



# Agile Implementation Process

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Malaz Boustani, MD, MPH

# Disclosures

**Malaz Boustani, MD, MPH**

Equity ownership in two local IT companies

- Preferred Population Health Management , LLC
- RestUP, LLC

Will not discuss off-label medication use

# Agenda

- **Aim 1:** Quick dive into the emerging Science of Implementation
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
  
- **Aim 2:** Describe the Agile Implementation Process

# Today's Healthcare System – Healthcare 1.0

**75,000**

annual preventable deaths

**\$750B**

in wasted spending

**1 in 4**  
experience harms

**50%**

do not receive evidence-based care

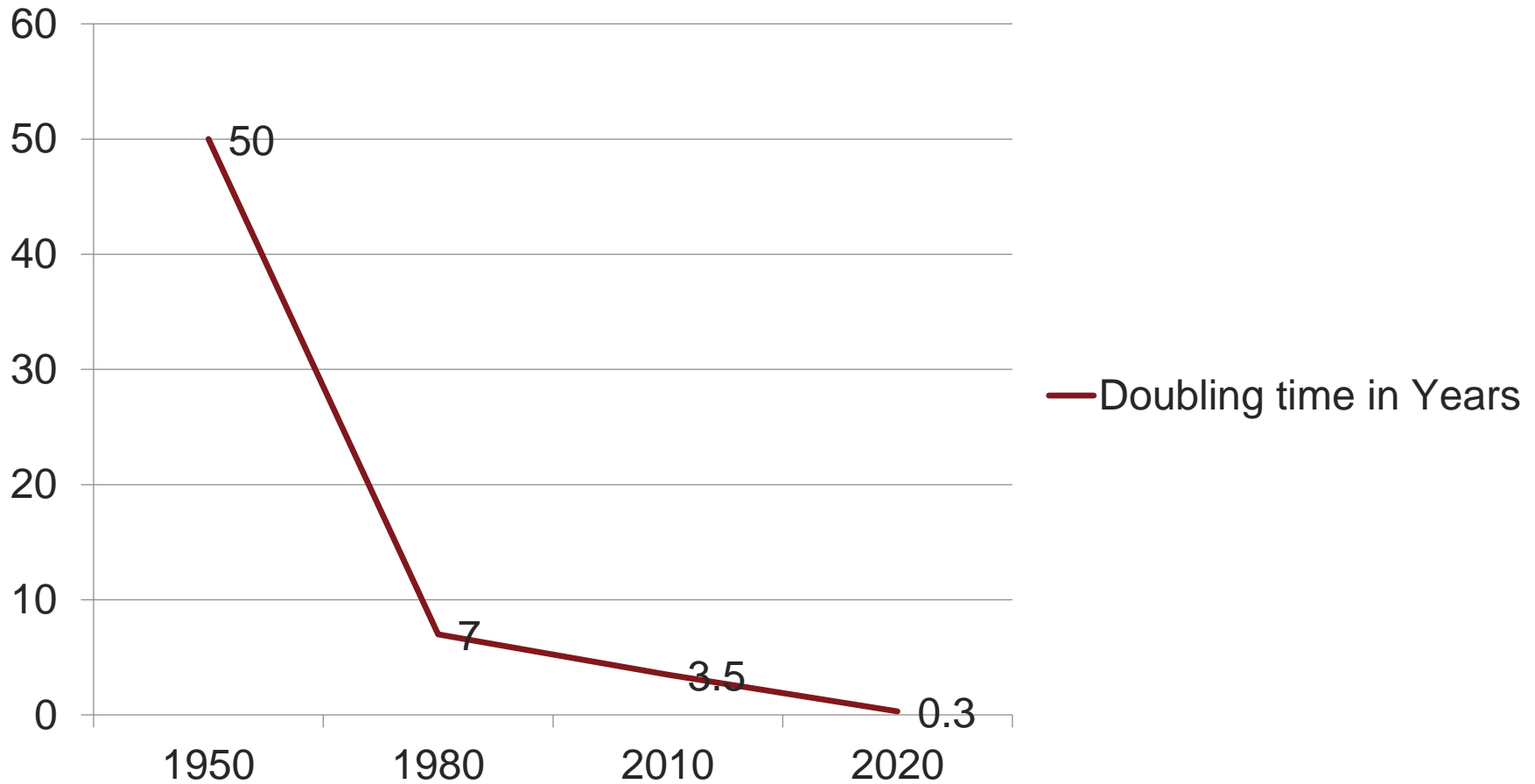
**30%**

annual healthcare spending is wasted

Smith M, Saunders R, Stuckhardt L, McGinnis JM. Best care at lower cost: the path to continuously learning health care in America. National Academies Press; 2013. Institute of Medicine. 2013. Best Care at Lower Cost: The Path to Continuously Learning Health Care in America. Washington, DC: The National Academies Press. <https://doi.org/10.17226/13444>. Landrigan C, Parry G, Bones C, Hackbarth A, Goldmann D, Sharek P. Temporal Trends in Rates of Patient Harm Resulting from Medical Care. The New England Journal of Medicine 2010 Nov;363:2124–34. Ebell MH, Sokol R, Lee A, Simons C, Early J. How good is the evidence to support primary care practice? Evid Based Med 2017;22:88–92.

# Exponential Growth in Medical Knowledge

## Doubling time in Years



Densen P. Challenges and opportunity facing medical education. Trans Am Clin Climatol Assoc 2011;122:48-58

# Our Challenge

## It is NOT a “Knowledge” Problem

Every day, the scientific community publishes 75 trials and 11 systematic reviews<sup>6</sup>



**<15%**  
success rate of  
implementing



**17+**  
years to  
implement



**<1%**  
of new knowledge is  
generalized into practice



**\$1 B+**  
for each new  
drug developed

Bastian H, Glasziou P, Chalmers I. Seventy-five trials and eleven systematic reviews a day: how will we ever keep up? PLoS Med 2010;7(9):e1000326. Balas E, Boren S. Yearbook of medical informatics: Managing clinical knowledge for health care improvement. Stuttgart, Germany: Schattauer Verlagsgesellschaft mbH; 2000. Green LW, Ottoson JM, Garcia C, Hiatt RA. Diffusion theory and knowledge dissemination, utilization, and integration in public health. Annu Rev Public Health 2009;30:151—74. Brownson R, Kreuter M, Barbara A, Arrington B, True W. Translating Scientific Discoveries Into Public Health Action: How Can Schools Of Public Health Move Us Forward? Public Health Reports, Vol 121, Issue 1, pp. 97 - 103, First Published January 1, 2006, <https://doi.org/10.1177/003335490612100118>. Paul S, Mytelka D, Dunwiddie T, Persinger C, Munos B, Lindborg S, Schacht A. How to improve R&D productivity: the pharmaceutical industry's grand challenge. Nature Reviews Drug Discovery volume 9, pages 203–214 (2010). doi:10.1038/nrd3078.

# Journey of an Evidence-based Solution



Made possible by



# Implementation Science

- Developing tools, processes, and strategies for rapid, efficient, scalable, and sustainable implementation of evidence-based services in the local “real world”.

Boustani, Alder C, and Solid C. Agile Implementation: JAGS 2018.



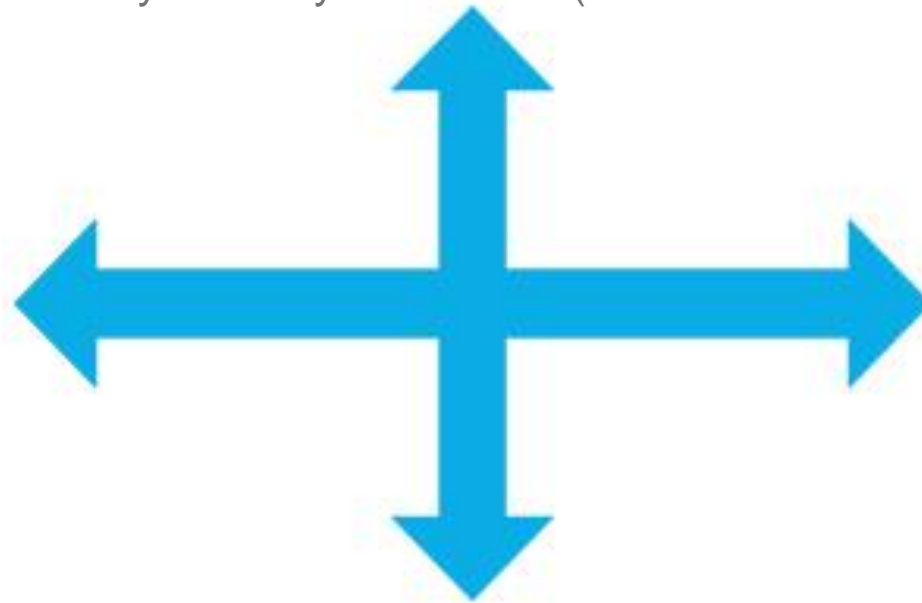
# Agile Implementation Process

## Never Ending, Dynamic Dance

Organizational Psychology

CAS Theory – Muray Gell-Mann (Nobel Prize Laureate)

Innovation



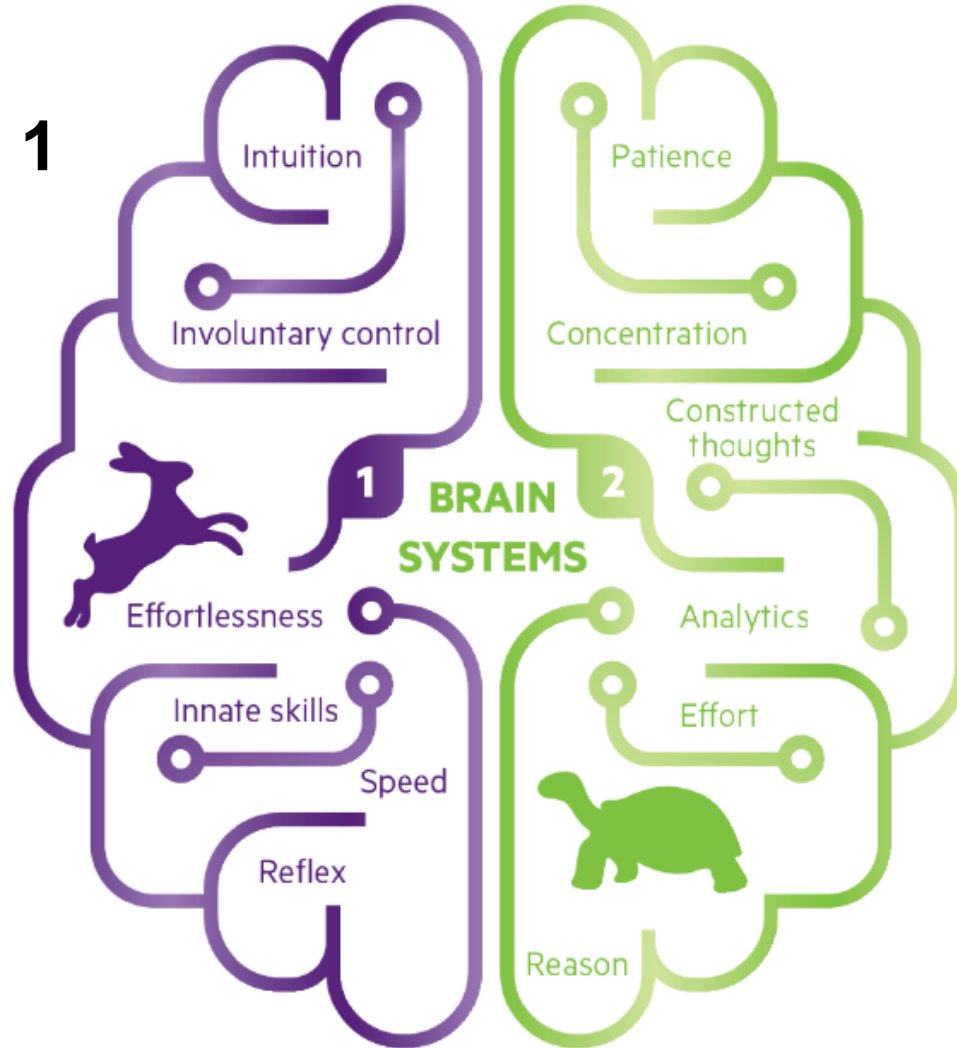
Implementation

Individual Behavior Change

Behavioral Economics Theory – Daniel Kahneman (Nobel Prize Laureate)

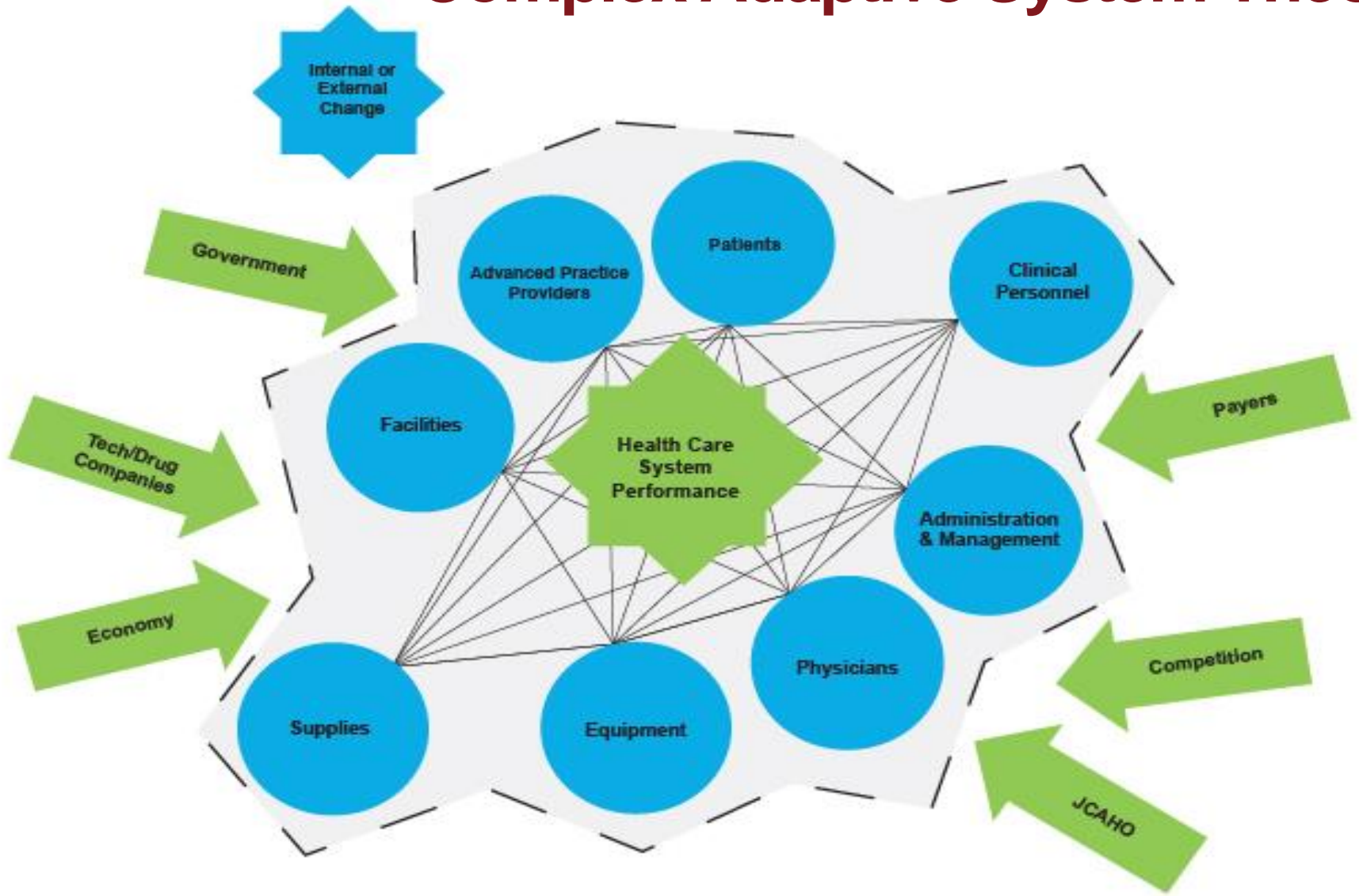
# Thinking Fast and Slow

System 1



System 2

# Complex Adaptive System Theory

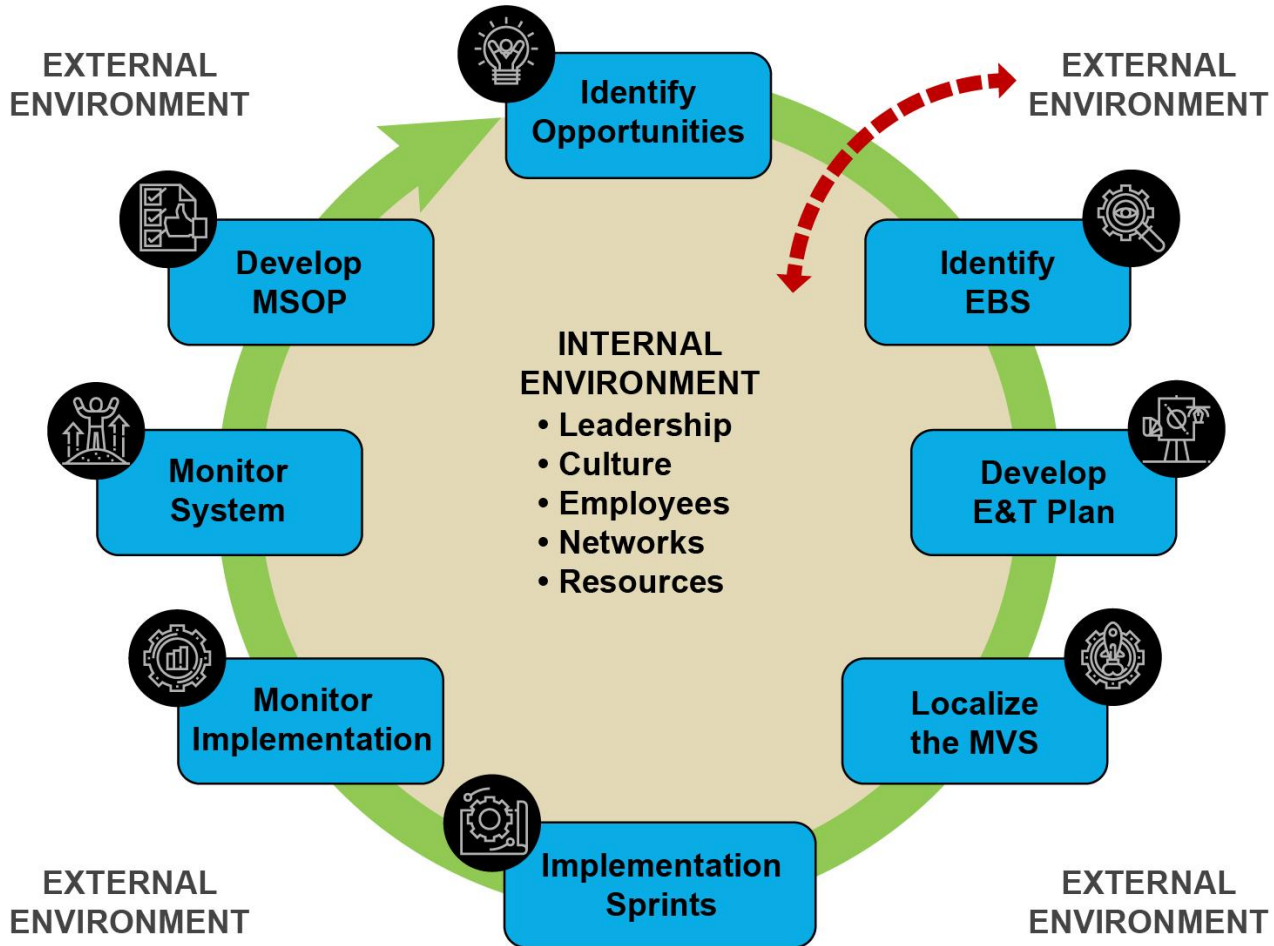


# Agile Implementation Process

- Eight interconnected steps facilitated by an internal or external change agent to:
  - Develop or Select
  - Adapt, Implement and Evaluate
  - Sustain and Scale
- Either:
  - Evidence-based or Innovative Healthcare Solutions
- In a Local Complex Adaptive Healthcare Delivery Organization

Boustani et al, Academic Medicine 2018; Boustani et al, JAGS 2018; Callahan et al, JAGS 2018

# Agile Implementation Process



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# AI Playbook

1. Proactively **identify** and **confirm** opportunities
2. Identify **evidence-based solutions**
3. Develop **evaluation** and **termination plans**
4. Localize the **minimally viable service (MVS)**
5. Perform **Implementation Sprints**
6. Monitor **implementation performance**
7. Monitor **system performance**
8. Develop **minimal standardized operating procedure (MSOP)**

# GRADUATE CERTIFICATE

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- Identifying, implementing, and evaluating evidence-based practices
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