The 66% Target: What the Dementia Diagnosis Data Actually Shows

Bootstrap CUSUM on 9 annual observations of the NHS Estimated Dementia Diagnosis Rate, 2017–2025. The COVID collapse is confirmed by the X-mR moving range chart. The 66.7% target set in 2012 has still not been stably met.

OHID Fingertips EDDR, England | N=9 annual observations | 99.7% confidence | Syd Stewart, StepChangeAnalysis.com

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Article Summary

England briefly got there

The 66.7% target was first achieved in November 2015. The rate ran above it every year 2017–2020, peaking at 68.5% in 2019. Bootstrap CUSUM overall mean: 65.39%.

COVID: a visible collapse

Bootstrap CUSUM: 1 stage at 99.7%, mean 65.39% (N=9). All values within X-mR limits. Moving range 2020→2021 of 5.7pp exceeds URL of 5.19pp — special cause confirmed on mR chart.

The slow recovery

March 2025: 65.6% — above the mean (65.39%) but 1.1pp below the 66.7% target. ~58,000 people with dementia have no recorded diagnosis.

A diagnosis without follow-through

53.2% of diagnosed patients had a medication review in the past year. 72.3% had a care plan review. The diagnosis rate measures only the first step.

Purchased behaviour, not system design

Deming's 12th Point: incentive schemes purchase behaviour, not embed it. The rate was above 66.7% while CQUIN was active. The constraint — memory clinic capacity — was never resolved.

A metric that moves for the wrong reasons

The EDDR denominator rises as the population ages — the rate falls automatically even if diagnostic activity is unchanged. The 66.7% target is a political round number, not clinically derived.

Level 3: fix the system, not the metric

Build memory clinic capacity structurally. Integrate cognitive assessment into GP annual reviews for over-75s as a system standard. Deming's 14 Points provide the framework.

Drive measures and balance measures

Six suggested measures from memory clinic capacity to avoidable crisis admissions — each with a balance measure to guard against gaming. A PM advised by this framework would have tracked six pairs, not one moving ratio.

Statistical summary

N=9 annual observations (deduplicated source data). Bootstrap CUSUM: 1,000 loops, Turn Length 5, 99.7% confidence.

Metric	Value
Bootstrap CUSUM: stages (99.7%)	1 stage — N=9 too small for stage detection
Bootstrap CUSUM: overall mean	65.39%
Bootstrap CUSUM: SD	2.69 percentage points
X-mR: UNPL / LNPL / URL	69.61% / 61.17% / 5.19 pp
All nine values vs X limits	Within limits — no special causes on X chart
Moving range 2020→2021 vs URL	**5.7pp vs URL 5.19pp — SPECIAL CAUSE (mR chart)**
Structural change confirmed?	No — N=9 insufficient; pattern clear, statistics limited
National target (set 2012)	66.7%
Current rate (March 2025)	65.6% — 1.1pp below target, above overall mean

What is a structural change — and why does it matter?

A structural change occurs when a process permanently shifts to a new mean level — not a temporary dip, but a lasting change in the underlying system. Bootstrap CUSUM detects these by testing whether cumulative deviations cross a threshold unlikely under random variation alone. With N=9, the COVID collapse is visible and the moving range confirms it as statistically unusual — but Bootstrap CUSUM cannot determine from nine points alone whether the system has permanently shifted or is returning to its pre-COVID mean. The recovery to 65.6% by 2025, close to the overall mean of 65.39%, is consistent with return to the pre-existing process. The PM's Challenge did not create a detectable structural change from N=9. Monthly data (available from NHS Digital) would substantially strengthen the statistical picture.

What Deming would ask

W. EDWARDS DEMING

American statistician and management theorist whose work transformed Japanese manufacturing after World War II. His core insight: 94% of problems are caused by the system, not the people in it. Deeply sceptical of targets, numerical goals without methods, and financial incentives. His framework asks not ‘who failed?’ but ‘whose system produced this result?’

A NUMERICAL GOAL WITHOUT A METHOD

> ***“A numerical goal without a method is nonsense.” — W. Edwards Deming***

The 66.7% target was set in 2012. The rate ran above it 2017–2020. Five years after the COVID collapse it has not recovered to the target. Bootstrap CUSUM finds one stage at 99.7%: mean 65.39%, below the 66.7% ambition.

THE CONSTRAINT IDENTIFIED

Not patient awareness. Not GP motivation. Not political will. The constraint is memory clinic capacity — the number of specialist assessments available per year. GP referral rates recovered post-COVID quickly. The diagnosis rate did not, because patients entered a backlog memory clinics could not clear.

FOUR COMPOUNDING FACTORS

(1) Old Age Psychiatry workforce shortage — chronically undersubscribed, less prestigious and less well-paid than neurology. Medical graduates systematically avoid it. This is the primary root cause. (2) Neuroimaging bottleneck — 60% of memory services cannot view brain scan images (no PACS access). (3) Waiting times — average 13 weeks to first assessment (up from 5 weeks pre-COVID); only 26% seen within the 6-week target. (4) New treatments (lecanemab, donanemab) require early diagnosis with biomarker confirmation and MRI monitoring — arriving at the worst possible moment.

TWO REINFORCING LOOPS

R1 — The Workforce Erosion Loop: career attractiveness falls → consultant supply falls → throughput falls → workload rises → attractiveness falls further. Two O links — reinforcing, vicious.

R2 — The Unmet Need Spiral: throughput falls → unmet need accumulates → demand rises → throughput constrained further. Two O links — reinforcing, vicious.

Neither loop requires external pressure to keep running. The PM’s Challenge added exceptional demand without breaking either loop. The moment pressure was removed, both reasserted themselves.

FLIPPING FROM VICIOUS TO VIRTUOUS

To flip R1: mandate Old Age Psychiatry training places; pay parity with neurology; redistribute tasks off consultant lists. To flip R2: build memory clinic capacity ahead of demographic demand; integrate cognitive screening into routine GP annual reviews for over-75s as standard process. Critical: you cannot flip a reinforcing loop by pushing on the output. Both require structural decisions with 10-year lead times.

Level 3: fix the system, not the metric

> Joiner's framework: Level 1 = fix the output. Level 2 = fix the process. Level 3 = fix the system. The CQUIN was Level 1. Answers to Level 3 system interventions can often be found in Deming's 14 Points — particularly Point 1 (constancy of purpose), Point 6 (institute training), Point 12 (remove barriers to pride of workmanship) and Point 13 (institute self-improvement).

Build memory clinic capacity structurally — Not as a response to demand but ahead of the demographic curve. Memory clinic sessions should have been expanding since 2005.

Integrate cognitive assessment into GP annual reviews — Standard process for all patients aged 75+, not a separate referral pathway. Removes the bottleneck for straightforward presentations.

Co-locate memory assessment with primary care — The Netherlands model: GP-led assessment with specialist support, not a separate secondary care referral pathway.

Proactive case-finding in care homes as a system standard — The 2023 NHS care home programme worked. Making it permanent and funded is a Level 3 decision.

Suggested measures — and balance measures that guard against gaming

Level	Drive measure	Balance measure
Input	Memory clinic capacity (sessions/year)	Cost per assessment
Process	GP referral rate per 1,000 aged 75+	Referral conversion rate
Process	Waiting time: referral → assessment	Diagnostic accuracy at 12 months
Output	Diagnoses per 1,000 aged 75+	Geographic equity of diagnosis rates
Outcome	Post-diagnostic support within 12 weeks	Carer-reported quality of support
Outcome	Avoidable crisis admissions per 100,000 aged 75+	All-cause emergency admissions 75+

What the data raises

Audience	Questions the data raises
For patients	Waiting times, backlogs, and the 1.1pp gap are confirmed by the data — not a failure of GPs or patients. The constraint is memory clinic capacity driven by 30 years of underinvestment in Old Age Psychiatry. Whether that is an acceptable trade-off is worth asking of those responsible.
For the NHS	Memory clinic waiting time directly measures the constraint. Bootstrap CUSUM applied at service level could identify which memory clinics have improved throughput and surface what they did differently.
For govern ment	The demographic demand peak now arriving was measurable 40 years ago. The second peak (2060s–70s) is measurable now. Two reinforcing loops maintain the constraint automatically. Breaking them requires structural decisions with 10-year lead times. Both loops have been running vicious for 30 years.

THE MOST IMPORTANT DEMING POINT IN THIS ARTICLE

Cameron's commitment was genuine, sustained, and personal — his mother was subsequently diagnosed with Alzheimer's disease. He continued championing the cause after leaving office with no political gain. And yet the Bootstrap CUSUM mean is 65.39%, below the target he set. The failure was not a failure of commitment. It was a failure of method — the absence of a systems analysis that would have identified the constraint, traced its root cause (30 years of Old Age Psychiatry underinvestment), and designed an intervention that addressed the causal chain rather than the output. The right person, with the right intentions, using the wrong analytical framework, produces exactly the Bootstrap CUSUM result we see.

Data and references

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Full article, charts and downloadable data:
stepchangeanalysis.com/dementia-diagnosis-rate.html