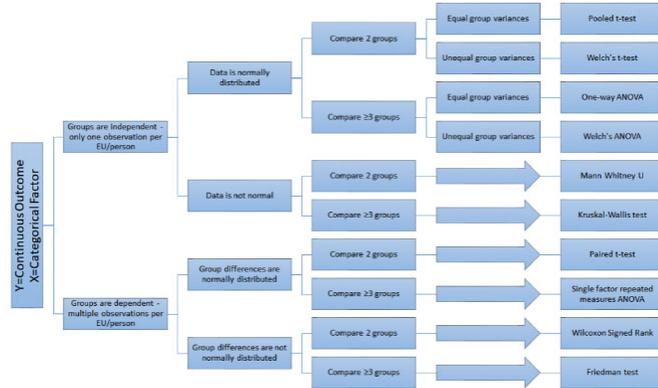
Example: bivariate flow chart (stat-methods.com)

Categories of Data Analysis

Data Analysis
  a. Basic Analysis
  b. Complex Analysis

Descriptive → Discovery/ Data Cleanup → Diagnostic → Predictive → Prescriptive

Optimized Evaluation

Manage Knowledge
- What has been done before? What does data show?

Test
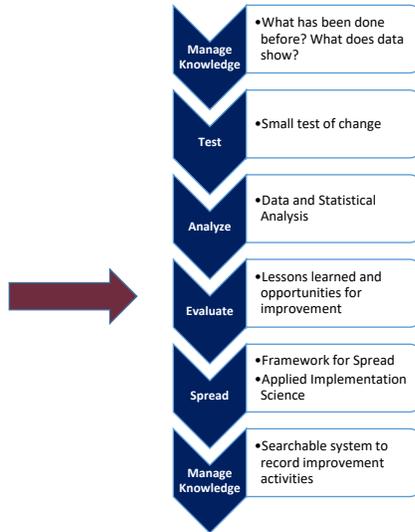- Small test of change

Analyze
- Data and Statistical Analysis

Evaluate
- Lessons learned and opportunities for improvement

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- Framework for Spread
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Manage Knowledge
- Searchable system to record improvement activities

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Standardized Evaluation Methods

1. Define the evaluation of any pilot or implementation before designing it.

2. When possible, use a control group to see if the intervention worked.

3. Be objective in performing the evaluation and in presenting the evaluation. Be willing to accept that the intervention had no effect.
   - Don't say "We were happy to see . . ." or "We were excited to see . . ." it shows significant bias in outcome of evaluation
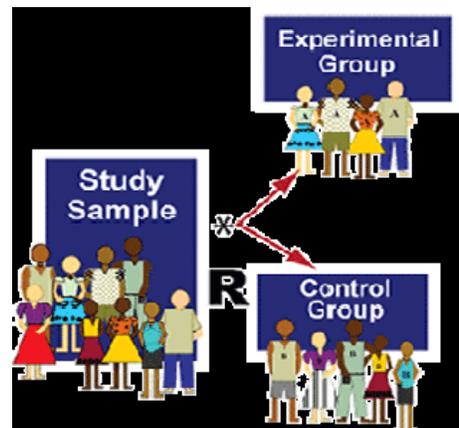
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Optimizing Implementation

Manage Knowledge	What has been done before? What does data show?
Test	Small test of change
Analyze	Data and Statistical Analysis
Evaluate	Lessons learned and opportunities for improvement
Spread	Framework for Spread; Applied Implementation Science
Manage Knowledge	Searchable system to record improvement activities

Organizational Factors:

Organizational Values, Culture, Structure, Processes that support approach, fit it in with overall strategy

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Optimizing Implementation

For spreading successful small-scale tests

Definition of Implementation Science:

The study of how programs get implemented into practice and how the quality of that implementation may affect how well that program works or doesn't work.

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Why Pilots Fail to Spread

1. <u>Wrong people studied:</u> The participants of the pilot are not representative of the larger population targeted for implementation
2. <u>Flawed Statistics:</u> The pilot used statistical techniques that were not valid (i.e. pilot really didn't work)
3. <u>Diseconomy of Scale:</u> The cost of the program increases greater than the increased size of the target population
4. <u>Administration Variability:</u> The administration of the program is different with implementation than with the pilot ("Low Fidelity" leads to "Voltage drop")

Making Pilots Predictive

1. <u>More precise statistical </u>analysis when doing a pilot.
2. <u>Repeat replication before attempting spread.</u>

> **If goal is 95% confidence that small scale pilots will scale, you will need about 4 independent studies to show the same result to overcome the possibility that pilot results are not scalable.**
>
> *The Science of Using Science: Towards an Understanding of the Threats to Scaling Experiments (Al-Ubaydli, List, & Suskind, 2019)*

Increasing the Fidelity of Implementation

1. Detail the core elements or "non-negotiables" of the intervention
2. Ensure the facilitators/project managers/staff understand the "whys" or the mechanism behind the intervention effect
3. Look for technology to standardize processes and to check fidelity: Upload data of spread sites in a way that can do fidelity testing as data entered
4. Ensure that the people who designed and ran the pilot play an important role in full implementation
5. Carefully measure the program efficacy when program is scaled. (Don't assume it will work because the pilot did.)

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Key Takeaways

Manage Knowledge
- Don't forget to see what has been done before

Test
- Small test of change, before wider implementation

Analyze
- Use the data you have

Evaluate
- Unbiased evaluation

Spread
- Apply lessons learned from Implementation Science

Manage Knowledge
- Capture new knowledge

Spread this to leaders and staff in organization

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Further Reading

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Questions

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Thank you

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