Pūtake Labs

Can AI close New Zealand's health workforce gap?

How limited, targeted or broader AI adoption could change workforce demand, capacity and service delivery to 2033

Sector
Health and disability

Data current to
Early November 2026

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This is independent analysis built from public data. No organisation commissioned it, and no organisation named here has reviewed or endorsed it. System figures come from published sources. Adoption pathways and their effects are modelled assumptions, set out in full. Scenarios are tested possibilities, not forecasts, and this is not clinical, investment or legal advice.

SUMMARY

AI can buy time. It cannot replace the workforce.

WHAT THE ANALYSIS SHOWS

Even broad AI adoption would cover about one-tenth of the clinical workforce New Zealand is projected to need by 2033. A targeted, evaluated expansion of proven tools is the most robust choice: it pays its way if each routine user gains a little under 4% more patient-care time, and it builds the local evidence needed before scaling further.

12,000
Extra doctors, nurses and allied health workers needed by 2033 if nothing changes (Health NZ)

9.6%
Share of that gap covered by broader adoption in the central case (1,148 FTE-equivalent)

3.7%
Capacity gain per routine user at which targeted adoption costs the same as employing clinicians

74.4%
ED patients admitted, discharged or transferred within six hours, against a 95% target

THE QUESTION

Demand is rising faster than the workforce. ED attendances grew about 2.7% in a year, the population aged 65 and over will pass one million by 2028, and Health NZ projects large shortfalls in every major profession. An AI scribe is now live in every emergency department. The question is how far, and how fast, to go next.

WHAT WE FOUND

- **The gap is mostly a people problem.** Across nine tested cases, AI covers between 0.2% and 19.1% of the 2033 gap.
- **Value depends on gains that are not yet proven at scale.** Trials show smaller gains than the New Zealand ED pilot.
- **Routine use matters as much as reach.** In US hospitals only about a third of licence holders use scribes for most visits.
- **Almost half of broader adoption's benefit rests on AI triage**, the least tested part.

WHAT DECISION-MAKERS SHOULD DO

- Expand scribes where documentation load is heaviest, with each step gated on local results.
- Measure patient-care capacity, not just time saved or satisfaction.
- Track routine use, not licences issued.
- Trial AI triage and navigation in a few services, with equity monitoring, before relying on it.
- Keep workforce growth as the main plan. Treat AI as a buffer, not a substitute.

The pathways and conditions are set out on pages 4 and 5. Every public source is listed on page 10.

CURRENT POSITION

Demand is outrunning a workforce that is growing slowly.

Performance is improving on most health targets, but from a low base, and the system is working near capacity. AI has moved from cautious guidance to national deployment in about three years.

INDICATOR	LATEST POSITION	WHY IT MATTERS
ED stays under six hours	74.4% (target 95%)	Up slightly on a year earlier despite rising demand. The target is rated feasible but well off track.
ED attendances	340,967 a quarter	Oct to Dec 2025, up from 332,110 a year earlier. Ambulance 111 calls reached a record 706,194 in 2025.
Elective treatment within four months	64.9% (target 95%)	Up from a 62.0% baseline in September 2023, rated probable.
Projected shortfall to 2033	12,000 workers	3,450 doctors, 4,100 nurses and 4,450 allied health "if nothing changes" (Health Workforce Plan 2024). This excludes existing vacancies.
Practising doctors	21,097	Medical Council 2026 report. GPs are now under a quarter of doctors, and about a third of GPs surveyed in 2025 planned to retire within five years.
Health NZ nursing workforce	29,458 FTE	Quarter to March 2026, up 54 FTE in two years on NZNO's analysis of Health NZ data.
Population aged 65+	About 1 million by 2028	Stats NZ projection; about 21% of the population by 2035. Older people are the largest users of health services.
AI scribes in public hospitals	About 1,250 ED users	Live in all EDs since early 2026, with about 1,000 more licences for mental health teams. Four scribe suppliers endorsed by Health NZ's AI advisory group.
AI in breast screening	$4.4m tender	AI reading of mammograms, validation from July 2026 and rollout planned from early 2027, with data held in New Zealand or Australia.

Sources are listed on page 10. Health target results are as first published and may be revised.

EVIDENCE

What the public record supports, and what it does not.

AI SCRIBES: WHAT WE KNOW

The New Zealand ED pilots in Hawke's Bay and Whanganui reported after-hours documentation down by up to 81% and about one additional patient per doctor per shift. At Middlemore, 80% of surveyed staff said the scribe improved productivity. These are early, unpublished evaluations.

The strongest international evidence is more modest. A randomised trial of 238 US physicians (NEJM AI, 2025) found one scribe cut time writing notes by 9.5% and another made no significant difference. A multi-site US study (JAMA, 2026) found about 16 minutes a day less documentation and only a nominal increase in visits. Both found burnout improved more than time saved would explain, and both reported occasional clinically significant errors.

OTHER AI USES

Large screening trials overseas have found AI-supported mammogram reading can cut radiologist reading workload substantially while maintaining or improving detection. Evidence for AI triage and patient navigation reducing demand is far thinner.

WHY THE GAP BETWEEN PILOT AND TRIAL MATTERS

Pilots measure enthusiastic early adopters in the setting chosen for the tool. Trials include everyone. In the JAMA study only about a third of users used scribes for more than half their visits, and they got two to three times the benefit. Released time can also go to finishing on time rather than seeing more patients, which is valuable but does not add capacity.

WHAT THE PUBLIC DATA CANNOT TELL US

- How much capacity scribes add outside EDs, especially for nurses and allied health.
- Contract prices. Health NZ has not published them; we assume a licence cost.
- Whether AI triage reduces demand or shifts it.

EVIDENCE STRENGTH

STRONG Workforce gaps, demand growth, ED and elective performance.

MODERATE Scribe time savings for doctors; wellbeing benefits.

WEAK Gains for nurses and allied health, demand diversion, and effects on equity.

THE DECISION TESTED

Three adoption pathways to 2033.

We model the public health system as a whole. The question is how much patient-care capacity each pathway adds by 2033, at what cost, and how that compares with the projected workforce gap.

PATHWAY	WHAT IT INVOLVES
Limited adoption	The do-nothing baseline. AI scribes stay in emergency departments and mental health teams (about 2,250 users). AI breast screening goes ahead as planned. No further spread.
Targeted adoption	Expand proven tools where the evidence is strongest: scribes for most hospital doctors and for nurses in high-documentation areas, AI discharge summaries and referral triage. About 15,000 users by 2030, each step gated on local evaluation.
Broader adoption	AI embedded across hospitals and primary care: scribes for most clinicians including allied health, plus AI triage and patient navigation that diverts some low-acuity demand. About 42,000 users by 2032.

KEY ASSUMPTIONS

ASSUMPTION	VALUE	BASIS
Routine use (share of licence holders using AI for most work)	60% / 55% / 45%	Falls as tools reach less suited settings. About 32% in the JAMA multi-site study.
Average FTE of a licence holder	0.85	Part-time work is common in the clinical workforce
Licence cost	$1,800 a user a year	Assumption. Contract prices are not published.
Programme cost (integration, governance, training, evaluation)	$2m / $12m / $40m a year	Assumption, rising with the number of settings and tools
Base for demand diversion (broader pathway only)	50,555 FTE	Practising doctors plus Health NZ nursing FTE
Cost of employing one clinician	$150k a year	Assumption: blended doctor and nurse cost including on-costs, used only as a benchmark

Capacity is measured in FTE-equivalent: clinical time released by AI and used for patient care, expressed as full-time clinicians.

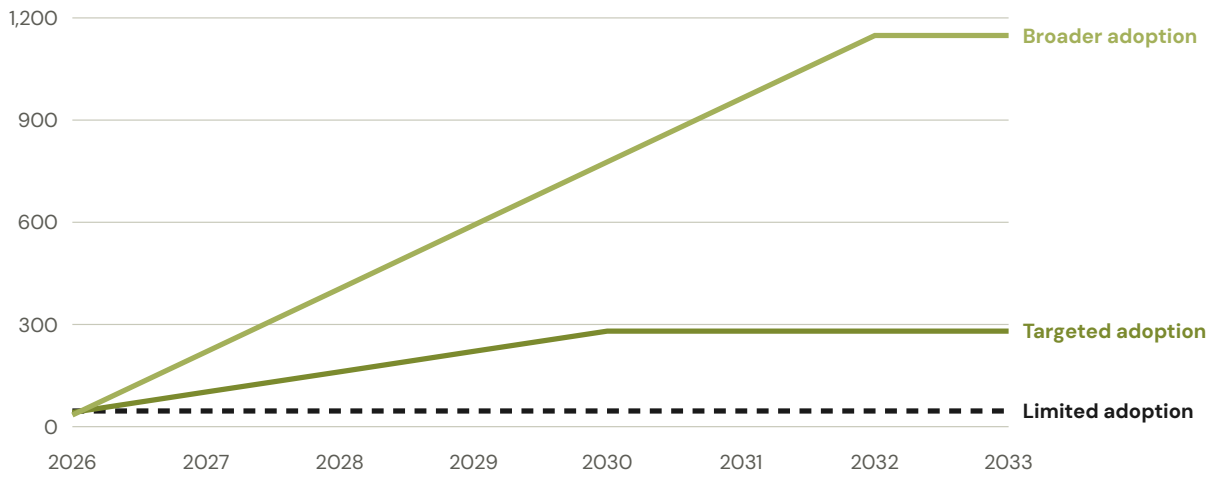
SCENARIOS

The pathways tested against three evidence conditions.

Nobody yet knows how well AI gains will hold as tools spread. We test each pathway against three conditions.

CONDITION	WHAT WE ASSUME
Modest gains	Gains match the cautious end of international trials: about 2% more patient-care capacity per routine user, and AI triage diverts 0.3% of demand.
Central case	About 4% more capacity per routine user, between international trial results and the New Zealand ED pilot. AI triage diverts 1% of demand.
NZ pilot gains hold	The ED pilot result (about one extra patient per doctor per shift, roughly 8%) holds as tools spread. AI triage diverts 2% of demand.

HOW CAPACITY BUILDS OVER TIME (CENTRAL CASE)

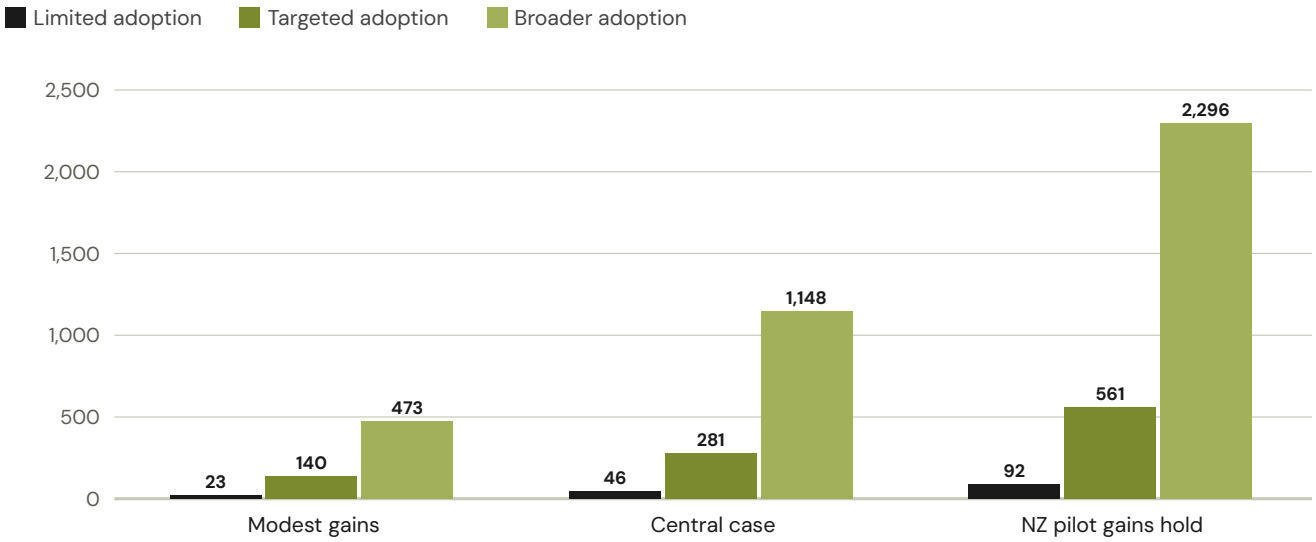


FTE-equivalent clinicians released each year. Targeted adoption reaches full scale in 2030 and broader adoption in 2032. For comparison, the projected 2033 gap is 12,000, ten times the top of this chart.

COMPARATIVE FINDINGS

Targeted adoption is the most robust choice.

FTE-equivalent capacity added by 2033 under each pathway and condition.



COST PER FTE-EQUIVALENT	MODEST GAINS	CENTRAL CASE	NZ PILOT GAINS HOLD	ANNUAL COST
Limited adoption	$264k	**$132k**	**$66k**	$6.0m
Targeted adoption	$278k	**$139k**	**$70k**	$39.0m
Broader adoption	$244k	**$101k**	**$50k**	$115.6m

Shaded green where AI capacity costs no more than employing clinicians ($150k a year), and red where it costs more. Clinicians cannot always be hired at any price, so capacity above the benchmark can still be worth buying.

LIMITED ADOPTION LEAVES THE GAP ALMOST UNTOUCHED

Keeping scribes in EDs and mental health adds about 46 FTE-equivalent in the central case. It is cheap and the ED results are the best evidenced, but it does nothing for wards, outpatients or primary care.

TARGETED ADOPTION PAYS ITS WAY IF GAINS REACH 3.7%

It adds about 281 FTE-equivalent for $39m a year in the central case. Gating each step on local results limits the loss if gains are modest.

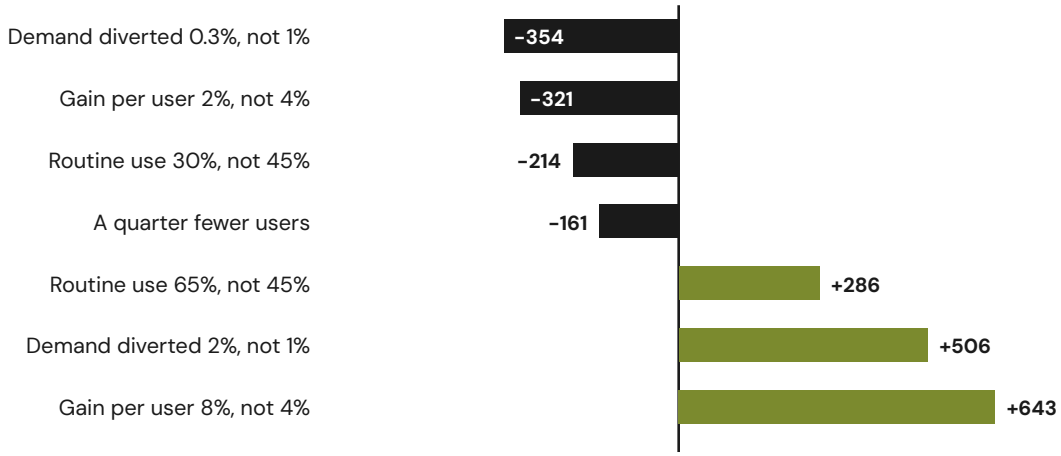
BROADER ADOPTION HAS THE MOST UPSIDE AND THE MOST RISK

It adds the most capacity, about 1,148 FTE-equivalent in the central case, but 506 of that comes from AI triage diverting demand, which is barely tested. If triage diverts only 0.3% of demand, the scribe gain needed to break even rises to 3.9%, and in the modest case it costs about $244k per FTE-equivalent.

SENSITIVITIES

The size of the gain and how often tools are used matter most.

How broader adoption's central-case capacity (1,148 FTE-equivalent) changes when one assumption moves at a time.



GAIN PER USER

Halving the gain per routine user removes about 321 FTE-equivalent; doubling it to the ED pilot level adds about 643. Local measurement of real capacity, not self-reported time saved, is the most valuable evidence to collect.

ROUTINE USE

Moving routine use from 45% to 65% adds about 286 FTE-equivalent at no extra licence cost. Training, workflow fit and support for clinicians who use the tools rarely are cheaper ways to add capacity than more licences.

DEMAND DIVERSION

The triage assumption is the most uncertain in the model. AI triage that sends people to the wrong level of care could also add demand elsewhere, which the model does not capture.

WHAT DOES NOT CHANGE

No reasonable combination of assumptions closes the 2033 gap. Even with every favourable assumption at once, AI covers less than a quarter of it. Growing, retaining and distributing the workforce remains the main task.

WHO DECIDES AND WHO IS AFFECTED

National decisions, felt at every bedside.

WHO DECIDES

- **The Minister of Health and Cabinet** set priorities, targets and funding.
- **Health NZ** buys and deploys tools through its HealthX programme, and its National AI and Algorithm Expert Advisory Group reviews and endorses them.
- **The Ministry of Health** sets policy and monitors performance.
- **The Privacy Commissioner and the Health Information Privacy Code** set rules for patient information.
- **Clinicians, colleges and the Medical and Nursing Councils** decide how tools are used in practice and what standards apply.
- **GP owners and primary health organisations** decide adoption in primary care, where many practices already use scribes privately.

WHO IS AFFECTED

- **Patients**, through waiting times, consultation quality, consent and trust. Patients have largely not been asked about scribes.
- **Clinicians**, through workload, overtime, wellbeing and responsibility for checking AI output.
- **Rural and high-need communities**, where shortages are worst.

KAUPAPA MĀORI CONSIDERATIONS

- **Māori data sovereignty.** Te Mana Raraunga principles and Te Kāhui Raraunga's 2025 AI framework treat Māori data as taonga requiring Māori governance. Most scribes run on offshore cloud platforms, and Health NZ's own guidance flags data sovereignty as a risk.
- **Te reo Māori and accents.** Surveyed clinicians report scribes struggle with te reo Māori and New Zealand accents, which risks less accurate records for Māori patients.
- **Bias.** Tools trained on overseas data may under-represent Māori. The breast screening tender tests performance on Māori, Pacific and Asian mammograms, a model for other tools.
- **Workforce.** Māori are about 19% of the population but about 9% of the health workforce. AI does not change this; workforce growth must.
- **Obligations.** The Pae Ora Act requires the health system to give effect to Te Tiriti principles, including in how new technology is governed.

QUESTIONS TO ASK

- Where is patient audio and text stored and processed?
- How is consent sought, and can patients opt out?
- Are results reported separately for Māori and Pacific patients?

RISKS, LIMITATIONS AND IMPLICATIONS

What this analysis can and cannot tell you.

LIMITATIONS

- **A system-level model.** Gains will vary widely by service, profession and setting.
- **Assumed costs.** Licence and programme costs are not published; we use stated assumptions.
- **Capacity, not outcomes.** We do not model clinical quality, safety or health outcomes.
- **Single-year view at 2033.** We do not discount or model the cost of getting there.
- **Demand held constant.** Except for triage, we do not model AI changing how much care people need.
- **Data current to early November 2026.** Policy may change after the general election.

MAIN RISKS TO THE FINDINGS

- Errors in AI-generated records causing harm or eroding trust could halt adoption.
- A privacy or security breach involving an offshore platform.
- Released time absorbed by rising complexity rather than added capacity.
- Faster than expected progress in AI tools, which would raise the gains tested here.

IMPLICATIONS FOR DECISION-MAKERS

1. **Expand in steps.** Extend scribes to the next highest-documentation settings, with a decision gate at each step.
2. **Measure what matters.** Patients seen, waits and overtime, reported separately for Māori and Pacific patients, not only staff satisfaction.
3. **Invest in routine use.** Training and workflow support may add more capacity than more licences.
4. **Test triage carefully.** Run controlled trials before counting on AI to divert demand.
5. **Settle data governance early.** Agree Māori data sovereignty, consent and storage rules before scaling.
6. **Keep the workforce plan central.** AI is a buffer that buys time, not a replacement for training and retaining people.

METHODOLOGY AND SOURCES

How this investigation was put together.

METHOD

Public data was gathered with AI-assisted research and checked against original releases from Health NZ, the Medical Council, DPMC, Stats NZ and published research. The model estimates FTE-equivalent capacity in 2033 for three pathways, including doing nothing more (limited adoption), under three evidence conditions. Capacity equals users, times average FTE, times routine use, times the gain per routine user, plus demand diverted by AI triage for broader adoption. Cost per FTE-equivalent is compared with an assumed cost of employing a clinician. Sensitivities move one assumption at a time.

REVIEW

Reviewed by a Pūtake Labs principal before publication. Every figure is traced to a public source or to a stated assumption.

Pūtake Labs provides independent decision analysis. This investigation is not clinical, investment or legal advice. Scenarios are tested possibilities, not forecasts. No organisation named here commissioned or endorsed it.

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SOURCES

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