



## Clinical Audit: Exploring barriers to Cervical Cancer Screening Compliance

Authors

**Omar Kasmieh<sup>1</sup>, Mustafa Salah<sup>2</sup>, Raed Azzam<sup>3</sup>**

<sup>1</sup>Family Medicine, Tuakau Health Centre, New Zealand

<sup>2</sup>Family Medicine, Primary Health Care Corporation, Doha, Qatar

<sup>3</sup>Family Medicine, Primary Health Care Corporation, Doha, Qatar

Corresponding Author

**Omar Kasmieh**

Family Medicine, Tuakau Health Centre, New Zealand

### Background

Human papillomavirus (HPV) DNA is detected in 99% of cervical cancer cases; however, the infection alone in individuals with a healthy immune system does not lead to the development of invasive cervical cancer (Gates et al., 2021).

The development of cervical cancer is influenced by several other risk factors beyond HPV infection, including: Pre-cancerous cervical lesions, history of HPV-related vulval or vaginal dysplasia, Immunosuppression, Infrequent participation in cervical screening programs, lower socioeconomic status, an earlier onset of sexual activity, an increasing number of sexual partners or engagement with high-risk sexual partners, history of sexually transmitted infections, prolonged use of oral contraceptives, a young age at first full-term pregnancy, high number of full-term pregnancies, smoking, in utero exposure to diethylstilboestrol (DES), and

family history of cervical cancer due to the association with some rare genetic disorders (Cohen et al., 2019; Okunade, 2019; Stumbar et al., 2019).

Cervical cancer can be effectively prevented through HPV vaccination and cervical screening programs. As a result of these initiatives, there has been a decrease in the number of individuals being diagnosed with cervical cancer. Nevertheless, there continues to be an average of 171 new cases (from 2015 – 2020) and 53 fatalities (from 2015 – 2018 due to cervical cancer in New Zealand annually ( Health New Zealand. Te Whatu Ora, 2022).

Despite the success of the HPV immunisation programme in reducing the prevalence of HPV infection and cervical cancer incidence, it is important to note that vaccination alone cannot completely eradicate cervical cancer. This is due to various factors such as ineligibility for

vaccination, refusal to be vaccinated, incomplete vaccination courses, lack of immunity post-vaccination, prior exposure to HPV, infection with high-risk HPV types not covered by the vaccine, infection with low-risk HPV types that can rarely lead to cervical cancer, or the presence of non-HPV related cervical malignancies. For all those reasons, it is essential for all individuals who are eligible, even those who have received the HPV vaccine, to participate in routine cervical screenings in order to identify any pre-cancerous abnormalities and halt the development of invasive cervical cancer (Health New Zealand. Te Whatu Ora, 2024).

**Keywords:** Cervical Cancer, screening, Human papillomavirus (HPV), vaginal swab, liquid-based cytology, PAP smear.

### **Standard: The New Zealand National Cervical Screening Programme**

HPV testing has become the primary method for cervical screening in New Zealand, supplanting the previous cytology-based test. Pap smears will still be utilized for follow-up in cases where HPV is detected, as well as in certain clinical situations such as co-testing for individuals with symptoms or requiring a test of cure. The HPV test can be conducted using a vaginal swab sample, with the option of self-testing, or a liquid-based cytology (LBC) sample. The availability of self-testing may influence the perspectives of individuals who have previously declined cervical screening due to their aversion to speculum examinations (O'Hallahan et al., 2023).

The National Cervical Screening Programme recommends that individuals with a cervix or vagina aged 25 – 69 years who have ever been sexually active should undergo cervical screening every five years, or every three years if immune deficient, following a previous result of HPV not detected. It is recommended to conduct a single HPV test for individuals in the age range of 20 to 24, provided that they have been immune

deficient for a period exceeding five years and have engaged in sexual activity.

Screening is also recommended for individuals aged 70 – 74 years who have not been screened or have been under-screened. The goal is to ensure that at least 80% of all eligible individuals have had cervical screening (O'Hallahan et al., 2023).

The management of the screening process is determined based on the results of the HPV test; if HPV is detected, the patient is either directly referred for colposcopy or the management depends on cytology results. If other types of HPV were detected on a vaginal swab, a return visit for a LBC sample is necessary (O'Hallahan et al., 2023). The cervical cancer screening participation rates in New Zealand in 2022 were used as the benchmark for our standards. Disparities in attendance for cervical screening were evident, with the national three-year coverage in June 2022 being 57.7% for Asian individuals, 55.7% for Pacific peoples, and 54.9% for Māori, compared to 74.4% for European/Other. The overall mean percentage across all ethnicities was 60.67%."

### **Design**

The audit sample included 39 female patients between the ages of 25 and 69 who were overdue for cervical cancer screening and visited the primary care clinic for a different medical issue. These were consecutive patients seen at the practice over four working days. We included 35 patients (89.8%) in our audit. We excluded 4 patients (10.2%) because 3 had undergone a hysterectomy, and 1 had never had sexual intercourse.

### **Audit Results**

We conducted our audit on 35 patients. The audit showed that only 31.5% (N=11) of the patients were up to date with cervical cancer screening, which is far below the national goal of 80% and the mean benchmark screening average of 60.67% for all nations/ethnicities. Additionally, 68.5% (N=24) were overdue for cervical cancer

screening. **Table 1** represents the percentage of patients who are overdue for cervical cancer screening.

**Table 1** Percentage of patients who are overdue for cervical cancer screening

Category	N	%
Patients included in the audit	35	100
Patients up to date Cervical Cancer Screening	11	<b>31.5</b>
Patients overdue for Cervical Cancer Screening	24	68.5

**Intervention**

Initiating discussions with patients revealed that their electronic medical records indicated they were overdue for cervical cancer screening. To address this, we provided patients with a simplified handout explaining the transition from Pap smears to the HPV self-swab option. The leaflet was available upon request.

During these discussions, we found that 79.2% (n=19) of patients were unaware of the self-swab option and had previously refused Pap smears due to discomfort with the method/speculum. Additionally, 20.8% (n=5) declined screening without providing a reason. **Table 2** represents the reasons for outdated Cervical Cancer Screening.

**Table 2** Reasons for outdated Cervical Cancer Screening

Reason for outdated Cervical Cancer Screening	N	%
Patient not aware of HPV swab option/ refused PAP smears	19	<b>79.2</b>
Declined screening	5	<b>20.8</b>
<b>Total</b>	<b>24</b>	<b>100</b>

**Re-audit results**

After discussing the importance of cervical screening with our patients and providing them with an educational leaflet, we audited the same cohort to assess any improvement in appointment bookings for self-swab cervical screening. In total, 12 patients scheduled appointments, representing a 50% improvement (N=12) among those who were previously non-compliant with the cervical

screening program. Please see the table below for more details.

If we add the 12 patients who improved after the audit to the original number of compliant patients, the total number of compliant patients in the cohort increases to 23. This represents 65.7% of the original cohort of 35 patients. While this percentage is below the national goal of 80%, it is above the 2022 benchmark for ethnicity, which was 60.67%. **Table 3** includes the results of the re-audit.

**Table 3** Re-audit results

Re-audit result :The change based on the patient group	N	%
No change after the intervention	<b>12</b>	<b>50%</b>
Patient not aware of HPV swab option/ refused PAP smears	<b>10</b>	<b>40.6%</b>
Declined screening	<b>2</b>	<b>8.4%</b>
<b>Total</b>	<b>24</b>	<b>100%</b>

**Conclusion and Discussion**

Initiating conversations with patients regarding the significance of cervical cancer and the associated risks, along with the updated guidelines advocating for HPV self-swab as the primary screening method for most patients, can aid in decreasing the likelihood of patients refusing screening. It is advisable to broach the subject of screening guidelines and timelines during any patient encounter, irrespective of the purpose of their visit. Furthermore, it is crucial to ensure that patients are informed about the latest recommended screening examinations. This will positively impact the early detection of cervical cancer screening. Our audit aimed to improve cervical screening bookings, and while we did not meet the national goal, we successfully achieved the mean benchmark for all ethnicities as of 2022. Discussing cervical cancer screening during patient consultations can prove to be a challenging task, especially when it does not align with the patient's chief medical concern. A good strategy involves informing the patient that their record indicates that they are overdue for cervical cancer screening, while also educating them about the

critical role of the screening test in the early detection of cervical cancer. This can be supported by a thorough discussion regarding any obstacles that the patient may have about having the test, as well as exploring potential solutions to address these concerns. This approach is not overly time-consuming, and as this audit demonstrated, it has led to a significant improvement in patients' compliance when it comes to cervical cancer screening guidelines.

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