

Supply-side Health Economics



Casey B. Mulligan, PhD | HHS Chief Economist and Chief Regulatory Officer | June 25, 2026

The Supply Side of Health Care

Who supplies healthcare is even more important than who pays for it

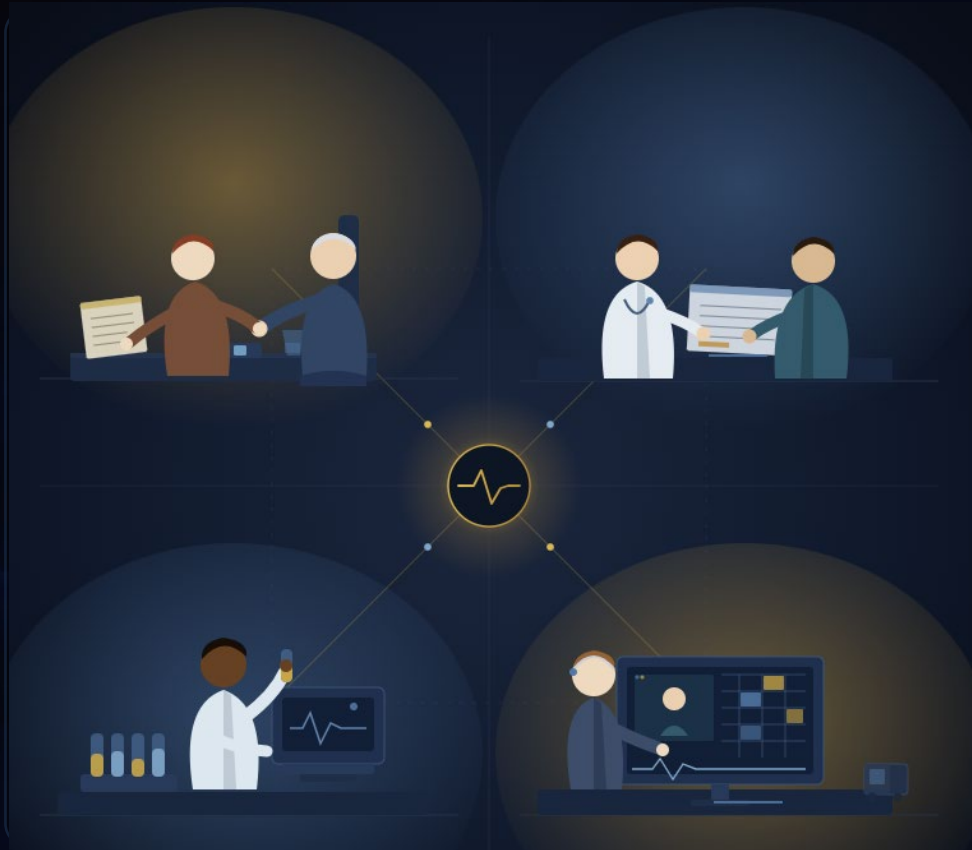
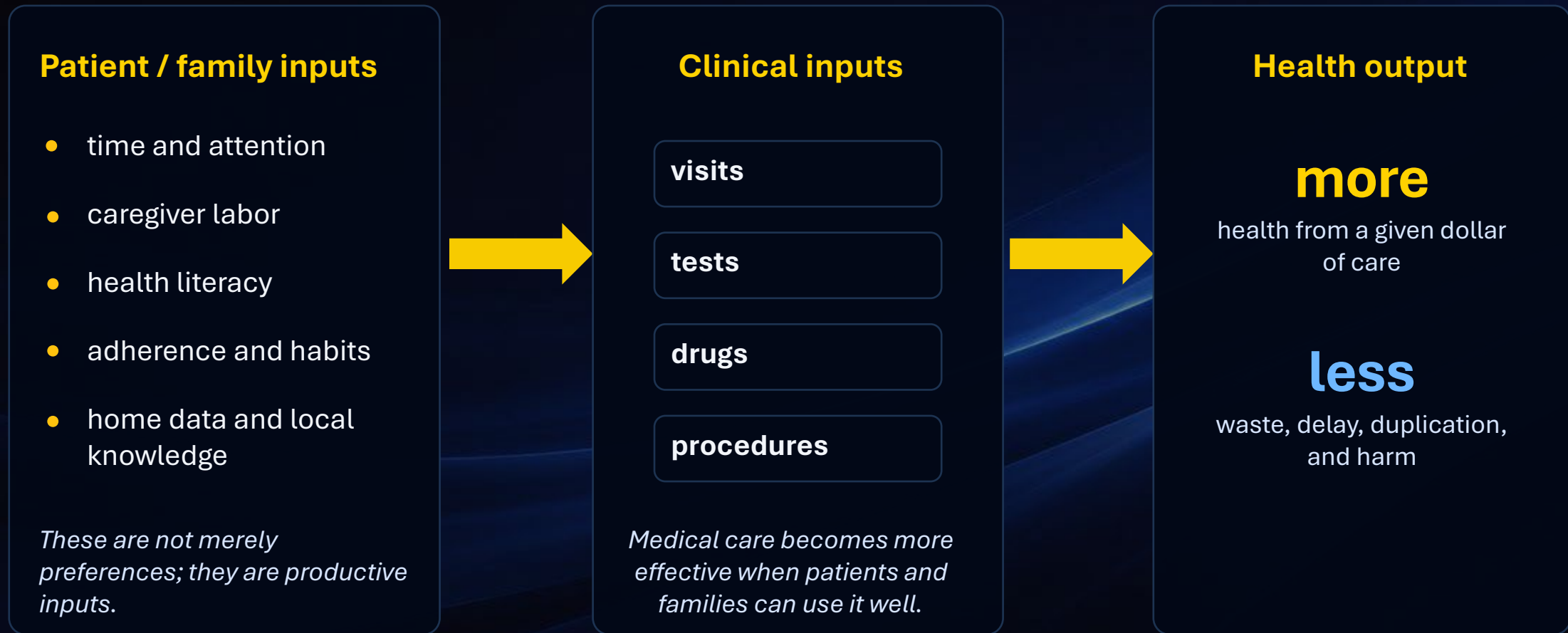


Image credit: Claude. June 23, 2026

Suppliers of healthcare

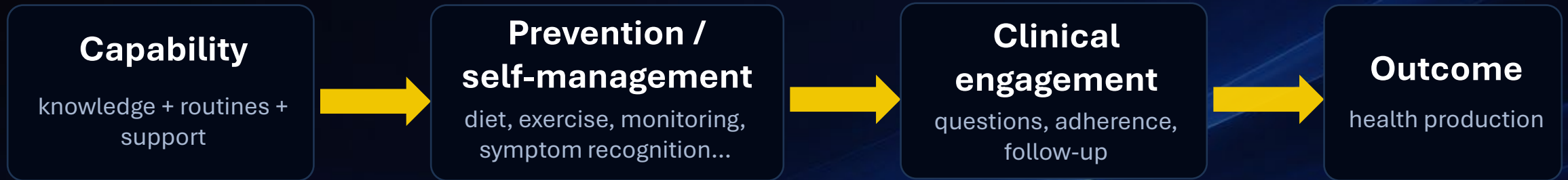
- **Patients and families**
time, knowledge, adherence, data, caregiving
- **Physicians and nurses**
professional labor and judgment
- **Drug and device manufacturers**
innovation and future supply
- **Business innovation**
process, entry, logistics, site of care

Patients are part of the production function



Patient capability produces health

Capability prevents illness and makes formal care more productive



Diabetes self-management education/support

**-0.61
HbA1c points**

vs. usual care

Also reduced fasting glucose and blood pressure in a 108-study network meta-analysis.

Adherence is the last mile of supply

approx. 50%

average chronic-disease adherence in developed countries

AHRQ: 20-30% of prescriptions are never filled; up to 50% are not taken as prescribed.

The Overlooked Patient Workforce

Self-management is supply — and policy has sometimes undermined it.

Health is home production

Self-management systems include:

- work, school, and family routines
- diet, exercise, and sleep patterns
- support networks
- chronic-disease monitoring
- local knowledge and judgment

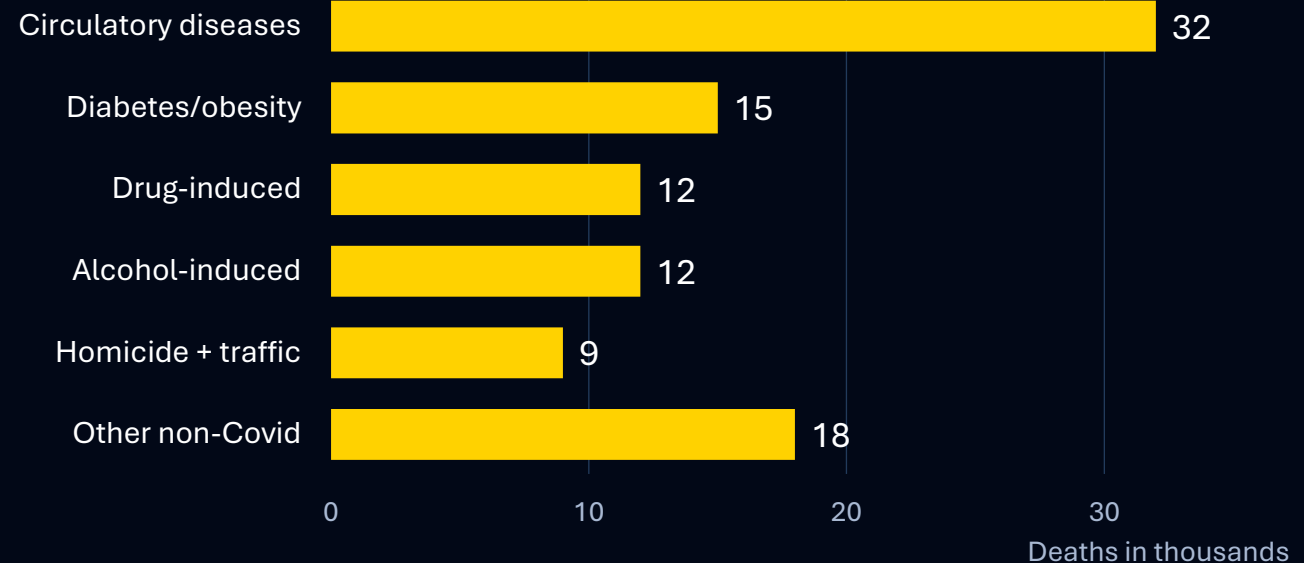
Centralized rules can break these systems.

Excess non-Covid deaths by cause

Annual rate above prior trends, adults 18+, Apr. 2020-Dec. 2021

97k / year

total excess



Supply-side test Does policy expand patient knowledge, choice, and ability to act - or disrupt self-management routines?

Source: Mulligan & Arnott (2022), using CDC WONDER death certificates. Figures shown are annual excess non-Covid deaths above prior trends.

The household is healthcare infrastructure

Unpaid care is hidden supply - and care networks help explain where it comes from.

Economic value of unpaid LTSS care after age 50

 **most** receive unpaid care

\$107k

average lifetime value,
including non-recipients

1 in 4

recipients receive \$250k+
of unpaid care

ASPE also finds more unpaid care among married people and those with a surviving spouse or children.

Spouse and family networks

At age 65, married older adults have more total and active life expectancy than unmarried older adults.

+2.2 / +2.4

men: total years / active years

+1.5 / +2.0

women: total years / active years

Use as evidence of productive care networks, not a pure causal estimate.

The patient's time is not free

Measured spending misses a large input: patient and family time spent getting care.

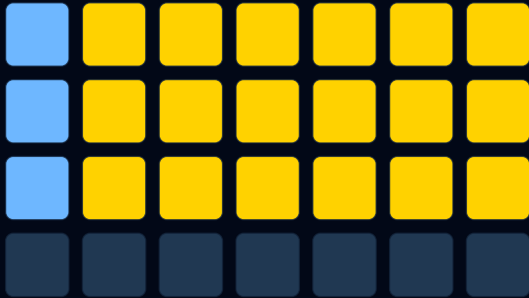
Traditional Medicare, adults 65+

20.7

healthcare contact days
per year

11.1%

have 50+ contact days



approx. 3 weeks/yr getting care outside the home

Outpatient visits: travel + wait + care + companion time

207M

40-hour workweeks per year
for patients and companions

39.5%

of outpatient visits
included a companion



companions usually family

- transportation
- scheduling and waiting
- cognitive and emotional support

AI and wearables are new patient capital

Patients are already acquiring tools that increase information, monitoring, and navigation capacity.

Consumer AI for health

32%

of U.S. adults used AI chatbots for health information in the past year

41%

of AI-health users uploaded medical information



65% cite quick or immediate advice as a major reason

Wearables and home monitoring

1 in 3

Americans use a wearable device to track health or fitness

>70%

of wearable users would share data with a doctor

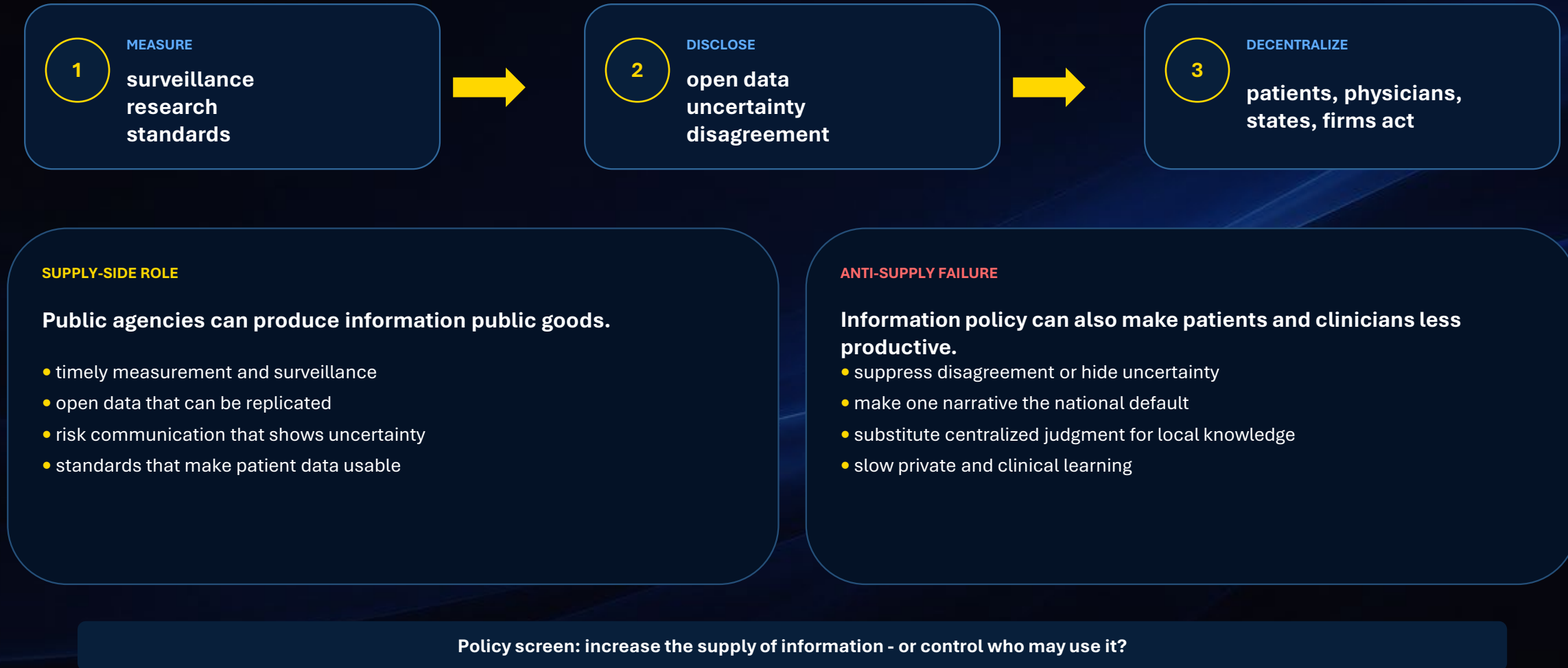


But fewer than one in four adults with or at risk for cardiovascular disease uses a wearable.

Policy question: clarify regulations without locking patients out of useful tools.

Public health is information infrastructure

Good public health increases usable knowledge; bad public health centralizes narrative control.



Expanding clinician supply

Professional labor is scarce; regulation can either expand capacity or consume it.

LABOR SUPPLY MARGINS

Inflow

medical, nursing, allied-health training slots

Permission to practice

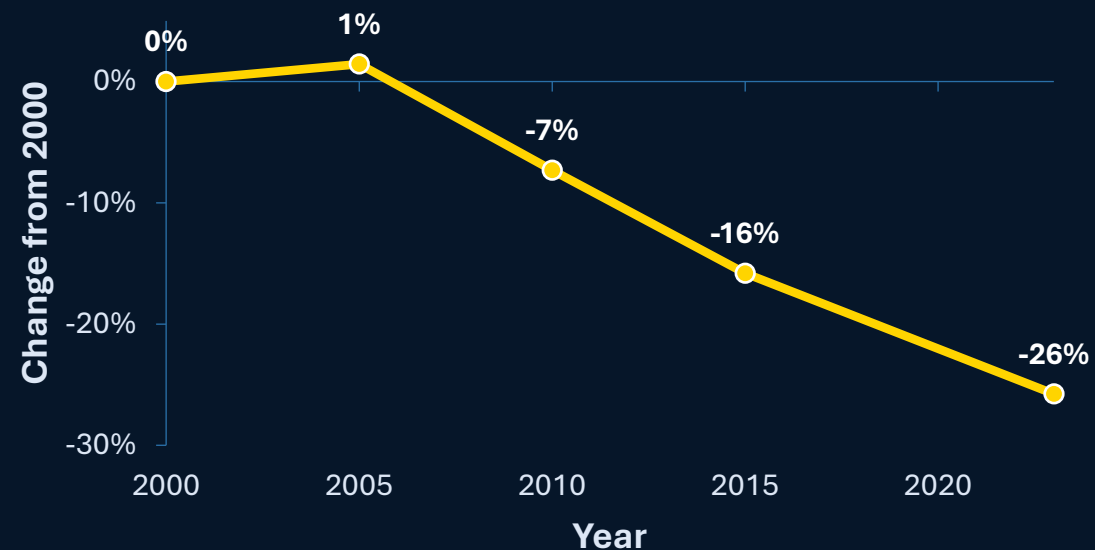
Licensure, scope, supervision, interstate practice

AI/admin relief

less time on documentation and fewer care-delivery mandates

PHYSICIAN DEMAND OUTPACING SUPPLY

Primary-care physicians per Medicare enrollee:
change from 2000

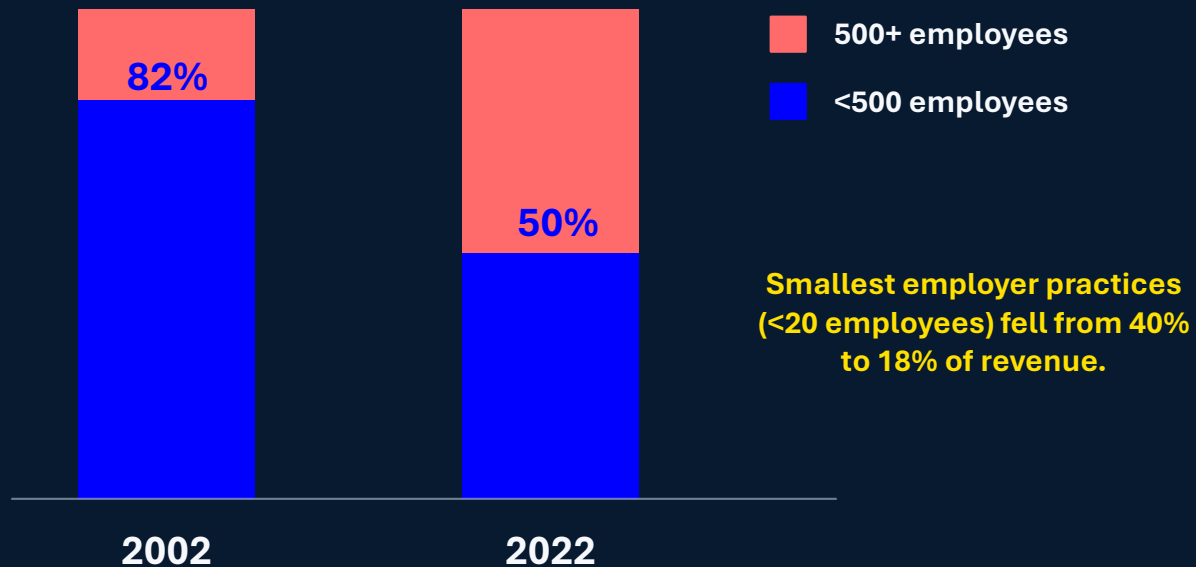


Independent physician offices are disappearing

Innovation requires entry, regulatory flexibility, and room for small suppliers.

SHARE OF PHYSICIAN-OFFICE REVENUE

Large systems now account for about half of revenues



Revenue shares for Offices of Physicians, except Mental Health Specialists (NAICS 621111).

REGULATORY BURDEN

One-size regulation can favor incumbents.

Scale mismatch

uniform rules hit small practices harder

Entry barriers

potential entrepreneurs deterred

Innovation loss

fewer local experiments

Productivity loss

beneficial processes delayed

Let new processes enter and compete

Healthcare productivity often comes from sites, workflows, logistics, and entry.

EVOLVING PROCESSES

telehealth • ASCs/outpatient surgery • home monitoring • retail/urgent care • scheduling

RULES THAT BLOCK ENTRY

CON laws • site-specific payment • incumbent protection • one-size compliance

Competing sites for clinically appropriate services

Hospital
HOPD

ASC

Physician
office

Retail /
urgent

Home /
remote

Future care must be produced before it can be covered

Coverage cannot deliver innovations that regulation prevents from emerging.

ORGANIZATIONAL

- independent practices
- ASCs, retail, home care
- new ownership and teams

PROCESS

- triage and scheduling
- protocols and workflows
- AI-enabled navigation

PRODUCT / CLINICAL

- drugs and devices
- diagnostics and procedures
- off-patent knowledge

RFA principle: avoid entry barriers to new products and processes.

Price controls are supply controls

Payment rules become production rules.

LOWER PRICES THROUGH COMPETITION

supply expands

- entry
- productivity
- innovation
- lower-cost sites
- durable affordability

Prices and entry reveal bottlenecks.

LOWER PRICES THROUGH COMMAND

supply can contract

- exit or shortage
- delayed innovation
- frozen assumptions
- quality tradeoffs
- budget-window savings

Administered prices can ration by making supply less attractive.

Examples: DRG and CPT fee schedules • Part B reimbursement • IRA drug price controls

What if Hinton had been CMS?

The issue is not expert error. It is the knowledge problem of centralized systems.

2016 EXPERT FORECAST

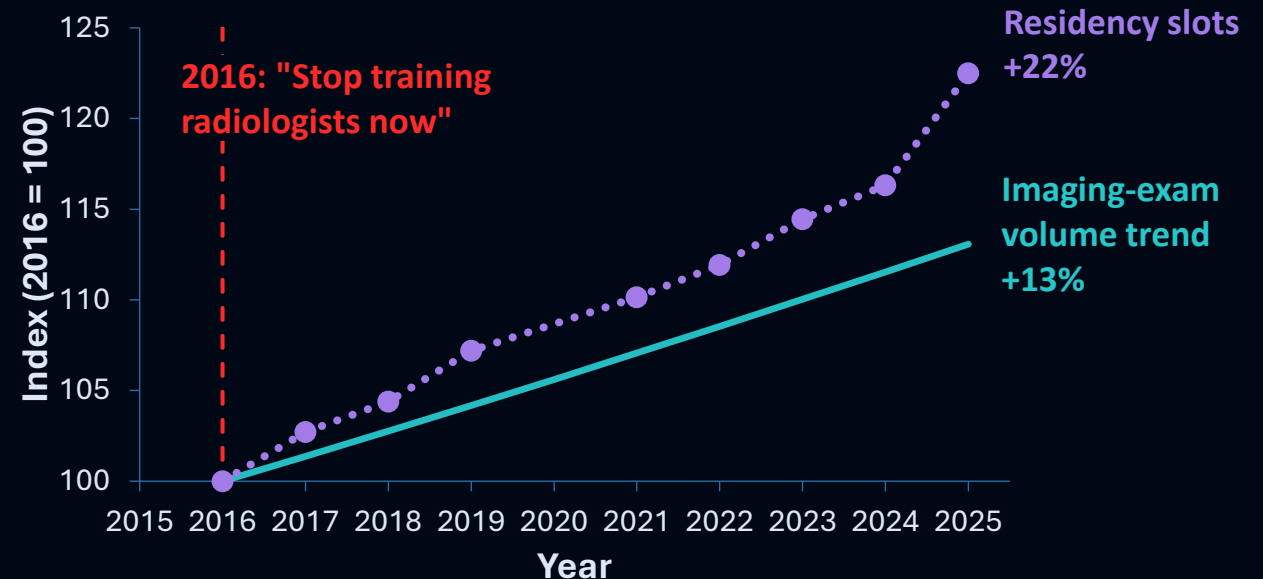
“Stop training radiologists now.”

Deep learning would soon do better than radiologists.

Geoffrey Hinton

2024 Nobel Physics

WHAT ACTUALLY HAPPENED



Radiologist demand expanded.

Single payer can convert one forecast into a workforce, coverage, or payment rules.

Sources: Stanford AIMI/New Yorker on Hinton quote; Nobel Prize; Becker's/Mayo; JACR/PubMed imaging and workforce projections.



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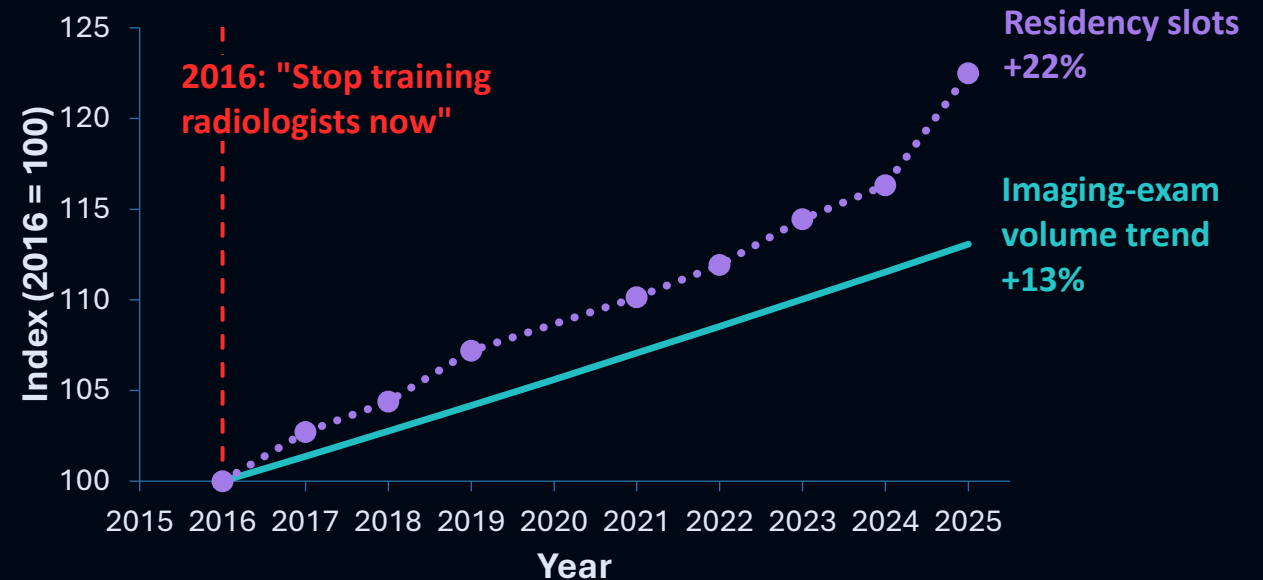
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Competition is discovery

Single-payer planning turns one view of the future into a national default.

COMPETITIVE DISCOVERY

bad forecasts remain local

Multiple payers, providers, schools, and firms can try different staffing, technology, and payment models.



Prices and entry reveal bottlenecks.

CENTRALIZED PAYER

bad forecasts scale nationally

A single payment rule can become a workforce rule, a coverage rule, or a technology rule.



Price controls can freeze assumptions.

Policy screen: expand productive inputs, information, and entry; avoid making one forecast the national default.

CONCLUSION

A health-policy supply-side test

Affordability comes from expanding productive supply, not merely shifting the bill.

1

Patient & family capability

information, data access, self-management, caregiver capacity

2

Clinician capacity

training, scope, team-based care, less administrative drag

3

Entry & business innovation

new sites, logistics, telehealth, home and retail models

4

Medical innovation

drugs, devices, diagnostics, procedures, AI, off-patent knowledge

5

Public information & trust

open data, transparent uncertainty, visible disagreement

6

Competitive discovery

multiple approaches, price signals, entry, federalism

Ask of every rule: does it expand supply, information, entry, and innovation — or ration through control?