

# **Leading Population Health Improvement**

**Reflections and tips from public health practice**

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# Preface

Since January 2021 to the present, I have served as the state public health officer and director of the California Department of Public Health. From January 2011 to December 2020, I was the health officer of the City and County of San Francisco and director of the Population Health Division at the San Francisco Department of Public Health. From 2003 to 2010, I directed a public health infectious disease emergency preparedness and response center focused on research and training at the University of California, Berkeley School of Public Health. I spent several years studying and preparing others to respond to pandemics from an infectious respiratory pathogen. During this time I developed an interest in complex decision making under uncertainty and time constraints.

The lean DNA encodes for the following elements:

1. Respect for people (staff, community, client, patient)
2. Continuous improvement (incremental and breakthrough)
3. Scientific thinking, problem solving, and innovation
4. Elimination of waste and undesired variability
5. Being agile, adaptive, and responsive to meet challenges

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## Testing markdown (ignore below)

### **citations**

Here are some citations [1–3].

**tikz**

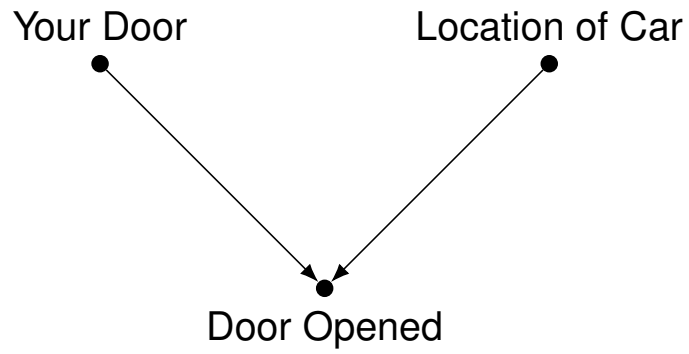


Figure 1: tikz figure caption

### julia code

Plot function pair  $(x(u), y(u))$ . See Figure 2 for an example.

```
using Plots

plot(sin,
     x->sin(2x),
     0,
     2,
     leg=false,
     fill=(0,:lavender))
```

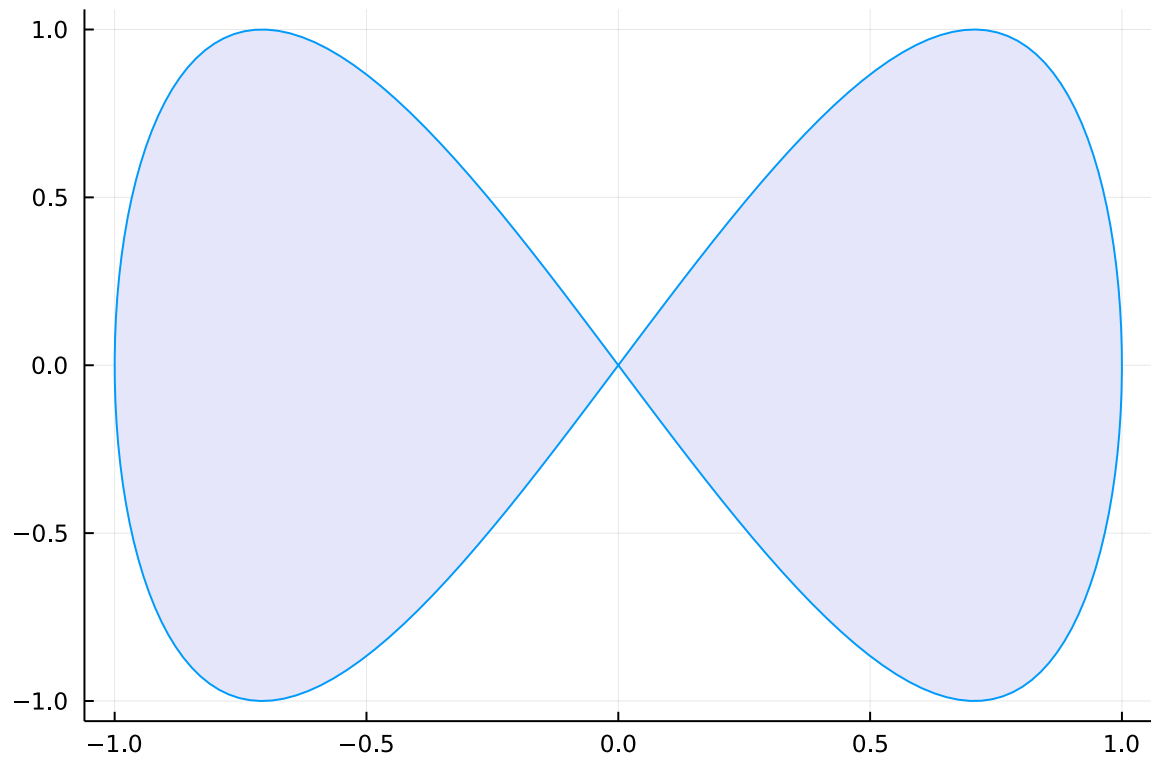


Figure 2: Parametric Plots

By default Julia cells will automatically print the value of their last statement (as with the example above where the call to `plot()` resulted in plot output). If you want to display multiple plots (or other types of output) from a single cell you should call the `display()` function explicitly. For example, here we output two plots side-by-side with sub-captions:

```
using Plots
```

```
display(plot(sin, x -> sin(2x), 0, 2))
```

```
display(plot(x -> sin(4x), y -> sin(5y), 0, 2))
```

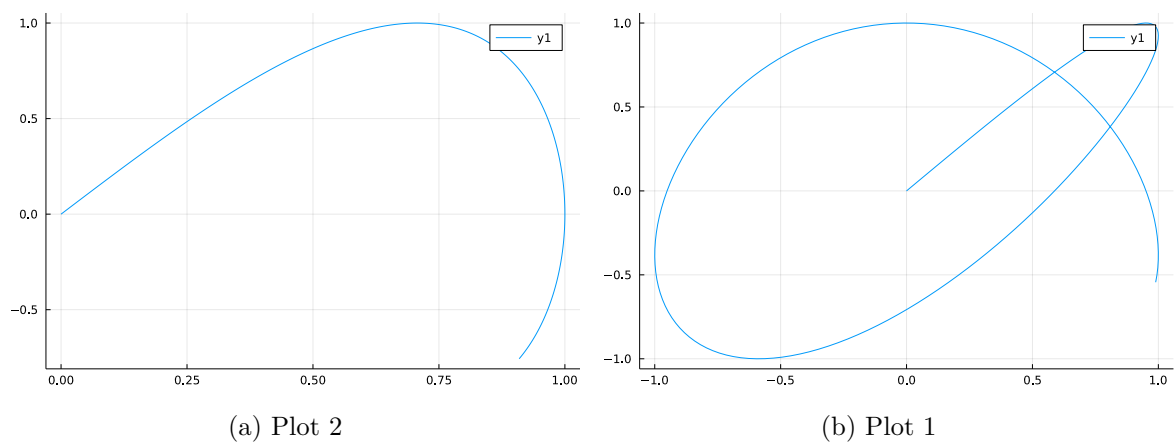


Figure 3: Multiple Plots

# Acknowledgments

DRAFT—not completed

## Organizations or associations

- de Beaumont Foundation
- Kresge Foundation, Emerging Leaders in Public Health (ELPH) (leadership fellowship)
- National Association of County and City Health Officials (NACCHO)
- Big Cities Health Coalition (BCHC) and “Survive and Thrive” (leadership fellowship)
- University of California, Berkeley School of Public Health
- University of California, San Francisco
- California Healthcare Foundation (CHCF) and Health- force Center at UCSF (leadership fellowship)
- Center for Health Leadership and Practice (executive leadership training), Public Health Institute
- California Department of Public Health
- California Health Executives Association of California (CHEAC)
- California Conference of Local Health Officers (CCLHO) and Health Officers Association of California (HOAC)
- Association of Bay Area Health Officials (ABAHO)
- San Francisco Department of Public Health

## Selected people (in alphabetical order by last name)

- Brian Castrucci, de Beaumont Foundation
- Deitre Epps,
- Susan Ehrlich, Zuckerberg San Francisco
- Bonnie Jacobson, University of California, San Francisco
- Erica Lorie, Moss Adams
- Joanna Omi, Moss Adams
- Mike Rona, Rona Consulting
- Monica Sharma,
- Craig Vercruysse, Moss Adams



## **Selected authors (in alphabetical order by last name)**

- Kim Barnes
- Lisa Feldman Barrett
- Mark Friedman,
- Daniel Kahneman
- Jeffrey Liker, The Toyota Way
- Michael Maccoby,
- Eric Ries, Lean Startup
- Mike Rother, The Improvement Kata
- Edgar Schein,
- Peter Senge, The Fifth Discipline
- John Toussaint

# 1 Introduction

This is a book created from markdown and executable code.

See ZZZ for additional discussion of literate programming.

**Part I**

**Leadership foundation**

## **2 Defining leadership**

## 3 Theory of change

In summary, this book has no content whatsoever.

## **4 Leadership philosophy**

## **5 True north compass**

## References

1. Aragón T, Reiter R, Katcher B. San francisco burden of disease & injury study: Mortality analysis 1990-1995 [Internet]. San Francisco Department of Public Health; 1998. Available from: <http://bit.ly/SFDPH1998-BODI-Report>
2. Aragón TJ, Ulrich S, Fernyak S, Rutherford GW. [Risks of serious complications and death from smallpox vaccination: A systematic review of the united states experience, 1963-1968.](#) BMC public health. 2003 Aug;3:26.
3. Aragón TJ, Fernyak SE. [The risks and benefits of pre-event smallpox vaccination: Where you stand depends on where you sit.](#) Annals of emergency medicine. 2003 Nov;42:681–4.



# **A Lean reporting templates**

## **A.1 Introduction**

### **A.1.1 Standard work**

In lean, standard work is “the agreed-upon, best-known, least wasteful way of doing the work today until a better way is found.” Standard work provides a structure to communicate, train, practice, and deliver an expected sequence of tasks. Standard work becomes the basis or baseline for learning and continuous improvement. The templates below are the standard work for briefing the CDPH directorate. They provide simple frameworks for organizing yourself.

### **A.1.2 Plan-Do-Study-Act (PDSA)**

PDSA stands for Plan-Do-Study-Act. PDSA is the scientific method and we have been using it all our lives. PDSA thinking and problem solving is part of human nature: it is how we try things, learn, adapt, and improve. Of the six templates, three are organized using PDSA so one can see the process of planning, predicting, experimenting, learning, and improving.

## **A.2 Situation update**

Situation updates are very concise and can be delivered on-the-spot orally, or in written form.

### **A.2.1 SBAR (1 of 6)**

1. Situation (“Here’s the situation.”)
2. Background (“Here’s some background.”)
3. Assessment (“Here’s what we learned.”)
4. Response to date (“Here’s what we did.”)
5. Readiness (“Here’s what we are doing to prepare further.”)
6. Recommendations (“Here are our recommendations.”)

## A.3 Problem solving

### A.3.1 A3 thinking/reporting (2 of 6)

PDSA	No.	Components
Plan	1	Problem statement (does not include causes or solutions)
	2	Background
	3	Current condition
	4	Goal and next target condition
	5	Analysis (gap and root causes)
	6	Proposed countermeasures (theory of change; evidence-based)
Do	7	Implementation plan (theory of action; implementation science)
Study and Act	8	Validated learning and improving (PDSA cycles)

### A.3.2 Results-based thinking/reporting (adapted from Results-Based Accountability) (3 of 6)

PDSA No. Components Plan 1 2 3 4 5 6 What are we trying to accomplish and why? (goals and motivation) How do we measure success? (how much?, how well?, better off?) What are the drivers? (theory of causation; root causes) What partners can help? (collective action and impact) What other conditions must exist? (assumptions and risks) What strategies work? (theory of change; evidence-based) Do 7 Implementation plan (theory of action; implementation science) Study and Act 8 Validated learning and improving (PDSA cycles)

### A.3.3 Decision making (with six decision quality requirements) (4 of 6)

PDSA No. Components Plan 1 2 3 4 5 6 Frame (What are we deciding and why?) Prospects (What results, impacts and future states do we care about?) Information (What do we need to know?) Alternatives (What creative, doable choices do we have?) Reasoning (How will we prioritize or make selection?) Proposed actions (And, is there commitment to action?) Do 7 Implementation plan (theory of action; implementation science) Study and Act 8 Validated learning and improving (PDSA cycles)

## A.4 Strategic execution (project management)

4SQ is concise, and was derived from the United Nations results-based management approach.

#### **A.4.1 4 Strategic Questions (4SQ) (5 of 6)**

1. What are we trying to accomplish and why? (goals; alignment to values, mission, vision)
2. How do (or will we) we measure success? (lead and lag indicators)
3. What other conditions must exist? (assumptions and risks)
4. How do we get there? (key strategies and implementation plan)

#### **A.5 Program, Center, or Office introduction or update (6 or 6)**

What are your core values, mission (or purpose), vision, principles, and strategic priorities? Select key challenges or problems your team is tackling and use a template from page 2. As a lean leader, starting with self, how are you developing your people to solve problems and improve performance (improve processes and results)? This is called Leader Standard Work.