PDSA PRACTICE GUIDE

National lung cancer screening

A worked PDSA cycle for preparing your practice for the National Lung Cancer Screening Program, identifying eligible patients, building a reliable referral and reminder pathway, and meeting CPD requirements as a whole practice team.

AUTHOR

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CPD HOURS

Up to 9 hours (EA + RP + MO)

MBS ITEMS

57410 (screening scan) and 57413 (follow-up scan), mandatory bulk billing

TIMELINE

Three data collection periods

Why run a PDSA in your practice

CPD for the whole team

A completed PDSA generates up to 9 hours of CPD across EA, RP and MO categories, applicable to all GPs in the practice. Submitted as a practice-based or group activity, one GP can record the activity for the team.

GP retention

Structured team quality improvement activities contribute to a positive practice culture and are associated with GP and staff retention.

Quality of care

Systematic smoking history recording and eligibility assessment supports earlier detection of lung cancer, Australia's leading cause of cancer death.

Revenue and clinical value

Integrating screening into routine care builds a recall cohort, supports smoking cessation, and positions the practice as the gateway to the program.

About the National Lung Cancer Screening Program

The National Lung Cancer Screening Program (NLCSP) launched on 1 July 2025. It offers free low-dose computed tomography (LDCT) scans to eligible Australians at high risk of lung cancer based on age and smoking history, with the aim of detecting lung cancer at an earlier, more treatable stage.

Lung cancer is Australia's leading cause of cancer death, accounting for approximately 17% of all cancer fatalities. The five-year survival rate is 27% (AIHW 2017 to 2021 data; 22.7% for men, 33.0% for women), up from under 10% three decades ago but still the lowest among the major cancers. Late-stage presentation is the primary driver of poor outcomes. Smoking is responsible for approximately 90% of lung cancer cases in men and 65% in women in Australia (Cancer Australia).

GPs are the gateway to the NLCSP. Eligibility assessment, referral for LDCT, results management and follow-up all sit with the GP. For most practices, effective participation requires a systematic review of smoking history recording and a recall and reminder system capable of identifying eligible patients.

This PDSA documents one practice's preparation for program launch. The worked example reflects a cycle conducted February to May 2025, prior to the July 2025 launch date. The clinical knowledge base reflects current program specifications.

KEY FACTS: NLCSP

- Launched: 1 July 2025.
- Scan type: low-dose CT (LDCT).
- Eligible age range: 50 to 70 years.
- Smoking history required: 30 or more pack-years, currently smoking or quit in the past 10 years.
- LDCT scan cost: mandatory bulk billing (MBS items 57410 and 57413).
- Screening interval: every 2 years for negative results.
- Projected benefit: more than 500 lung cancer deaths prevented annually once the program is established (DoHAC).

CPD HOURS FROM THIS PDSA

Up to 9 hours when submitted as a practice-based or group activity: 3 EA (review of the program specifications, eligibility criteria and the practice knowledge base), 3 RP (reviewing smoking history recording and eligibility identification against practice targets), 3 MO (tracking smoking histories, discussions, eligible patients and reminders across the data collection periods). The RACGP classifies PDSA activities under Measuring Outcomes.

CPD hours from this PDSA

CATEGORY	FOCUS	HOURS
Educational Activities (EA)	Review of the program specifications, eligibility criteria and the practice knowledge base	3
Reviewing Performance (RP)	Reviewing smoking history recording and eligibility identification against practice targets	3
Measuring Outcomes (MO)	Tracking smoking histories, discussions, eligible patients and reminders across the data collection periods	3
Total		9

GPs must complete 50 hours of CPD annually under the Medical Board of Australia registration standard. This includes at least 12.5 hours of Educational Activities, a minimum of 25 hours combined Reviewing Performance and Measuring Outcomes with at least 5 hours each, and the remaining 15 hours allocated to either as suits scope of practice. The RACGP classifies PDSA activities under Measuring Outcomes. This PDSA may be submitted as a group or practice-based activity.

How this guide works

● Worked example from Dr Chris Mitchell's practice ○ Your practice: fill in your own details

Grey boxes with a red left border are worked examples drawn directly from Dr Chris Mitchell's practice. They describe what the practice did, what was measured and what was learned. Off-white boxes with a dashed red border are insert boxes for your own practice. Fill these in as you complete each stage. They become the basis for your CPD submission.

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Dr Chris Mitchell AM

Dr Chris Mitchell AM, FAICD is co-founder of Medius Global and a Rural General Practitioner and Rural Generalist with more than 35 years of experience in Northern NSW. He is a Fellow of the Australian Institute of Company Directors and a Past President of the Royal Australian College of General Practitioners. He was previously Head of Adoption, Benefits and Change at the National eHealth Transition Authority (NEHTA). He has served on numerous health sector boards, including the RACGP, NPS MedicineWise, Therapeutic Guidelines Ltd, The Rural Doctors Network and North Coast GP Training. Chris was awarded Member of the Order of Australia (AM) in 2013 for services to general practice and received a Rural Doctors Network Rural Medical Service Award in 2025.

Important notes

- Pharmaceutical Benefits Scheme (PBS) criteria and Medicare Benefits Schedule (MBS) item descriptors change periodically. Verify current PBS listings and MBS items against Commonwealth government sources before applying them in practice.
- Clinical content in this guide is intended as educational background only. It does not constitute clinical advice and should not substitute for clinical judgement applied to individual patients.
- Medius Global provides this guide as a professional development resource for GP practice teams. Medius Global is not a registered training organisation and does not provide accreditation services.

The PDSA cycle

The following worked example documents a practice-based PDSA conducted February to May 2025 in preparation for the NLCSP launch. Individual clinician data has been de-identified. Aggregate figures across the practice are used to illustrate the cycle findings.

Idea

WORKED EXAMPLE: IDEA

The NLCSP launch in July 2025 created an immediate task for practices: identify eligible patients and establish a referral pathway before program demand arrives. For most practices, this required two things: a way to search the clinical database by pack-year history, and a recall and reminder system using a consistent name across all GPs. This PDSA addressed both. It began December 2024, with data collection from February to April 2025, covering 14 GPs over three collection periods.

Plan

WORKED EXAMPLE: PLAN

Three objectives:

- Update smoking history at each consultation, recording pack-years where relevant.
- Search the practice database to identify patients already meeting eligibility criteria.
- Establish a standardised recall and reminder in the clinical software using a single agreed name: "National Lung Cancer Screening Program".

Data collected across three periods: Period 1 (10 to 28 February 2025), Period 2 (5 to 21 March 2025), Period 3 (22 March to 29 April 2025). Database searches planned for 10 February, 5 April and 22 April 2025. Practice meetings: 5 December 2024 (planning), 19 December 2024, 13 January 2025, 19 March 2025, 10 April 2025. Data tracked per GP per period: smoking histories updated, program discussed, eligible patients identified, reminders added, enrolled in program.

Do

WORKED EXAMPLE: DO

Practice meetings ran from December 2024 through April 2025. Key actions:

- Tally sheets introduced as consultation reminders to update smoking status.
- Reminder name standardised across all GPs: "National Lung Cancer Screening Program".
- Default reminder set for 2-year recurrence.
- Reminder list used to run database searches between review periods.
- Patients seen by GPs who have since left the practice were allocated to the most recent attending GP.

Aggregate results across 14 GPs over three collection periods:

- Smoking histories updated: 602.
- Program discussions: 48.
- Eligible patients identified: 25.
- Reminders added: 13.
- Enrolled in program: 0 (program not yet launched at time of data collection).

Record your practice data in the table below. Complete this table for each collection period and add rows for each GP in your practice.

INSERT BOX: YOUR PRACTICE DATA, TRACKING TABLE

DOCTOR NAME	SMOKING HISTORY UPDATED	PROGRAM DISCUSSED	ELIGIBLE IDENTIFIED	REMINDER ADDED	ENROLLED

Study

WORKED EXAMPLE: STUDY

- Pack-years is not a concept patients or many clinical staff can calculate without a structured prompt. Software support to automate the calculation would substantially improve identification yield.
- Eligible patient numbers were lower than anticipated. Most patients in the relevant age range had insufficient pack-year history or had quit more than 10 years ago.
- Paper tally sheets worked well as consultation reminders to update smoking status. The reminder list proved practical for tracking patients once a reminder was entered.
- Using a single, consistent reminder name was essential for database searches to function reliably. Minor variation in naming means patients are missed.
- Zero enrollments across all three periods reflects the pre-launch timing of this PDSA, not patient refusal or unwillingness. The practice was establishing infrastructure ahead of program commencement.

INSERT BOX: WHAT DID WE LEARN?

What worked well?

What did not work as expected?

Barriers identified

Act

WORKED EXAMPLE: ACT

Changes implemented at this practice:

- Pack-year recording at each relevant consultation is now standard practice.
- Lung cancer screening is included in the preventive care checklist.
- "National Lung Cancer Screening Program" is the required reminder name across all GPs, with no variation permitted.
- Reminders are actioned at each consultation where a patient appears on the reminder list.

INSERT BOX: WHAT CHANGES WILL YOU MAKE?

Changes to implement

Responsible person

Review date

Setting up your practice

Recall and reminder systems

Effective use of the NLCSP requires reminders that can be searched across the patient database. Core principles:

- Use a single, consistent reminder name across all GPs: "National Lung Cancer Screening Program". Variation in naming, even minor differences, means patients will be missed when searching the reminder list.
- Set the default reminder interval to 2 years for patients with a negative screen. The NLCSP sends reminders via the National Cancer Screening Register (NCSR), but a practice-based reminder provides a parallel prompt.
- Use the reminder list to run database searches between review periods. Patients who have received a reminder and not returned can be identified and followed up.
- If a patient is in the reminder list but has seen a different GP since the reminder was set, that GP should action the reminder at the next consultation.
- In Best Practice, the shortcut code LUNGCANCERX generates the standard lung cancer screening advice text. Confirm this shortcut is available to all GPs.

LUNGCANCERX: BEST PRACTICE SHORTCUT TEXT

Lung cancer screening advice:

- Smoking history reviewed and updated.
- Lung cancer screening is available to eligible individuals.
- A pack-year is defined as 20 cigarettes smoked every day for one year.

You are eligible for the program if you:

- are aged between 50 and 70 years
- show no signs or symptoms of lung cancer (that is, you are asymptomatic), and
- have a history of at least 30 pack-years of cigarette smoking and are still smoking, or
- have a history of at least 30 pack-years of cigarette smoking and quit in the past 10 years.

Referral pathway

Once a patient is assessed as eligible:

1. GP confirms eligibility: aged 50 to 70, asymptomatic, 30 or more pack-years, currently smoking or quit within the past 10 years.
2. GP issues an LDCT referral to a registered radiology provider.
3. Patient attends for LDCT scan (approximately 10 to 15 minutes, no injections).
4. Results are returned to the GP via the NCSR and directly from the radiology provider.
5. GP manages follow-up based on the radiologist's report (see Results management).

Smoking cessation resources

Eligible patients are current or recent smokers. Integrating smoking cessation into the screening conversation is a practical opportunity to improve outcomes regardless of screening result. Resources for patients:

- Quitline: 13 7848.
- My QuitBuddy app (free, iOS and Android): government-funded, available at health.gov.au.
- Quit for You, Quit for Two: for women who are pregnant or planning pregnancy.
- RACGP HANDI evidence: mobile app support programs show a 67% higher cessation rate at six months compared to standard care (9.4% of app-supported quitters remain abstinent versus 5.6% without that support).

Local health district tobacco treatment specialists are available in most districts and can provide support for complex cessation cases. Contact your local PHN or LHD health promotion unit for referral options.

Submitting for CPD hours

Submit this PDSA via the RACGP CPD portal at portal.racgp.org.au/CPD. Select GP-led activity (individual or group) and PDSA as the activity type.

TIMING TIP

Submit as a group or practice-based activity via the RACGP portal for each of the participating GPs, consider the time committed to each cycle, but submit collated times, averaged across each GP to reduce the administrative burden.

Doctors involved in this activity

DOCTOR'S NAME	QI AND CPD NUMBER

DOCTOR'S NAME	QI AND CPD NUMBER

Key resources

RESOURCE	DETAIL
NLCSP, DoHAC	health.gov.au/our-work/nlcsp
National Cancer Screening Register	ncsr.gov.au
NLCSP, for healthcare providers	health.gov.au/our-work/nlcsp/for-healthcare-providers
Quitline	13 7848
My QuitBuddy app	health.gov.au/resources/apps-and-tools/my-quitbuddy-app
RACGP HANDI, smoking cessation apps	racgp.org.au/clinical-resources/clinical-guidelines/handi
NELSON trial (NEJM 2020)	doi:10.1056/NEJMoa1911793

EDUCATIONAL BACKGROUND MATERIAL

Clinical knowledge base

This section forms part of the Educational Activities (EA) component of your CPD submission. Read it before or alongside the PDSA cycle to build the knowledge base for the program.

Eligibility criteria

All criteria must be met for NLCSP eligibility:

- Aged 50 to 70 years.
- No signs or symptoms of lung cancer (asymptomatic).

- A smoking history of at least 30 pack-years and currently smoking, or quit within the past 10 years.

Your healthcare provider will also assess whether the patient can lie flat comfortably for the LDCT scan. This criterion may be temporary for some patients.

Calculating pack-years

A pack-year is calculated by multiplying packs smoked per day by years of smoking. One pack equals 20 cigarettes.

EXAMPLE	CALCULATION	PACK-YEARS
1 pack (20 cigarettes) per day for 30 years	1 × 30	30 pack-years
2 packs (40 cigarettes) per day for 15 years	2 × 15	30 pack-years
1 pack per day for 1 year	1 × 1	1 pack-year
2 packs per day for 6 months	2 × 0.5	1 pack-year

Patients often need help calculating this figure. Recording the number of cigarettes per day and years smoked allows the calculation to be done at the consultation.

The NLCSP process: four steps

STEP	WHO	WHAT
1	GP or healthcare provider	Eligibility check: assess age and smoking history
2	GP	Issue LDCT referral to a registered radiology provider
3	Patient at radiology	LDCT scan: approximately 10 to 15 minutes, no injections or procedures. Patient lies flat while chest is imaged.
4	GP with patient	Results: radiologist reviews images and enters results in the NCSR. Results sent to GP and NCSR notifies patient of next steps.

Results management

Follow-up depends on what the scan finds:

FINDING	NEXT STEP	MBS ITEM
Negative, no findings	NCSR sends reminder to patient and GP in 2 years	MBS 57410 at next screen

FINDING	NEXT STEP	MBS ITEM
Nodule, monitoring required	Repeat LDCT at 3 or 12 months depending on nodule characteristics	MBS 57413 (mandatory bulk billing)
Highly suspicious	GP refers to respiratory physician with lung cancer expertise or appropriate MDT. Conversation involves possible lung cancer requiring prompt specialist assessment.	Standard referral MBS items

The NLCSP uses volumetric nodule assessment (consistent with the NELSON trial methodology), designed to reduce the false positive rate compared to earlier diameter-based approaches.

Costs

- LDCT scan: mandatory bulk billing under MBS 57410 (screening scan, every 2 years) and MBS 57413 (interval follow-up scans). No out-of-pocket cost for the patient.
- GP consultation: not mandatorily bulk billed. Standard consultation fees apply unless the practice bulk bills the relevant consultation. Patients can check healthdirect.gov.au to find bulk-billing services.

National Cancer Screening Register

The NCSR manages participant records and follow-up reminders for the NLCSP (as well as the National Bowel Cancer Screening Program and National Cervical Screening Program). Participants access their record via myGov. Participants can update personal details, manage participation, update communication preferences, and view screening information. The NCSR sends reminders for next screens and notifies participants of results where no follow-up is required. Patients can choose to remain in the NLCSP but opt out of NCSR communications (such as reminders).

Smoking cessation pharmacotherapy

NRT (nicotine replacement therapy)

A combination of patch (long-acting) plus a short-acting form (gum, lozenge, inhaler or spray) is more effective than single-agent NRT.

- Heavy smokers (40 or more cigarettes per day): consider two patches combined with a short-acting NRT form.
- All short-acting NRT is absorbed buccally or sublingually. Swallowing nicotine causes nausea and reflux.
- Inhaler: do not draw back, use a short-puff technique only.
- Gum: chew a few times then park against the cheek. Spit out saliva for the first minute.
- Lozenge or mint: suck and park; do not chew or swallow.

Varenicline (Champix)

- Slow titration schedule reduces nausea.
- For patients who relapse after a successful course: continuing at half dose for an additional few months after the standard 3-month course may reduce recurrence risk.
- Comparative evidence: varenicline performed better than single-agent NRT and bupropion. Equal to combination NRT in some analyses.
- Review current product information regarding cardiovascular and psychiatric adverse event signals. Earlier concerns have not been confirmed in more recent analyses, but individual patient risk assessment applies.

Bupropion (Zyban)

- Common adverse effects: insomnia (30 to 40% of patients), dry mouth, nausea.
- Serious adverse effect: seizures in approximately 1 in 1,000 users.
- Lower efficacy than varenicline in comparative trials.

COMPARISON	FINDING
Combination NRT vs single NRT	Combination NRT (patch plus inhaler or lozenge) performed better
Varenicline vs single NRT	Varenicline performed better
Varenicline vs bupropion	Varenicline performed better
Overall ranking	Varenicline at least equal to combination NRT, both above single NRT or bupropion

Evidence: the NELSON trial

The NELSON trial (de Koning et al., New England Journal of Medicine, 2020; doi:10.1056/NEJMoa1911793) is the largest randomised controlled trial of CT-based lung cancer screening. Using volumetric assessment of nodules:

- False positive rate: 1.2% per screening round. This compares to 23.3% in the NLST, which used diameter-based assessment.
- Overdiagnosis rate: 8.9% at 11-year follow-up (as an upper limit). The 10-year figure of 19.7% reduces substantially with extended follow-up as lead-time effects resolve.

These figures inform the NLCSP's volumetric approach, which is designed to minimise unnecessary investigation while maintaining sensitivity.

Lung cancer burden: Australia

INDICATOR	FIGURE	SOURCE
Estimated new cases (2025)	Approximately 15,100	AIHW

INDICATOR	FIGURE	SOURCE
Five-year survival (all)	27% (AIHW 2017 to 2021 cohort)	AIHW
Five-year survival, men	22.7%	AIHW
Five-year survival, women	33.0%	AIHW
Attributable to smoking, men	Approximately 90%	Cancer Australia
Attributable to smoking, women	Approximately 65%	Cancer Australia
Deaths prevented (program, annual)	More than 500 once established	DoHAC

Annual CPD requirements

CATEGORY	MINIMUM ANNUAL HOURS	NOTES
Educational Activities (EA)	12.5	Reading, online learning, structured education, knowledge base review
Reviewing Performance (RP)	5 minimum	Part of combined RP and MO minimum of 25 hours
Measuring Outcomes (MO)	5 minimum	RACGP classifies PDSA under MO
Total annual requirement	50	Remaining RP and MO hours allocated as suits scope of practice