Headquarters
New Zealand Defence Force
Defence House
Private Bag 39997
Wellington Mail Centre
Lower Hutt 5045
New Zealand

OIA-2024-5126

5th November 2024

███████████

███████████@rnz.co.nz

Dear ███████████

I refer to your email of 27 August 2024 requesting, under the Official Information Act 1982 (OIA), the following information:

— *Any and all advice, briefings, memos, meetings, correspondence, emails, research, minutes, attachments, proposals etc relating to the consideration of entry requirements for the NZ Defence Force.*
  o *Ie. If there have been proposed changes to the minimum requirements to join the Army, Navy, Air Force.*
  o *This could relate to education levels, health, or background, or physical/ fitness*
  o *This does not relate to civilians*
  o *Eg. Have the minimum entry requirements to be a soldier been made easier?*
— *Any and all advice, briefings, memos, correspondence, emails, research, minutes, attachments, proposals etc relating to the consideration of recruitment/ how to boost numbers forces.*
  o
— *Apply the following timeline - September 2023- now to the above request*

I apologise for the delay in responding to your request. Consultations necessary to provide a decision on your request took longer than anticipated.

Your request for *any and all advice, briefings, memos, meetings, correspondence, emails, research, minutes, attachments, proposals* is declined in accordance with section 18(f) of the OIA as the information you have requested cannot be made available without a substantial collation and research effort.

Enclosed, however, is readily retrievable information. Enclosure 1, while not within the timeframe you requested, provides useful information with respect to amendments to the academic Minimum Entry Requirements (MER). The Interim Workforce Plan Working Group (IWPWG) approved course of action 2a and 3d, with these measures approved by the Chief of Defence Force in January 2024. A review of tier 3 academic MERs is ongoing. Enclosure 2 provides relevant information from the NZDF policy for military recruitment and selection.

Where indicated in the enclosures, information is withheld in accordance with section 6(a) of the OIA to avoid prejudice to the security or defence of New Zealand and the

international relations of the Government of New Zealand. Names, contact numbers and personal information is withheld in accordance with section 9(2)(a) of the OIA to protect privacy. Opinion is withheld in accordance with section 9(2)(g)(i) of the OIA to maintain the effective conduct of public affairs through the free and frank expression of opinion. Signatures and email addresses are withheld in accordance with section 9(2)(k) of the OIA to avoid the malicious or inappropriate use of staff information, such as phishing, scams or unsolicited advertising.

You have the right, under section 28(3) of the OIA, to ask an Ombudsman to review this response to your request. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Please note that responses to official information requests are proactively released where possible. This response to your request will be published shortly on the NZDF website, with your personal information removed.

Yours sincerely

GA Motley
Brigadier
Chief of Staff HQNZDF

Enclosures:
1. Request to Approve Amendments to Minimum Entry Requirements, 26 July 2023
2. Defence Force Order 3, Part 6, Chapter 1: Military Recruitment and Selection
3. Assistance to Defence Recruiting to Deliver More People Faster, 19 November 2023
4. Defence Recruitment Analysis: Attraction, Attrition, Attestation
5. Pipeline Attrition Analysis

Directorate of Defence Recruiting
DDR MINUTE 27/2023

26 July 23

IWPWG   Through: AC DHR

DDR

REQUEST TO APPROVE AMENDMENTS TO MINIMUM ENTRY REQUIREMENTS

Reference

A.   Interim Workforce Plan
B.   Minute DPE 5350/1 23 Sep 13, Changes to Minimum Entry Requirements
C.   DDR Minute 17/2023 01 May 23, Recruiting Brief for EXCO

Purpose

1.   This minute requests approval to make two changes to Minimum Entry Requirements (MERs) to increase the number of candidates attested IAW reference A. There is no pan-NZDF process or decision-making authority for MERs. Therefore IWPWG has been identified as having sufficient authority to approve the requested changes. The first change is to remove all MERs for trades that currently require NCEA Level 1 credits, and the second is to simplify all MERs for trades that currently require NCEA Level 2 credits.

Background

2.   MERs are educational standards imposed for acceptance onto a course or job. The purpose of MERs is to select the largest number of candidates who can complete trade training.

3.   In 2013 Defence Recruiting proposed MERs for trades in the NZDF (reference B). In 2023 a review of 128 Employment Profiles containing MERs, identified many issues. The root cause of these issues is a lack of transparent processes and non-alignment with the National Qualifications Framework (NQF). Defence Recruiting has highlighted that fixing these issues and changing MERs can reduce recruiting pipeline attrition and increase the number of candidates who attest (reference C).

Discussion

4.   Annex A reviews the literature on selecting candidates for academic potential. The key findings are:

  a.   MERs are not a strong predictor of academic failure rates;

  b.   Saville and Holdsworth (SHL), which is the aptitude test the NZDF uses, is a strong predictor of candidates' ability to acquire new skills and knowledge and could be used instead of qualifications;

1

      (1)   Enclosure 1 highlights that SHL "is the most reliable and significant predictor of training and job performance we have."

   c.   It is increasingly challenging to rely on MERs gained from the National Certificate of Educational Achievement (NCEA) to inform recruitment into NZDF;

      (1)   COVID-19 has impacted students' ability to gain qualifications,

      (2)   Continual changes to NCEA affect different cohorts' ability to gain particular standards while at school, and

      (3)   There are significant differences in the subjects and standards each school offers students.

   d.   There is no robust pan-NZDF MER process.

5.   NZ is not alone in recruitment challenges. To address issues in the US, the Naval War College has recommended significant and likely controversial policy changes, including changing MERs. The British Army has removed qualifications for some of its non-technical trades, and the Royal Navy has removed qualifications from 36 of its 100 trades.

Courses Of Action

6.   Annex B provides four Courses Of Action (COAs) relating to MERs.

7.   **Preferred COA** COA2a is the removal of MERs for all trades which currently have NCEA Level 1 MERs and replacing them with a three years of secondary schooling MER, i.e. they have left school at the end of Year 11. This COA is the easiest to implement and maintain. It will have less impact in increasing the number of candidates attested than COA2b (remove MERs at NCEA Levels 1 and 2), but it is also a lower risk.

8.   **Second most preferred COA** COA3d involves simplifying the various NCEA Level 2 MERs and have only the requirement for NCEA Level 2 Certificate. Removing all the different subjects and the number of standards would simplify the MER process. Going for precision with subjects and credit numbers means trades may only target part of the pool of suitable candidates. This COA will have less impact in increasing the number of candidates attested than COAs 3a-c, but it is also a lower risk.

9.   **Combining COA2a and 3d** A combination of both COAs would have a greater effect in increasing the number of candidates attested with a minimal impact on overall risk. Figure 1 shows how trades would be affected by the two COAs.

Figure 1: COAs 2a and 3d qualification buckets
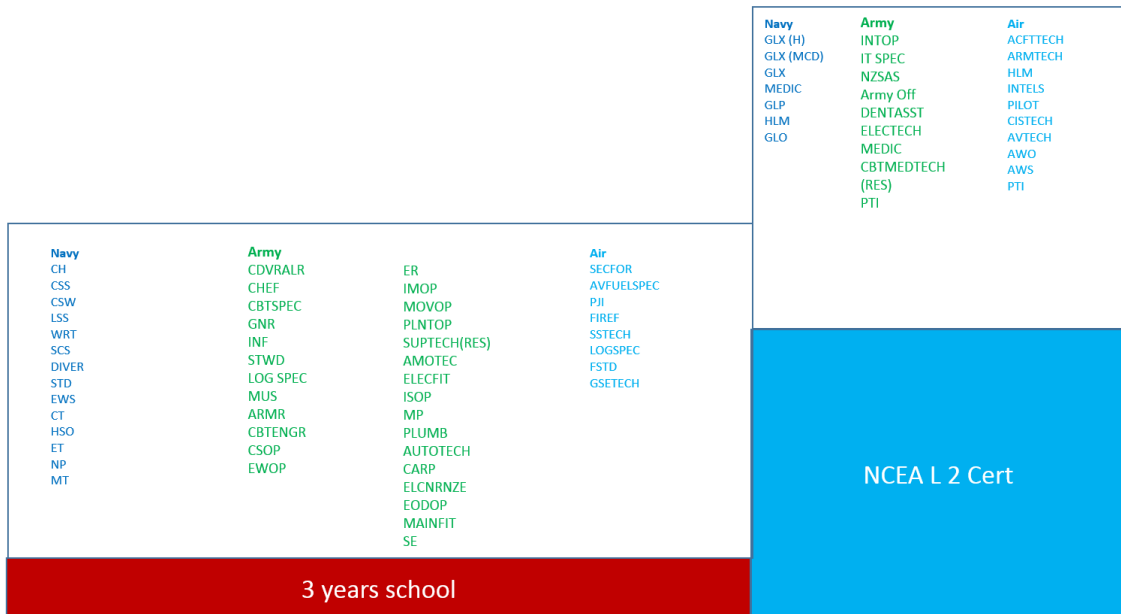
Recommendations

10. It is recommended that IWPWG **approve** COAs 2a and 3d.

   a. **Note** that this removes MERs for all trades with NCEA Level 1 MERs and simplifies the various NCEA Level 2 MERs for trades to only NCEA Level 2 Certificate.

   b. **Note** benefits and risks of COAs in annex B.

11. If COA2a and 3d are not approved, it is requested that IWPWG **approve** COA2a.

   a. **Note** the potential benefits will not be as great as for the combined COAs.

s. 9(2)(k)

s. 9(2)(a)

SQNLDR, RNZAF
DDR PLANS

s. 9(2)(a)

Annexes

A.   Research on Minimum Entry Requirements

B.   Courses of Action for Minimum Entry Requirements

Enclosures

1.   General Mental Ability in the NZDF: How it's used in the NZDF and common misperceptions.

2.   Emails from SQNLDR s. 9(2)(a)   to SQNLDR s. 9(2)(a)

RESEARCH ON EDUCATION MINIMUM ENTRY REQUIREMENTS

Issue

Current MERs cause many suitable candidates to exit the recruitment pipeline early, reducing the number of candidates being attested. This research explores Education Minimum Education Requirements (MERs) and how they are used. Using this knowledge, annex B provides COAs, which can reduce pipeline attrition due to MERs.

Background

1.   This paper covers the following to provide context for the use of MERs in the NZDF:

    a.   Research on MERs,

    b.   Research on pre-entry tests,

    c.   The New Zealand Qualifications Framework,

    d.   NZDF's use of MERs, and

    e.   Recommendations to improve selection processes.

2.   Each section will begin with a summary of the findings.

Research on MERs

3.   Education providers and employers commonly use MERs as they are good predictors of grades for students with higher scores. However, they have limitations in predicting academic failure. Often MERs are set too high, and other metrics may be better predictors of success.

4.   MERs are educational standards imposed for acceptance onto a course or job. Much research has gone into using Grade Point Averages (GPA)[1] which is the most used MER method. Research on the use of GPAs in nursing training found that, when used with an entry test, it provided a statistically significant predictor of a student's ability to complete a programme. The entry test was a better predictor of failure. Further research showed pre-entry test scores were a good predictor of scores and success in the first semester courses; another article contradicts this finding showing that the pre-requisite GPA had the strongest relationship to nursing GPA and the likelihood of completing a course on time.[2] However, a meta-analysis of GPA research shows a non-significant correlation between prior academic achievement and graduation rates.[3] The meta-analysis shows that while GPA predicts

---

[1] New Zealand schools do not provide GPAs. GPA is equivalent to the average grade achievement standards, i.e. Not achieved, Achieved, Merit and Excellence.

[2] V Zamanzadeh et al., "A scoping review of admission criteria and selection methods in nursing education," BMC Nurse 19, 121 (2020): 4-7.

[3] C Crawford, et al., (2021). An exploration of the predictive validity of selection criteria on progress outcomes for pre-registration nursing programmes—A systematic review. Journal of Clinical Nursing, 30(17-18), 2489-2513: 2498.

potential grades, especially for those with higher scores, it is not a strong predictor of who will graduate.[4]

5.   The US military uses a high school diploma or a general equivalency diploma as their MER, which 84% of US high school students gain. These qualifications are a tool to ensure candidates can complete training and perform their duties successfully.[5] While these qualifications seem high, they are not; it is worth noting that in 2007, 18% of New Zealand school leavers had no qualifications.[6] The recently completed Heythornwaite Review states a need for the UK Armed Forces to reconsider entry criteria, including in the areas of neurodiversity.[7] A review of the British Army and Australian Army websites found similar MERs to the NZDF, with a notable exception from the UK. The British Army's removed all MERs for a range of non-technical trades,[8] and the Royal Navy has removed qualifications from 36 out of 100 trades.[9] Even the RAF requires no qualifications for five of its 63 trades.[10]

6.   According to IBM CEO Ginni Rometty, half the companies in the US require employees to be over-credentialed "because of a strong belief that where you start should not determine where you end. And I believe it so deeply, instead of just buying talent, you gotta build it".[11] The current Labour government concurs with Rometty stating, "Our education system needs to prepare our people for a world we can't yet imagine. Subject-specific knowledge will be a lot less important, and transferable skills will be essential. Attitude and aptitude will be just as important, if not more important, than qualifications."[12]

Research on pre-entry tests

7.   Pre-entry tests are widely used for their ease of use and efficacy. However, as MERs are the focus of this minute, pre-entry tests have not been explored deeply. For more information on the NZDF aptitude test, Saville and Holdsworth (SHL), read enclosure 1.

---

[4] C Crawford, et al., An exploration of the predictive validity of selection criteria on progress outcomes for pre-registration nursing programmes—A systematic review: 2498.

[5] Christopher McMahon and Colin Bernard. "Storm clouds on the horizon: Challenges and Recommendations for Military Recruiting and Retention." Naval War College Review 72, no. 3 (2019): 84-100: 90.

[6] Cathy Wylie and Edith Hodgen. Forming Adulthood: Past, present and future in the experiences and views of the Competent Learners @ 20. Wellington: Ministry of Education, 2011: 14.

[7] Rick Haythornthwaite. *Agency and Agility: Incentivising people in a new era A review of UK Armed Forces incentivisation*. London: UK MOD, 2023. https://www.nationalarchives.gov.uk/doc/open-government-licence/: 18.

[8] Army Be The Best. Accessed May 3, 2023. https://jobs.army.mod.uk/.
Army Challenge Yourself. Accessed May 3, 2023. https://army.defencejobs.gov.au/.

[9] https://www.royalnavy.mod.uk/careers/role-finder

[10] https://recruitment.raf.mod.uk/

[11] Adam Grant, "Cultivating good power with longtime IBM CEO Ginni Rometty" Worklife with Adam Grant, May 9, 2023.

[12] Rob Woolner, "Pathways to Higher Education in New Zealand. A Pilot Study into the Concept of Business Degree Apprenticeships."Journal of Asia Entrepreneurship and Sustainability 17, no. 3 (03, 2021): 68-137, https://www.proquest.com/scholarly-journals/pathways-higher-education-new-zealand-pilot-study/docview/2568752718/se-2 (accessed April 27, 2023): 70.

8.   Pre-entry tests can provide many benefits, including accuracy, validity, fairness, efficiency and cost.[13] Like MERs using GPAs, pre-entry test prediction is more robust for students who score higher. Additionally, the research found that these tests did not predict attrition due to academic failure later in training or completion of training.[14] However, it is worth noting that pre-entry tests can predict academic success, so they are widely used in selection. Pre-entry tests are examinations or assignments administered to every candidate for the nursing programme as part of the application process.[15] SHL is the pre-entry test used by the NZDF and is well-recognised for its predictive ability.

9.   Tout et al. state that due to the complexity of the qualifications framework in the UK, some employers have resorted to only using pre-entry tests.[16] They point out that SHL is one of the market leaders for these tests.[17] The New Zealand Initiative think tank reiterates this, arguing that "comparing and assessing performance between students in the same year, or across different years, is not a straightforward task when students take different combinations of hundreds of NCEA1 standards".[18]

Summary on research

10.   MERs and pre-entry tests are the best tools for predicting success – other tools can include face-to-face interviews, resumes and previous experience.[19] However, MERs and pre-entry tests are stronger at predicting grades than failure rates. When scores from the MERs and pre-entry tests are combined, they have better predictive power,[20] but they lose fidelity for those students who are on the cusp. As a result, those candidates on the threshold present the most significant risk, but also represent the greatest potential for a future career in the NZDF.

The New Zealand Qualifications Framework

11.   There has been constant tinkering with the New Zealand Qualifications Framework (NZQF), and schools have different ways of applying the curriculum, affecting the ability of many suitable candidates to meet MERs.

---

[13] Caska, Barbara. "Psychometrics at Work: How to Ensure Test Results You can Trust." DBS Business Review 3, (2019), https://www.proquest.com/scholarly-journals/psychometrics-at-work-how-ensure-test-results-you/docview/2385892187/se-2 (accessed April 27, 2023), 73.

[14] C Crawford, et al., An exploration of the predictive validity of selection criteria on progress outcomes for pre-registration nursing programmes—A systematic review: 2499.

[15] C Crawford, et al., An exploration of the predictive validity of selection criteria on progress outcomes for pre-registration nursing programmes—A systematic review: 2499.

[16] Tout, Dave and Bal, Iddo, "Perspectives on numeracy: reflections from international assessments", The international journal on mathematics education, July 2015, DOI: 10.1007/s11858-015-0672-9, 14.

[17] Dave Tout and Bal, "Perspectives on numeracy: reflections from international assessments", The international journal on mathematics education, July 2015, DOI: 10.1007/s11858-015-0672-9, 14.

[18] Bruce, Ian. "Influencing education in New Zealand through business think tank advocacy: Creating discourses of deficit. "Discourse & Communication 15, no. 1 (2021): 25-41. https://doi.org/DOI: 10.1177/1750481320961635, 30.

[19] Crawford, C, Black, P, Melby, V, and Fitzpatrick, B. (2021). An exploration of the predictive validity of selection criteria on progress outcomes for pre-registration nursing programmes—A systematic review. Journal of Clinical Nursing, 30(17-18), 2489-2513. https://doi.org/10.1111/jocn.15730 , 2503.

[20] C Crawford, et al., An exploration of the predictive validity of selection criteria on progress outcomes for pre-registration nursing programmes—A systematic review: 2502.

12. The NZQF has ten levels, from Level 1, usually taught in Year 11 at schools and kura, to Level 10, PhD level.[21] All qualifications on the NZQF have a credit value. The credit value relates to the amount of learning in the qualification; one credit is equivalent to ten notional learning hours. A typical learner can complete 120 credits of learning in a year.[22] 18-21 credits are typically available for subjects studied for a year. However, there is the recognition that the diversity of subjects is preferable to just a few, so some schools offer combinations of subjects meaning a person may not achieve 18 credits in a particular subject.

13. Changes were made to NCEA in 2010, including aligning the achievement standards in curriculum subjects to the New Zealand Curriculum. Subjects were no longer limited to 24 credits, and in some subjects, such as Mathematics and Statistics, the number of credits at Levels 1 and 2 almost doubled. In addition, changes to the numeracy and literacy requirements occurred, requiring students to gain ten credits from either achievement standards or a bundle of three unit standards for each. Achievement standards that provide evidence of Literacy and Numeracy could come from various learning areas, not just English and Mathematics.[23] Literacy and Numeracy requirements can be achieved in virtually every subject. At Level 1, for example, 329 standards are available for Literacy, and 43 are available for Numeracy.

14. Changes to NCEA level 1 were to occur in 2024 when new Te Reo Matatini me te Pāngarau | Literacy and Numeracy standards (called co-requisites) were to be mandatory. In 2023, schools and kura were transitioning to the new standards, and some schools could deliver the latest changes. Further changes to Literacy and Numeracy are happening to NCEA Level 2 in 2025 and NCEA Level 3 in 2026.[24] The co-requisites were made available in 2023 so schools and kura could meet the literacy and numeracy qualification requirements.[25] However, due to teething problems, the requirement for co-requisites has been postponed by a year, allowing schools to select whether they continue with the old approach or use the new co-requisites.[26]

15. Many schools no longer offer the NCEA Level 1 Certificate, partly as a response to the continual changes. Hobsonville Point Secondary School, for example, attempts to:

> (E)nsure the students gain the best results we will focus on doing less better - we believe that by doing fewer Achievement Standards we will support learners to go deeper with their learning. During their Year 11 year, students will have the

---

[21] New Zealand Qualifications Authority. The New Zealand Qualifications Framework. Wellington: New Zealand Government, 2016, 5.

[22] New Zealand Qualifications Authority. The New Zealand Qualifications Framework. Wellington: New Zealand Government, 2016, 8.

[23] Sarah Howell, Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019 (Dissertation). Wellington: Victoria University of Wellington, 2020: 5.

[24] Keeping up with changes to NCEA https://ncea.education.govt.nz/

[25] Keeping up with changes to NCEA https://ncea.education.govt.nz/

[26] Changes to NCEA deferred so schools can prioritise maths and literacy https://www.rnz.co.nz/news/political/488267/changes-to-ncea-deferred-so-schools-can-prioritise-maths-and-literacy

opportunity to gain 20-40 credits at Level One and/or Two to lay the foundations for quality Level 2 and 3 qualifications. This means HPSS students will not be completing a Level One NCEA Certificate.[27]

16.   Research finds that participation has declined in many of the key standards in Mathematics and Statistics from 2013-2019.[28]

17.   The New Zealand Council for Education Research argues that socioeconomic factors affect academic achievement. For example, a study of 22 low-to-mid socioeconomic status secondary schools showed inequitable literature teaching, with students being more likely to experience social marginalisation and injustice than those from higher decile schools. [29] As a result, they experienced lower participation rates than the national average in the externally assessed high-literacy standards in English, Biology, and Mathematics, and there had been no improvement over time.[30] The OECD reiterates this finding, noting lower school performance by students of lower socioeconomic backgrounds and Māori and Pasifika ethnic groups.[31]

18.   There are concerns in New Zealand about both the declining levels of achievement in Mathematics and the persisting inequity in achievement experienced by Māori, Pasifika, and low socioeconomic students.[32] Research indicates that issues with Numeracy start early and that socioeconomic factors play a part, but low Mathematics scores do not necessarily indicate a person's ability to learn.[33] Van Lameon also argues that evidence shows these people can have high potential.[34] s. 9(2)(a), s. 9(2)(g)(i)

---

[27] Hobsonville Point Secondary School. Accessed May 3, 2023. https://sites.google.com/hobsonvillepoint.school.nz/nceaathpss/home.
[28] Sarah Howell, Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019: iii.
[29] Bronwyn Gibbs, Amanda White and Sue McDowall. Developing a common practice model for Literacy & communication and maths: An overview of the literature. Wellington: New Zealand Council for Educational Research, 2022: 21.
[30] Sarah Howell, Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019: 8.
[31] CES Chair of Education Systems. Factbook Education System: New Zealand. Zurich: KOF Swiss Economic Institute, 2019. https://doi.org/10.3929/ethz-b-000387315, 15.
[32] Sarah Howell, Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019: 1.
[33] Wills, Olivia, and Sarah Hogan. The big subtract: Can we improve our maths performance? Wellington: New Zealand Institute of Economic Research, 2021, 2-3.
[34] Annette van Lamoen, Addressing the literacy crisis in Aotearoa New Zealand Submission for the Productivity Commission inquiry 'A fair chance for all: Breaking the disadvantage cycle'. Wellington: Ako Aotearoa, 2022: 3.
[35] The Equity Index is the extent to which a kura or school's students might face socioeconomic barriers that could hinder academic achievement at school. The maximum score is 569, representing a school with the highest barriers; a score of 541 means socioeconomic barriers strongly impact student results.
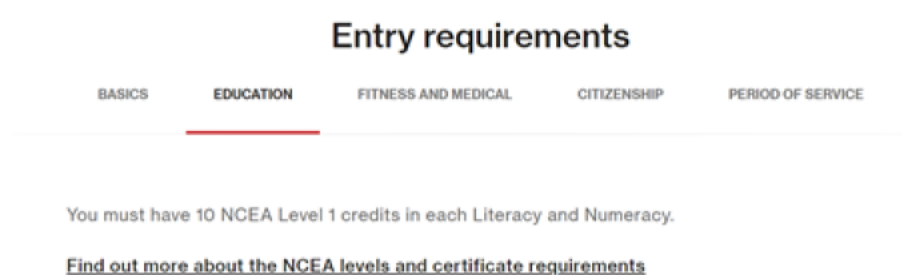
s. 9(2)(a), s. 9(2)(g)(i)

Wylie and Hodgen's research into New Zealand adult learners found no difference in cognitive measures between those who had left school with a qualification and those who had not; they also found attitude was more important in gaining qualifications.[36]

NZDF's use of MERs

19.   A person will first encounter MERs when they go to the Defence Careers site. Google analytics show that in the last year, there were 690,000 visitors to the website, each of whom stayed on the site for just under three minutes and visited approximately three pages. These actions and length of time would be just enough for them to go into a trade and see the MERs, as shown in figure 1.

Figure 1: Defence Careers website typical trade entry requirements[37]

Entry requirements

BASICS   **EDUCATION**   FITNESS AND MEDICAL   CITIZENSHIP   PERIOD OF SERVICE

You must have 10 NCEA Level 1 credits in each Literacy and Numeracy.

<u>Find out more about the NCEA levels and certificate requirements</u>

20.   The NZDF uses MERs as a 'blunt tool' to determine if a candidate can complete trade training. MERs appear high and do not align well with the NZQF. Trade schools have shared concerns about the risk students with low academic standards have on other class members and instructors. Such concerns may be overstated, especially where learners are motivated. There has yet to be empirical evidence of removing MERs in the UK, as it is not sharing information and it is too early to see the impact on the trades.

21.   Searching NZDF Doctrine and Defence Force Orders shows little mention of Minimum Entry Requirements (MERs). However, the NZDDP 1.0 states that "NZDF military recruiting should recruit "applicants who meet standards for successfully completing trade training".[38] It also states that the NZDF recruits most trades and officer candidates for their latent cognitive abilities.[39] If MERs are used for selecting candidates' latent ability, then they should not be set too high, qualifications should only be sufficient to start them on their training.

---

[36] Cathy Wylie and Edith Hodgen. Forming Adulthood: Past, present and future in the experiences and views of the Competent Learners @ 20. Wellington: Ministry of Education, 2011: 2.

[37] Defencecareers.mil.nz/defence-careers/browse-roles/infantry/?service=6

[38] The Doctrine Cell, Personnel (NZDDP-1.0), Wellington: Headquarters New Zealand Defence Force, 2022, http://doctrine/pdf/nzdf/NZDDP-1.0-Online_Version.pdf: 32.

[39] The Doctrine Cell, Personnel (NZDDP-1.0), Wellington: Headquarters New Zealand Defence Force, 2022: 8.

22.   In 2013 NZDF MERs were determined for all trades on the New Zealand Qualifications Framework (NZQF).[40] Using the NZQF for MERs is appropriate, as 90% of New Zealand schools use it to deliver NCEA qualifications. Of the remaining schools, 7% provide Cambridge Assessment International Education, and 3% provide International Baccalaureate. For these schools, once the MERs are set, equivalence can be calculated.[41]

23.   A review of 128 Employment Profiles (EPs) which contain MERs was conducted, and it found that most MERs had one or more issues, including:[42]

   a.   Obsolete (30%),

   b.   Incorrect links to MERs (48%),

   c.   Missing information (31%)

   d.   Incorrect information (15%), and

   e.   MER information in more than one location (5%).

24.   As well as these issues, there is no robust process to determine MERs. The review found no policy governing MERs, and many trades appeared to have changed the MERs from those specified in 2013 without following a transparent process. Other sites had MERs too, and not all were consistent, which is a concern. The RNZAF had the closest to a single source of truth, using NZAP 252 for most EPs to hyperlink to this site. Army had MERs contained within EPs and had the highest number of EPs that will become obsolete. The Navy had links to Defence Force Orders 3 and various NZBRs, but none of the links worked, and none of the documents provided the necessary MER information. Additionally, there were examples of the Navy using the Careers website as the source of the MER.

25.   Those MERs which have been changed appear to have higher or more standards than in 2013. Changing standards in an ad hoc manner is a concern, as incorrectly set qualifications can be a barrier to recruitment. As discussed earlier, there are many factors affecting academic achievement. A significant number of school leavers have no NCEA qualifications. Students, especially those whose learning was disrupted by COVID-19, who are between 18 and 21 years old, are less likely to have the same academic standards as students who completed schooling before 2020. As a result, MERs have a more significant impact on recruitment than in the past. NZDC stated in 2022, "…it is timely that a review of NZDF trades minimum entry requirement is conducted."[43]

The NZDF is a large tertiary learning provider; it develops people's knowledge, skills and attitudes and should therefore look at potential, not just academic results. The British Army

---

[40] Minute, DPE 5350/1, Changes to Minimum Entry Requirements, (2013)

[41] https://ibo.org/university-admission/find-countries-and-organisations-that-recognize-the-ib/

[42] http://ddms-r/ds/D1-0034/10/Forms/CorpsTrade.aspx

http://org/m-fpto/Lists/NEP/AllItems.aspx

http://org/A-PERS/DCM%20Job%20Descriptions/Forms/EmploymentProfiles.aspx

http://pub-r/ps/p0-0001/001/nzap_252.pdf#search=nzap%20252

http://pub-r/ps/p0-0001/001/nzap_53.pdf

http://pub-r/ps/p0-0001/001/dfo_4.pdf#search=dfo%204

[43] Shirley, Di. *Introduction of Te Marautanga o Aotearoa subjects in NZDF recruiting minimum entry requirements*. Palmerston North: NZDC, 2022: np.

understands this as it has removed all MERs from some non-technical trades, including infantry soldier, paratrooper, aviation ground crew specialist, light gunner, tank crew, armoured cavalry crew, driver, chef, petroleum operator, and driver communications specialist.[44] They are willing to rely on other information to determine a candidates suitability as they state, "Applicants who have not completed secondary education (due to expulsion or traveller lifestyle) may be processed providing they pass all mandatory entrance tests."[45]

26.   Similarly, the Royal Navy has removed MERs from 36 trades, including Mine Clearance Diver, Mine Warfare Specialist, Musician, Physical Trainer, Seaman Specialist, Supply Chain Logistician, Warfare Intelligence Specialist, Warfare Specialist and Writer.[46] The Royal Navy states that "Entry into most Rating/Other Rank roles in the RN does not require any formal educational qualifications."[47]

27.   Most training organisations only recommend studying NCEA maths and English to at least Levels 1 or 2 for apprenticeships.[48] In contrast, many NZDF trades require candidates to have NCEA Level 2.

28.   Most trades in the NZDF require qualifications at levels 1 to 3. According to NZQA, the purpose of Level 1 is to qualify "individuals with basic knowledge and skills for work, further learning and/or community involvement." Certificate Level 2 qualifies individuals with introductory knowledge and skills for a field(s)/areas of work or study.[49] Level 3 qualifies individuals with knowledge and skills for a specific role(s) within fields/areas of work and/or preparation for further study.[50]

29.   Requiring specific subjects aligns poorly with the intent of the New Zealand curriculum. Like most other developed nations, New Zealand provides a broad range of subjects. A wide selection of subjects provides students with a breadth of learning before they specialise and allows them to handle novel situations. Only in the final years of school does the typical student focus more on particular subjects. To gain university entrance, a student requires 14 credits in three level 3 approved subjects and ten credits each of Level 1 numeracy, Level 2 literacy and an additional 18 credits in other subjects.[51] The New Zealand

[44] Army Be The Best. Accessed May 3, 2023. https://jobs.army.mod.uk/.

[45] *Army General and Administrative Instructions, Volume 2, Chapter 40, Recruitment Policy*. London: UK MOD, 2021: 40/3-13.

[46] Royal Navy, Accessed May 29, 2023. https://www.royalnavy.mod.uk/careers/role-finder

[47] *BR 3, Volume 1, Chapter 7 - Basic Eligibility and Entry Standards*. London: UK MOD, 2022: 7-32. https://www.royalnavy.mod.uk/-/media/royal-navy-responsive/documents/reference-library/br-3-vol-1/br3d-vol-1-feb-2022/ch07_compressed.pdf?la=en-gb&rev=1c1a455a63c24dc8aa99aeaedddd84ae&hash=3C211DB80B5.

[48] Sue Tate and David Greatbach. International progression report: good practice in technical education. London: Department for Education, 2020: 63.

[49] New Zealand Qualifications Authority. The New Zealand Qualifications Framework. Wellington: New Zealand Government, 2016, 10.

[50] New Zealand Qualifications Authority. The New Zealand Qualifications Framework. Wellington: New Zealand Government, 2016, 11.

[51] Hobsonville Point Secondary School. Accessed May 3, 2023. https://sites.google.com/hobsonvillepoint.school.nz/nceaathpss/home.

approach can be contrasted with the British system, which, according to critics, specialises too early and forces students to do just three subjects at the equivalent of NCEA level 3 and only one subject for two years if they are doing vocational studies as it is not considered high-quality education.[52]

30.   Algebra is an important standard known to be a 'gatekeeper' for progression in Mathematics.[53] If Mathematics is needed at a higher level, Howell recommends that a person has passed basic Algebra. Despite the importance of Algebra, the Level 1 standard has experienced the highest overall decrease in participation rates of all key Mathematics standards. This decline has reduced participation in other key Mathematics standards, which are all externally assessed at higher levels.

31.   Calculus starts at NCEA level 2 and requires an understanding of variables and functions, which comes from Algebra.[54] Studies by the University of Canterbury and the University of Auckland found that grades achieved in Level 3 Differentiation and Integration standards were the most important predictor of success in first-year Mathematics. In addition, both studies found that Merit or Excellence in these standards increased their chances of success in the first-year courses.[55] The Auckland study found that internally assessed standards did not predict success in first-year Mathematics.[56] Confirming this finding, a recent study of first-year students at Victoria University of Wellington found that the better predictors of success in first-year core Mathematics courses were the performance in the NCEA external Calculus standards at Level 3 rather than the internally assessed standards. [57]

32.   To overcome limitations in the NCEA system, most New Zealand universities offer several bridging papers in Mathematics.[58]

33.   Van Lameon points out that vocational educators have little teacher training to provide the necessary support and instruction for those students with Literacy and Numeracy difficulties to reach their potential.[59] The causes of difficulties in Literacy and Numeracy include cognitive differences, perceptual disorders, and environmental factors such as inadequate language experience, socioeconomic disadvantage, and poor reading

---

[52] Tom Richmond and Eleanor Regan. Re-assessing the future: Part 2 – the final years of secondary education. London: EDSK, 2021, 2 and 6.

[53] Sarah Howell, Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019 (Dissertation). Wellington: Victoria University of Wellington, 2020: 30.

[54] Sarah Howell, Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019: 20.

[55] Sarah Howell, Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019: 20.

[56] Sarah Howell, Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019: 21.

[57] Sarah Howell, Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019: 21.

[58] Sarah Howell, Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019: 23.

[59] Annette van Lamoen, Addressing the literacy crisis in Aotearoa New Zealand Submission for the Productivity Commission inquiry 'A fair chance for all: Breaking the disadvantage cycle'. Wellington: Ako Aotearoa, 2022: 4.

instruction, which impact particular groups such as Māori, Pacific Peoples, and disabled learners most.[60] Therefore, excluding people with potential based on MERs which are too high may perpetuate disparities between particular groups. On the other hand, lowering MERs has the potential to increase diversity in the NZDF.

A conversation with an NZDC SME illustrates the limitations of MERs in predicting academic success. He agreed that MERs may not be good predictors of academic performance. Once on the recruit course, all three services test recruits using the Literacy and Numeracy for Adults Assessment Tool (LNAAT) (see

Figure 2). LNAAT "provide[s] robust and reliable information on the reading, writing, numeracy and vocabulary skills of adults."[61] The LNAAT framework has six steps of Literacy and Numeracy, with Step 1 being "low" and Step 6 "high"[62] The SME explained that typically 13% of Navy recruits were below Step 4 in Literacy, and a similar percentage were below Step 5 in Numeracy. While it could be predicted that these recruits would be the most likely to fail, this was not the case, and some of the most significant difficulties came from recruits who scored 6. He said that students at Step 2 (below secondary school level) had somehow managed to get the necessary MERs but were a training risk. If recruits have learning difficulties, schools refer them to an Adult Learning Tutor (ALT), who provides support using the LNAAT information to diagnose the issues. Tellingly, he explained that the latest recruit course was the least academically capable since 2014 (usually, the first intake of the year is the most capable). At the same time they were the most motivated, so they had the lowest academic failure rate since 2014.

Figure 2: LNAAT site

---
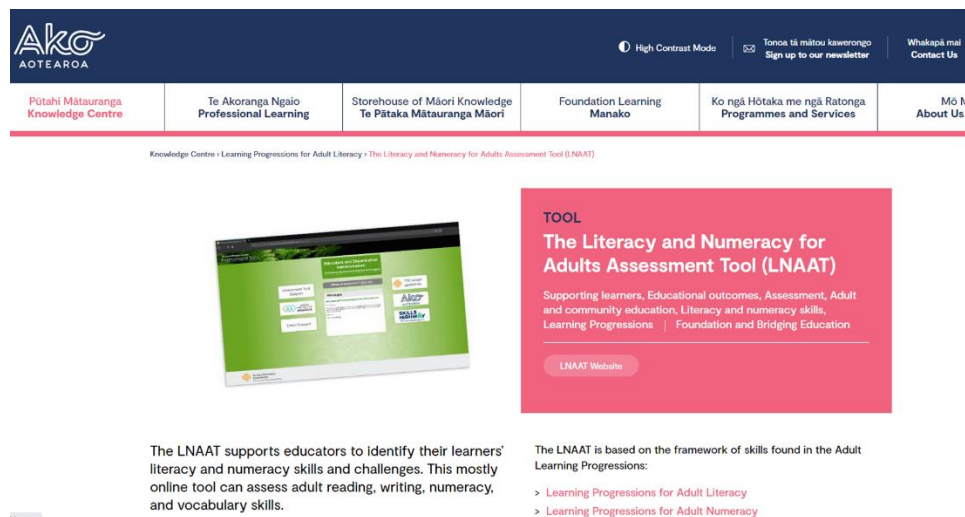
[60] Annette van Lamoen, Addressing the literacy crisis in Aotearoa New Zealand Submission for the Productivity Commission inquiry 'A fair chance for all: Breaking the disadvantage cycle'. Wellington: Ako Aotearoa, 2022: 3.
[61] assessforadults.nzcer.org.nz
[62] Tertiary Education Commission. *Guidelines for using the Literacy and Numeracy for Adults Assessment Tool 2023*. Wellington: Tertiary Education Commission, 2023. Accessed July 9, 2023 https://tec.govt.nz.

MER process amendment considerations.

34.   The NZDF, like its Five Eyes partners, is struggling to meet its recruiting targets. Changes to MERs could help improve recruitment numbers. For example, the British Army and Royal Navy have removed MERs from many trades, but it is too early to see the impact. Likewise, a Naval War College paper in the US recommends that the Pentagon consider making significant and likely controversial policy changes, including MERs.[63] A review of the Australian Army shows MERs are on par with the NZDF.

35.   Since Ancient Greece, criticism of younger people for being lazier and less intelligent than the older generation has been typical, but this has never been true; typically, each generation is more able than the one before. NZDF must compete for the millennial generation (also known as Generation Y) and Generation Z, as they are projected to represent 75% of the global workforce by 2025.[64] Generations Y and Z are the most educated, most informed, and most interconnected generations in history.[65] These people can also change the cultures positively as they are far more tolerant of differences in race, sexual orientation, and gender than previous generations.[66] According to Woolner, this group in New Zealand will include young Pasifika people who will be critical participants in tomorrow's workforce.[67]

36.   MERs should be based on equivalent, best practice industry or academic MERs or by evaluating previous courses. NZDF sets its standards higher than polytechnics which would train the same trades. In fact, most polytechnics, such as WelTec, have no academic requirements and rely on their training systems to ensure student success.[68] It should be noted that WelTec has the organisational structure to support learners, which the NZDF does not have. Selecting suitable candidates who are not an academic or trade risk should be done using an effective tool. Currently, the most effective tool Recruiting has for this is SHL. Unlike SHL, there is a lack of evidence-based research on the effectiveness of MERs in predicting academic success in the NZDF.

37.   Any Course of Action (COAs) to change MERs should have a robust process to enable MERs to be derived from matching the needs of each trade best. Noting that SHL is more effective, using MERs in selection can be revisited. Annex B explores possible COAs.

---

[63] Christopher McMahon and Colin Bernard. "Storm clouds on the horizon: Challenges and Recommendations for Military Recruiting and Retention.": 84.

[64] Christopher McMahon and Colin Bernard. "Storm clouds on the horizon: Challenges and Recommendations for Military Recruiting and Retention.": 86.

[65] Christopher McMahon and Colin Bernard. "Storm clouds on the horizon: Challenges and Recommendations for Military Recruiting and Retention.": 86.

[66] Christopher McMahon and Colin Bernard. "Storm clouds on the horizon: Challenges and Recommendations for Military Recruiting and Retention.": 88.

[67] Rob Woolner, "Pathways to Higher Education in New Zealand. A Pilot Study into the Concept of Business Degree Apprenticeships: 79.

[68]
https://www.whitireiaweltec.ac.nz/?gclid=Cj0KCQjwmtGjBhDhARIsAEqfDEfbaBbvjPPHwJ8c8cPieLh_Dj7wFzN_0H_aerFVtgQ0sJXjlTb4xUMaAr3tEALw_wcB

Bibliography

Albreiki, Balqis, Nazar Zaki, and Hany Alashwal. "A Systematic Literature Review of Student' Performance Prediction using Machine Learning Techniques." *Education Sciences* 11, no. 9 (2021): 552, https://www.proquest.com/scholarly-journals/systematic-literature-review-student-performance/docview/2576392841/se-2 (accessed April 27, 2023).

Army Be The Best. Accessed May 3, 2023. https://jobs.army.mod.uk/.

Army Challenge Yourself. Accessed May 3, 2023. https://army.defencejobs.gov.au/.

Army General and Administrative Instructions, Volume 2, Chapter 40, Recruitment Policy. London: UK MOD, 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1046447/20220112-FOI2021_15654_AGAI_40_Recruitment_Policy.pdf.

BR 3, Volume 1, Chapter 7 - Basic Eligibility and Entry Standards. London: UK MOD, 2022. https://www.royalnavy.mod.uk/-/media/royal-navy-responsive/documents/reference-library/br-3-vol-1/br3d-vol-1-feb-2022/ch07_compressed.pdf?la=en-gb&rev=1c1a455a63c24dc8aa99aeaedddd84ae&hash=3C211DB80B5.

Bruce, Ian. "Influencing education in New Zealand through business think tank advocacy: Creating discourses of deficit." *Discourse & Communication* 15, no. 1 (2021): 25-41. https://doi.org/DOI: 10.1177/1750481320961635.

Caska, Barbara. "Psychometrics at Work: How to Ensure Test Results You can Trust." *DBS Business Review* 3, (2019), https://www.proquest.com/scholarly-journals/psychometrics-at-work-how-ensure-test-results-you/docview/2385892187/se-2 (accessed April 27, 2023).

CES Chair of Education Systems. *Factbook Education System: New Zealand*. Zurich: KOF Swiss Economic Institute, 2019. https://doi.org/10.3929/ethz-b-000387315.

Changes to NCEA deferred so schools can prioritise maths and literacy https://www.rnz.co.nz/news/political/488267/changes-to-ncea-deferred-so-schools-can-prioritise-maths-and-literacy

Elmiger, B. TAD Review of Recruit/Soldier Attrition: Jan 2021- Dec 2022, CO TAD Minute 207/22, 2022.

Crawford, C., Black, P., Melby, V., & Fitzpatrick, B. (2021). An exploration of the predictive validity of selection criteria on progress outcomes for pre-registration nursing programmes—A systematic review. Journal of Clinical Nursing, 30(17-18), 2489-2513. https://doi.org/10.1111/jocn.15730

Gerritson, John. "'The trend is of concern' - School leavers with no qualifications rises." RNZ. Last modified November 23, 2020. Accessed May 4, 2023. https://www.rnz.co.nz/news/national/431226/the-trend-is-of-concern-school-leavers-with-no-qualifications-rises#:~:text=Twelve%20percent%20of%20last%20year's,the%20statistic%20had%20been%20recorded.

Gibbs, Bronwyn, Amanda White, and Sue McDowall. *Developing a common practice model for Literacy & communication and maths: An overview of the literature*. Wellington: New Zealand Council for Educational Research, 2022.

Grant, Adam. "Cultivating good power with longtime IBM CEO Ginni Rometty" Worklife with Adam Grant, May 9, 2023, https://play.stitcher.com/episode/302993733.

Haythornthwaite, Rick. *Agency and Agility: Incentivising people in a new era A review of UK Armed Forces incentivisation*. London: UK MOD, 2023. https://www.nationalarchives.gov.uk/doc/open-government-licence/

Hobsonville Point Secondary School. Accessed May 3, 2023. https://sites.google.com/hobsonvillepoint.school.nz/nceaathpss/home.

Howell, Sarah. *Coherence, progression, and pathways in NCEA Mathematics and Statistics: Participation and achievement data analysed by school deciles, 2013-2019* (Dissertation). Wellington: Victoria University of Wellington, 2020.

Hoyles, Celia, Alison Wolf, Susan Molyneux-Hodgson, and Phillip Kent. *Mathematical Skills in the Workplace: Final Report to the Science, Technology and Mathematics Council*. London: Institute of Education, University of London, 2002.

Keeping up with changes to NCEA https://ncea.education.govt.nz/

McLeans College, McLeans NCEA and Cambridge Assessment International Education Information Evening. Last modified 2022. Accessed May 3, 2023. https://www.macleans.school.nz/academic/qualification-pathways/cambridge-international.

McMahon, Christopher, and Colin Bernard. "Storm clouds on the horizon: Challenges and Recommendations for Military Recruiting and Retention." *Naval War College Review* 72, no. 3 (2019): 84-100.

Madden, Kieran. *Discussion Paper: The Case for Character Skills Navigating New Zealand's Future of Work*. Auckland: Maxim Institute, 2020.

Ministry of Education. *Education Indicator Education and Learning Outcomes: School leavers with NCEA Level 1 or above*. Wellington: Ministry of Education, 2022.

NCEA Education. Accessed May 3, 2023. https://ncea.education.govt.nz/.

New Zealand Council for Educational Research. Accessed July 9, 2023.
https://assessforadults.nzcer.org.nz.

New Zealand Qualifications Authority. *The New Zealand Qualifications Framework*.
Wellington: New Zealand Government, 2016.

Olivier, Karina, Antoni Barnard, and Annelize van Niekerk. "Selection of Industrial and
Organisational Psychology master's Students: Exploring the Predictive Validity of a
person–job Fit Approach."*SA Journal of Human Resource Management* 19, (2021),
https://www.proquest.com/scholarly-journals/selection-industrial-organisational-
psychology/docview/2528366374/se-2 (accessed April 27, 2023).

Poskitt, Jenny. *NZAI Regional Seminar presentation: International and national assessment
issues: implications for Aotearoa/New Zealand schools*. Palmerston North: Massey
University, 2019.

Richmond, Tom, and Eleanor Regan. *Re-assessing the future: Part 2 – the final years of
secondary education*. London: EDSK, 2021.

Royal Navy, Accessed May 29, 2023. https://www.royalnavy.mod.uk/careers/role-finder

Royal Air Force, Accessed May 29, 2023. https://recruitment.raf.mod.uk/

Shirley, Di. *Introduction of Te Marautanga o Aotearoa subjects in NZDF recruiting minimum
entry requirements*. Palmerston North: NZDC, 2022.

Tate, Sue, and David Greatbach. *International progression report: good practice in technical
education*. London: Department for Education, 2020.

Tertiary Education Commission. *Guidelines for using the Literacy and Numeracy for Adults
Assessment Tool 2023*. Wellington: Tertiary Education Commission, 2023. Accessed
July 9, 2023 https://tec.govt.nz.

The Doctrine Cell, *Personnel (NZDDP-1.0)*, Wellington: Headquarters New Zealand Defence
Force, 2022, http://doctrine/pdf/nzdf/NZDDP-1.0-Online_Version.pdf

Tout, Dave and Bal, Iddo, "Perspectives on numeracy: reflections from international
assessments", *The international journal on mathematics education*, July 2015, DOI:
10.1007/s11858-015-0672-9.

Wills, Olivia, and Sarah Hogan. *The big subtract: Can we improve our maths performance?*
Wellington: New Zealand Institute of Economic Research, 2021.

van Lamoen, Annette. *Addressing the literacy crisis in Aotearoa New Zealand Submission for the Productivity Commission inquiry 'A fair chance for all: Breaking the disadvantage cycle'*. Wellington: Ako Aotearoa, 2022.

Wylie, Cathy, and Edith Hodgen. *Forming Adulthood: Past, present and future in the experiences and views of the Competent Learners @ 20*. Wellington: Ministry of Education, 2011.

Woolner, Rob. "Pathways to Higher Education in New Zealand. A Pilot Study into the Concept of Business Degree Apprenticeships."*Journal of Asia Entrepreneurship and Sustainability* 17, no. 3 (03, 2021): 68-137, https://www.proquest.com/scholarly-journals/pathways-higher-education-new-zealand-pilot-study/docview/2568752718/se-2 (accessed April 27, 2023).

Zamanzadeh, V., Ghahramanian, A., Valizadeh, L., Bagheriyeh, F. and Lynagh, M. A scoping review of admission criteria and selection methods in nursing education. *BMC Nurse* 19, 121 (2020). https://doi.org/10.1186/s12912-020-00510-1

COURSES OF ACTION FOR ACADEMIC MINIMUM ENTRY REQUIREMENTS

Scope of changes for COAs

1.   In scope:

    a. Trades currently with NCEA Levels 1 and 2 MERs, and

    b. The use of academic qualifications as MERs.

2.   Not in scope

    a. Trades currently with NCEA Levels 3 and higher MERs;

    b. Changes to SHL;

    c. Changes to Candidate Reports, which include a score comprising academic results, aptitude (SHL), physical tests and organisational fit; and

    d. Current and planned DR initiatives to increase pipeline capacity and reduce time in pipeline including:

        i. Candidate coaching,

        ii. Automation of the system to speed up processes,

        iii. NZQA Record of Learning system enhancement,

        iv. *Medical Journey*, and

        v. RealMe, and

        vi. SHL stand down reduction.

Introduction

3.   The key considerations in selecting a Course of Action (COA) should be the impact, sustainability, and risk. Therefore, four MER COAs have been selected and analysed to identify benefit and risk. Finally, a deeper analysis of the best two COAs has been undertaken to advise command.

4.   In developing COAs, the following assumptions were made:

    a. Lowering or removing an MER does not diminish the standard of candidates selected, as other checks remain. There are no other changes to the recruiting process.

    b. Lowering or removing an MER gives SHL a stronger influence in eliminating candidates who are a learning risk. For all COAs, the use of SHL and its cut-scores will remain unchanged.

    c. Recruiting will still use a candidate's educational achievement, but only in the final stages of the selection process, where it is one of the weighted factors used in determining a candidate's suitability for a trade.

d. Where possible, MERs should be bucketed. One benefit of this is that it will allow for automation when the NZQA Record of Learning system enhancement project is completed.

e. The increased number of people in the pipeline will not overwhelm the system, and the additional cost ($40 per candidate) to run SHL will not exceed Defence Recruiting's budget.

Figure 1: Flow chart of candidates moving through recruiting pipeline
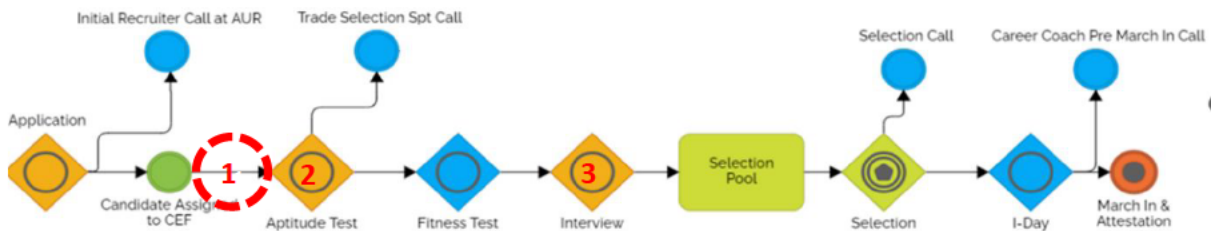
5. Figure 1 shows the steps a candidate must go through. Key points to note:

a. The average time for a candidate to go from *Application* to *March In & Attestation* is 269 days.

b. There are three Minimum Entry Requirements[1] which may lead to candidates being removed at point 1 (highlighted in Figure 1); they are the Initial Police Check, Initial Health Check and Academic Qualifications. This is the only point in the pipeline where the COAs will change a process, and the change will only be to Academic Qualifications.

c. If a candidate successfully gets through the MERs, they undertake the SHL aptitude test (point 2 in Figure 1). SHL is the final MER which a candidate must pass.

d. Each candidate is interviewed (point 3 in Figure 1), and the recruiter then collates the information to produce a candidate's *Selection Board Report*. The report typically rates the candidate out of 125, comprising academic 15, aptitude 35, physical 25 and organisational fit 50. The report is not an MER, therefore Academic Qualifications and SHL, while used again are used only for sorting candidates.

Potential impact on pipeline

6. Changes to MERs may impact the number of people who remain in the pipeline past the MER stage. In the year up to 21 July 23, 67 candidates have been removed because they failed to meet the MERs. Additionally, MERs may have been a reason for some candidates in the following categories to leave the pipeline:

---

[1] For brevity and consistency, Academic Minimum Entry Requirements have been called MERs throughout the minute. Para 5 is the only time the term MERs is used to refer to other checks.

    a. 39 failed to provide academic transcripts,

    b. 485 ceased contact during the documentation stage,

    c. 327 had no initial contact, and

    d. 142 withdrew as they were no longer interested.

7.   If the pipeline size remains constant, the changes could see 167 candidates remaining in the pipeline for longer and potentially becoming recruits.[2]

8.   Changes to the MER may increase the number of candidates who enter the pipeline, though this is very difficult to estimate. More of the annual 690,000 visitors to the website may explore trades more if MERs are adjusted, leading to an increase in applications, leading to an increase in candidates at the start of the pipeline from the current 7000-8000.

COA0 No change

9.   This COA would see Defence Recruiting using the current spreadsheet they have developed and continue to update it as qualifications change.

Figure 2: Benefits and Risks of COA0

Benefits	Risks
No impact on current business.	An inefficient process remains.
	No single source of truth for each trade's MER.
	Trades do not have input into their own MER because there is no one system to support them.
	All the issues of obsolescence, broken links and incorrect and incomplete information will remain.
	Lack of currency means MERs are not fit for purpose, therefore NZDF is missing out on breadth of recruit it could get.
	MERs do not align with NZQF.

---

[2] The calculated number assumes all candidates who failed MERs stay in the pipeline, and 10% of the other categories where candidates left the pipeline were due to failing to meet MERS, and they also remain in the pipeline.

COA1 Develop new processes and create a single source of truth for MERs

10.   This COA would see single services and appropriate HR organisations apply processes to maintain MERs with support from NZDC. All MERs would be housed in DFO 4 and reviewed on a regular cycle.

Figure 3: Benefits and Risks of COA1

Benefits	Risks
No impact on current recruiting business. Trades cannot update to new qualifications as part of their processes; they must be updated from a master register which is centrally controlled. Easier for Defence Recruiting to determine candidates' MERs. Single source of truth for each trade's MER.	Unlikely trades will make the changes on time. The review showed there is a tendency for trades to increase MER standards even without empirical evidence to support changes. Potential false positives and negatives mean the right people are not recruited. Need to have agreement from all Services on new processes. All services must address current issues with EPs – obsolescence, broken links and incorrect and incomplete information. Implementation will take significant time and resources.

COA2 Rely on SHL as primary MER and use academic qualifications only for ranking.

11.   COA2 involves removing the use of academic qualifications as MERs. There are many ways to do this, including eliminating qualifications as MERs at a one or two NZQA levels.

12.   Note that academic qualifications will continue to be used in the final stage of the selection process as a ranking tool. At this stage, a candidate's *Selection Board Report* written which includes an academic assessment weighting of 15 out of a total of 125.

13.   Currently, all trades require some form of qualification, but noting that in 2019, 12% of secondary school leavers had no qualification,[3] a large pool of potential candidates is lost.

14.   A project would require the following activities to take occur before changes are made live:

      a.   Update Employment Profiles,

      b.   Update Recruiting SOPs,

            i.   Candidates made aware that academic grades used in selection.

      c.   SHL testing proctored,

      d.   Change MERs on the Careers website, and

      e.   Analyse the impact of changed MERs on recruitment and failure rates.

15.   These changes are relatively simple and could be done quickly. This option also allows for quick reversion if it is temporary. COA2 could be implemented while COA3 is developed.

Figure 4: Benefits and Risks of COA2

Benefits	Risks
Many NZ secondary schools no longer offer NCEA Level 1, therefore, changes need to be made to align any trades with NCEA Level 1.	The number of candidates may overwhelm recruiting system.
Many trades do not accurately align academic qualifications with NCEA Level 2.	It does not wean out unsuitable candidates early, so they may sit the SHL test, increasing the cost of running the pipeline.
Simplifies the process.	May allow unsuitable candidates through the system.
Will get more people further through the pipeline.	Need to have agreement from all Services.
Speed up pipeline processes.	Need to trust SHL validity.
No requirement to update MERs.	Impact in confidence of the SHL tool by stakeholders.
No requirement for Defence Recruiting to determine candidates' MERs.	Support from stakeholders not forthcoming.

---

[3] Gerritson, John. "'The trend is of concern' - School leavers with no qualifications rises." RNZ. Last modified November 23, 2020. Accessed May 4, 2023.

Increases pool of suitable candidates, particularly people of lower socio-economic groups and Māori and Pasifika groups who may have the potential to succeed in the NZDF.	

COA2a

16.   Remove all MERs for all trades which currently have NCEA Level 1 requirements.

COA2b

17.   Remove all MERs for all trades which currently have NCEA Level 1 or 2 requirements.

COA3 Simplify and lower MERs to create buckets to create a stronger selection influence from SHL.

18.   This COA will require new processes to create a single source of truth for MERs. Like all the other COAs, academic qualifications will continue to be used in the final stage of the selection process in writing a candidate's Selection Board Report, which includes an assessment weighting of 15 out of 125. A project would require the following activities to take occur before changes are made live:

   a.   Create qualification buckets for trade MERs,

   b.   Create a central MER registry which could be DFO 4,

   c.   Update Employment Profiles to ensure they all link to the DFO 4,

   d.   Update Recruiting SOPs,

   e.   Change MERs on the Careers website,[4]

   f.   Maintain MERs, and

   g.   Analyse the impact of changed MERs on recruitment and failure rates.

Figure 5: Benefits and Risks of COA3

| Benefits	Risks
Simpler and more efficient processes.	Time to make the changes will make it difficult to make a difference in time.
MERs accurately reflect the needs of all trades.	Single Services not supporting changes to processes.
Single source of truth –DFO 4.	Trades not supporting changes to MER levels.
Easier for Defence Recruiting to determine candidates' MERs.	
Less need for waivers.	Trades do not have input into their own MER.
Increases the number of suitable candidates in the pipeline, particularly people of lower socio-economic groups and Māori and Pasifika groups with the potential to succeed in the NZDF.	Removing specific subjects and credit at NCEA Level 2 for some trades may lead to increased failure rates.
Buckets are easier to maintain, so a disconnect with NZQF is less likely and can be more easily fixed.	All services need to address current issues with EPs.
Allows for the planned automation to occur soon, which can speed up the pipeline process.	SHL not performing as predicted.
	Overloading the ability of Defence Recruiting to manage the recruiting

---

[4] Possible changes to the Careers website are shown at the end of this annex.

Will get more people further through the pipeline.	pipeline (CEMs, CEFs, Recruiters, Selections Team).
Easier for Defence Recruiting to determine candidates' MERs.	Impact in confidence of the SHL tool by stakeholders.
Single source of truth controlled by each Service.	Support from stakeholders not forthcoming.
Easier for Defence Recruiting to determine candidates' MERs.	
Less need for waivers.	

MER buckets for COA3

19.   Buckets are academic groupings into which trades can be placed. Buckets simplify the selection of academic qualifications so CEFs can be more easily interpreted and allow for system automation. This section explains the process undertaken to arrive at three possible buckets. While it was possible to be more targeted, for example, to have NCEA Certificate with Science, this does not simplify the process nor does it open up the pipeline to suitable candidates. Subjects such as Mathematics and Science can be used at the end of the process, along with their SHL score, to determine a candidate's rank –as done in the current process.

Figure 6: Current MERs simplified
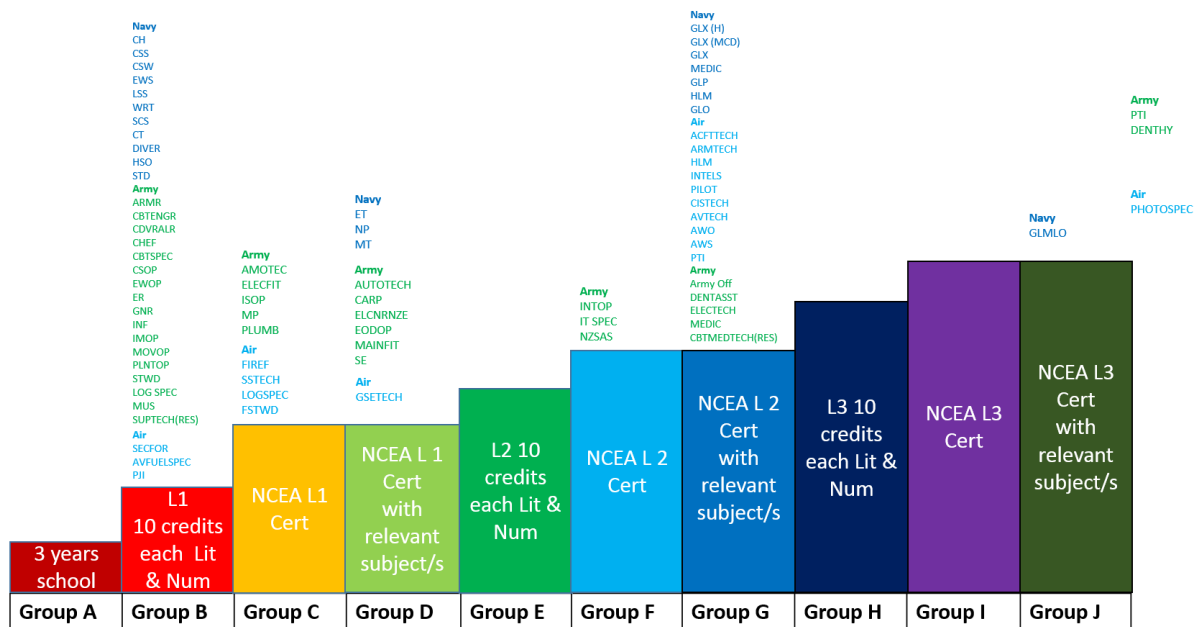
20.   Points to note with the current MERs as shown in Figure 6:

  a.   Many schools no longer offer NCEA Level 1 certificates, though they do offer Level 1 Literacy and Numeracy. NCEA Level 1 is typically completed in Year 11 at which time a student will have spent three years at secondary school. Group

A, Figure 6 represents a person who either has not been offered NCEA Level 1 credits by their school or has failed to pass standards at in Year 11. Therefore, requesting qualifications from Groups C-D limits candidate numbers as they will only meet the MER once they have completed NCEA Level 2 Certificate.

b. Those trades requesting an NCEA Certificate with a relevant subject may be overly prescriptive and exclude suitable candidates. Good secondary education requires students to have a broad range of subjects, and insisting on a particular number of credits in a Science or Arts subject limits a candidate's ability to meet an MER. Students doing NCEA Levels 2 and 3 Mathematics is a good proxy for Science as their mathematical skills will lend themselves to the person who can do Physics. In fact, Achievement Standard 1.2 (Algebra) is a strong predictor of future Mathematics participation. Some trades have attempted to focus on specifics, but this can exclude suitable candidates, needs constant maintenance and removes the simplicity of the buckets.

c. STEM stands for Science, Technology, Engineering, and Mathematics and refers to any subjects that fall under these disciplines and integrating them together into real-world applications. New Zealand has now added an "A" for Arts to STEM to create STEAM. STEAM involves the integration of Arts activities with Science to increase students problem-solving skills and creativity.[5] Taking STEM/STEAM at school can lead to students not completing full individual subjects such as Physics or Biology though they may have latent ability in this area. Therefore, focusing too much on the number of credits for a subject at the MER stage may lead to suitable candidates being removed from the pipeline early.

d. Army PTI appears anomalous as it requires a "recognised tertiary level qualification (minimum of Certificate/Diploma) in Sport Science, Sports, Exercise or Physical Education". In contrast, Navy and Air Force PTIs require NCEA Level 2 qualifications. Consequently, it is the only trade that has been moved to a bucket from outside NCEA Levels 1 or 2.

---

[5] Elearning.tki.org.nz/Future-focused-learning/STEM-STEAM

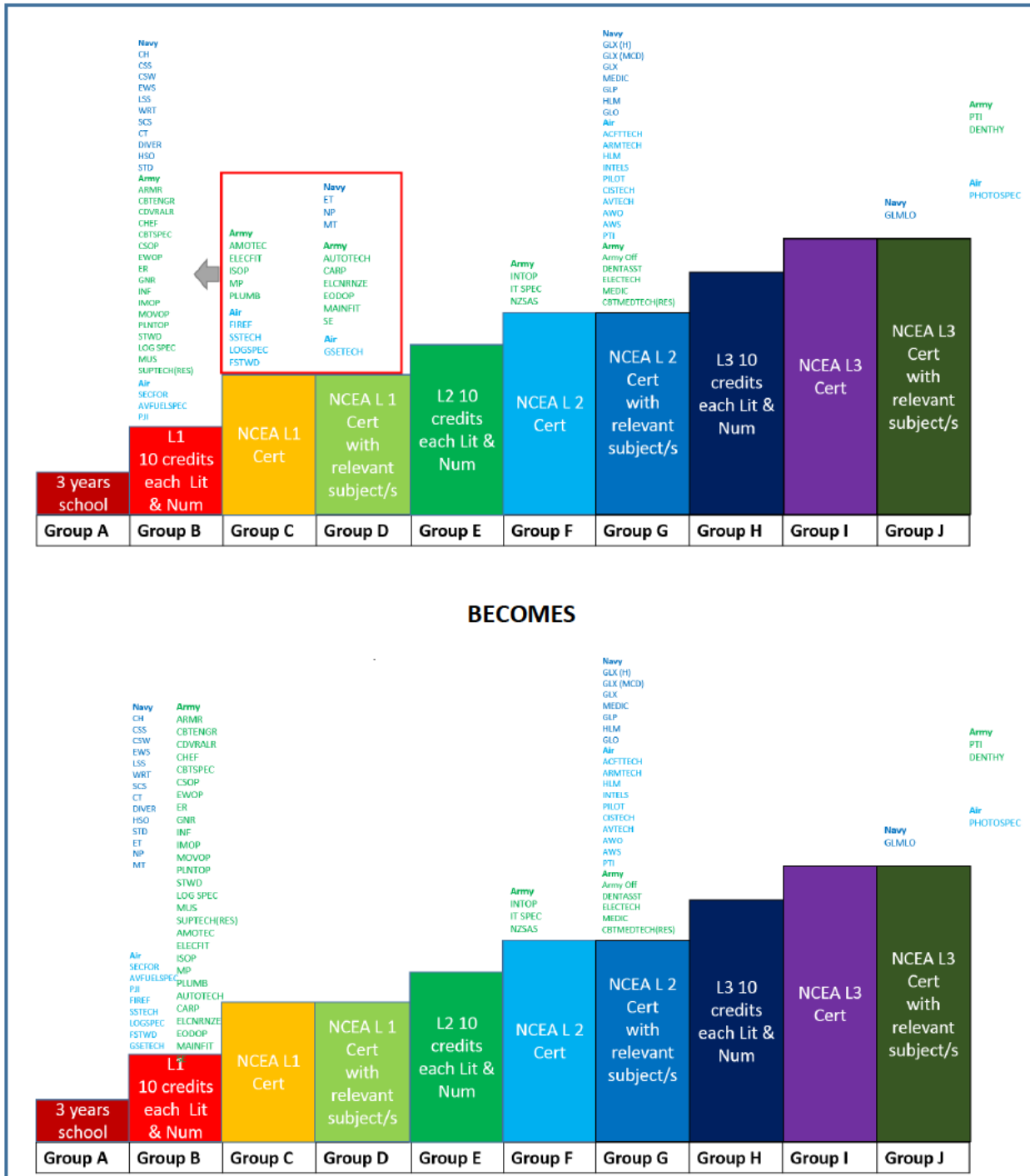*Figure 7: COA3a, changes to NCEA Level 1 only*

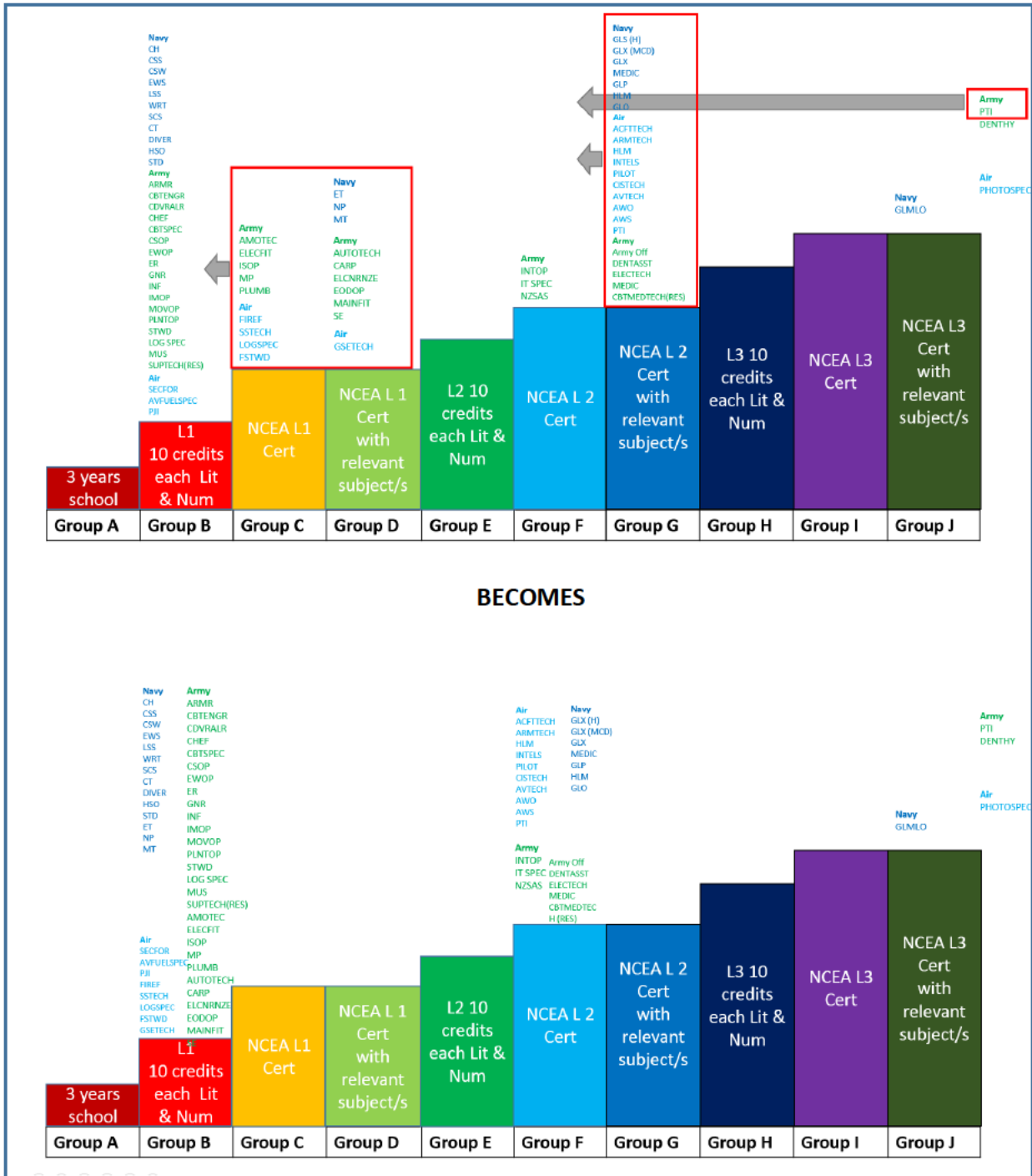

BECOMES

Figure 8: COA3b changes to NCEA Levels 1 and 2

BECOMES

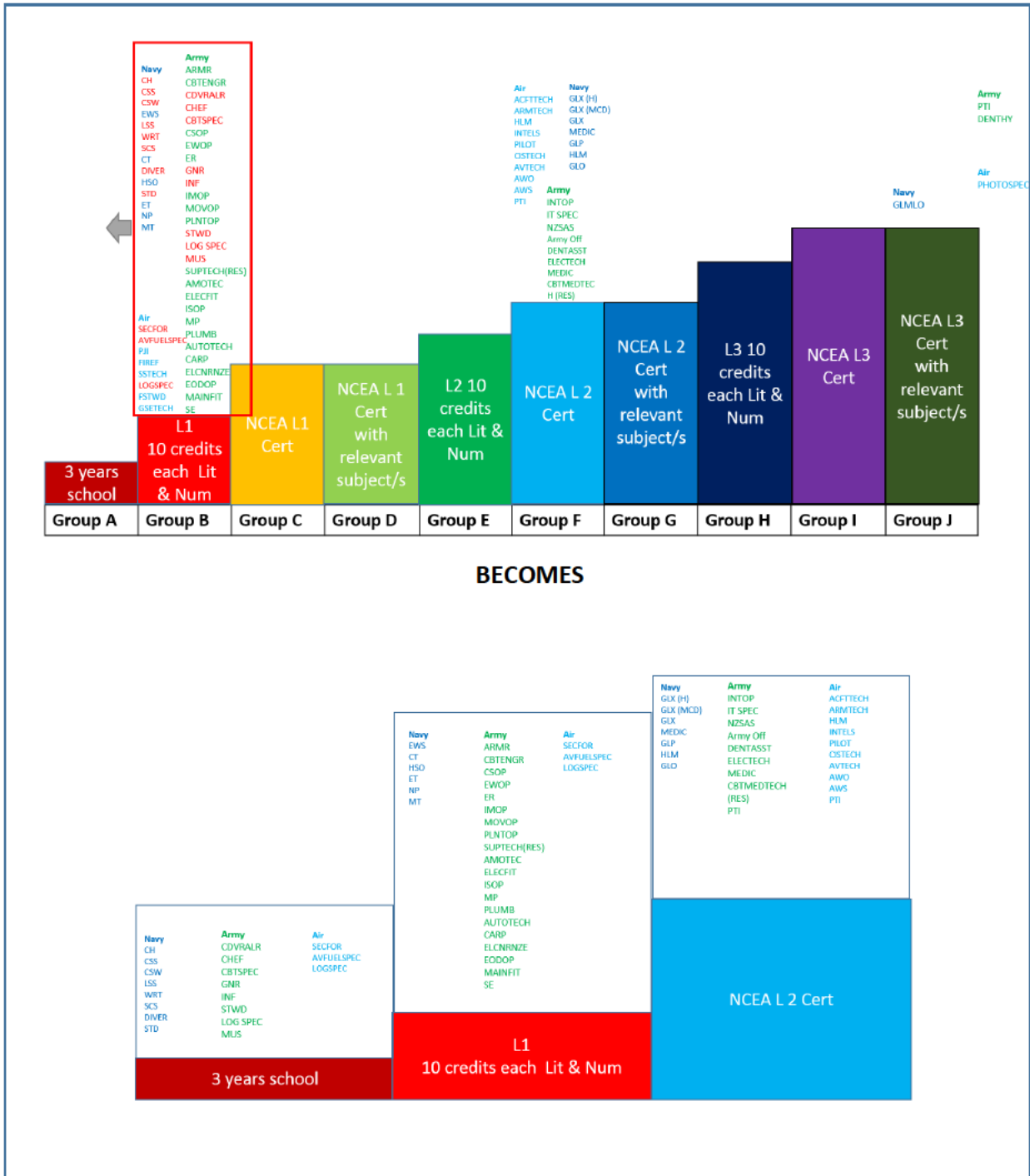*Figure 9: COA3c changes to NCEA Levels 1 and 2 and addition of no qualifications*

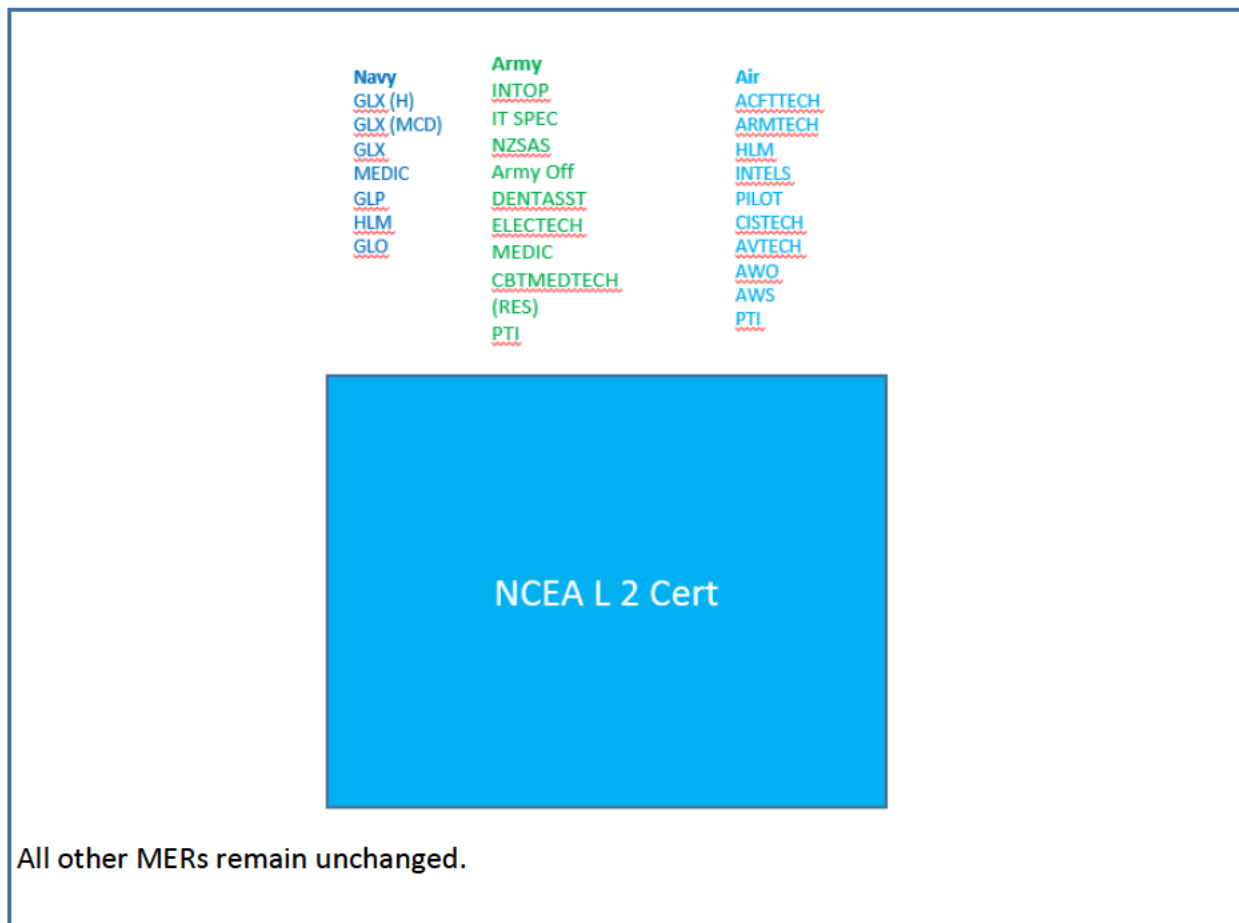**BECOMES**

Figure 10: COA3d bucket all NCEA Level 2 trades

Navy
GLX (H)
GLX (MCD)
GLX
MEDIC
GLP
HLM
GLO

Army
INTOP
IT SPEC
NZSAS
Army Off
DENTASST
ELECTECH
MEDIC
CBTMEDTECH
(RES)
PTI

Air
ACFTTECH
ARMTECH
HLM
INTELS
PILOT
CISTECH
AVTECH
AWO
AWS
PTI

NCEA L 2 Cert

All other MERs remain unchanged.

COA Comparisons

21.   A comparison between COAs used criteria to reduce applicant and candidate attrition in the pipeline. Each criterion is explained below:

Increase pipeline numbers

22.   It is difficult to quantify the loss of suitable candidates due to MERs. In theory, the maximum number of additional candidates would be the difference between the target number and actual number of candidates attested into the NZDF. MERs are not a 'silver bullet' that solves the issue of meeting targets. Therefore, this attempts to identify the various stages where MERs may remove a potential recruit. Two pipeline areas have been explored to determine the possible impact. These include the following:

    a.   first contact on the Careers site;

    b.   the Initial Application process, and

            i.   Note that this is the first stage where applicants are asked to provide information and become candidates.

    c.   Attrition in the pipeline of candidates due to friction caused by delays in confirming qualifications and gaining waivers.

23.   **Careers site** According to Google Analytics, the average person who goes onto the NZDF Careers website visits about three pages meaning they may end up on the landing page and then go to a trade page and its requirements. If they see they do not meet the MERs, they may choose not to progress to the application stage. People who remove themselves at this stage may be those 18-21-year-olds whose schooling was negatively impacted by COVID-19 while sitting NCEA Levels 1-3 standards.

24.   **Initial Application Process** 83% of candidates who fail in the process do so at the first stage due to inactivity or self-withdrawal. It is currently impossible to directly measure the impact of MERs on the decision not to progress an application or withdraw.

25.   **Attrition in the pipeline** friction is anything which makes a process more difficult and may lead the user to leave the recruiting site. Even small things, such as extra clicks on a page, may cause friction and discourage a visitor on the site from completing the application process. Requiring academic transcripts early in the process creates friction. The common use of waivers[6] suggests MERs are too high and should be lowered to reduce friction.

Speed up processes

26.   The time to get through the pipeline may impact attrition, as friction creates obstacles and may lead to a candidate leaving the pipeline; any process that can be sped up helps reduce attrition. For example, it typically takes ten days to get a candidate to produce their Record of Learning, longer if the candidate needs to produce updated or corrected documentation. Removing the need for any MER will take ten days off the process. Having simpler MERs in buckets may speed up the process and make it possible to automate the

---

[6] This is done using emails between Defence Recruiting and the relevant trade representatives. As a result, no numbers are available, though discussions with DROPS state that it occurs before every intake.

system when Defence Recruiting completes its NZQA integration project. Automation will also take ten days off the process for approximately 90% of the candidates.[7]

Recruiting capacity to manage pipeline

27.   An over-loaded system becomes slow and can occur when too many candidates are in the pipeline as many processes are manual. Modelling of Defence Recruiting's capacity shows an annual capacity of approximately 8500 in the pipeline tapering to 1500 as long as the number of board and intake events does not increase from the current 48 annually.

Minimise failures due to academic limitations

28.   There have always been academic failures; no predictive tool can be 100% accurate. Those students in the middle, near the cut-off standard, are the most challenging students to predict the success of. Personal qualities such as 'grit'[8] become more important for these students, which can be estimated using the SHL tool. Because no longitudinal study has been conducted on MERs and pass rates, there is no ability to assess its efficacy. However, it is possible to use the current pass rates as baseline data and determine if there is a statistically significant change in pass rates when MERs are changed. Over time, this will allow the NZDF to know the MERs for each trade more accurately.

Increase diversity

29.   Diversity strengthens a workplace, so it has been included as a secondary consequence of MERs. High MERs disadvantage certain groups, while low MERs allow those groups to join the NZDF. Diversity does not come at the cost of selecting the right people; it simply finds other populations which in the past have been excluded.

Fix systemic issues

30.   The EP review's findings show the lack of a process to create and maintain MERs. Having a central register allows MERs to be better supported as NCEA again goes through change and will ensure that candidates do not miss out because MERs do not align with the NZQF.

---

[7] 90% of New Zealand students do NZQA qualifications which will be able to be automated. Those students using other qualification frameworks, or from overseas will still take much longer.

[8] In her book Grit, Angela Duckworth describes how a person may achieve mastery through perseverance and passion. Anders Ericsson, whose work was popularised (not quite correctly) with the theory that 10,000 hours of practice allows someone to become an expert, he explains that expertise is achieved through 'deliberate practice' which are goal-oriented learning sessions which emphasise immediate feedback, repetitive skill practice and mindful attention to the task at hand.

31.

Table 1: Comparison of benefits

Criteria	Weighting	COA0 NO CHANGE	COA1 NEW PROCESSES	COA2 REMOVE ALL MERS	COA3 LOWER MERS AND BUCKET
Increase pipeline numbers	4	0(0)	0(0)	2(8)	2(8)
Speed up processes	3	0(0)	0(0)	3(9)	2(6)
Recruiting capacity to manage pipeline	3	3(9)	3(9)	2(6)	2(6)
Minimise failures due to academic limitations*	2	2(4)	2(4)	1(2)	2(4)
Increase diversity**	2	0(0)	0(0)	3(6)	2(4)
Fix systemic issues	1	0(0)	2(2)	3(3)	3(3)
Weighted Score*		13	15	34	31
Ranking		4	3	1	2

* Note, no empirical evidence of the impact of MERs on trade training is available.

** While diversity is important, it is a secondary effect of changing MERs, not the prime driver, hence the lower weighting.

*** Scores are 0-3 x weighting. Scores are benchmarked against the current system. Therefore, to have a higher score than COA0, they must show improvement or reduce risk relative to the current state.

32.   Further examination of COAs 2 and 3 will help determine the implementation risks.

Risk

Table 2: COA2 remove all MERs Risk Matrix

#	Factors	Hazards	Impact	Likelihood	Risk	Mitigation	Impact	Likelihood	Residual Risk
1	Too many candidates	Overwhelming recruiting system – CEFs are unable to process all candidates	High	Low	Medium	If one region has a high increase in candidates, other regions' CEFs and Recruiters can be given a candidate to process (not optimal). Do not increase the number of boards. Ensure candidates who score below an SHL threshold cannot do a resit. Put automated parts of the recruiting system first to ensure the removal of unsuitable candidates without tying up human resources.	Medium	Low	Medium
2	Higher failure rates post recruiting	Filtering not working. As a hollow organisation increases in learning support may not be possible - particularly NZDC, and Defence Psych. Instructor capacity to support learners is limited.	High	Medium	High	SHL provides a good predictor of future learning success. Statistical analysis of failure rates with the information provided by TES – improved measuring. Defence Psych believes this should only be a short-term solution to address shortfalls, and over the first 12 months, NZDC should develop realistic MERs for trades which can be used when external factors have less impact on Recruiting meeting targets.[9] In later communication, Defence Psych recommends that the 12 month trial period would offer the "opportunity to monitor the impact of removing MERs for these roles…[would ensure] 2 things; 1) a safety net for them to feel confident that if this doesn't work out we will catch it by analysing the outcomes in 12 months, 2) an opportunity to replace the MERs with something more robust if NZDC have 12 months to investigate an alternative."[10] Learning support including: • Referral to SMEs within NZDF. • Courses, e.g. BD84010, Dyslexia and Other Learning Difficulties (a two hour face-to-face course) • Instructor resources and help. Connection between learning support and commanders and managers. Effective reporting.	Medium	Medium	Medium
3	System not changed	Services/trades do not approve changes to MERs	High	Medium	High	Show research results. Ensure buy-in of changes and understanding that MERs are included in the CDF Interim Workforce Plan. Communication of changes and impact.	Medium	Medium	Medium
4	No other checks on the likelihood of success	SHL does not work effectively	High	Low	Medium	SHL scores based on empirical evidence to make it an effective predictor of success.[11]	Medium	Low	Medium
5	System not maintained	Complex systems controlled by various stakeholders	Low	Low	Low	System removed, so no support is required.	Low	Low	Low

[9] Enclosure 2

[10] Email from SQNLDR Geyde-Smith dated 6 Jun 23

[11] Enclosure 2

| 6 | Negative impact on SHL | Impact in confidence of the SHL tool by stakeholders. Candidates able to cheat on tests. | Medium | Medium | Medium | Do not initiate until SHL proctoring is in place.[12] Defence Psych are planning to do internal NZDF communications on SHL to address nay-sayers.[13] | Medium | Low | Medium |

---

[12] Enclosure 2
[13] Enclosure 2

Table 3: COA3 lower MERs and bucket Risk Matrix

#	Factors	Hazards	Impact	Likelihood	Risk	Mitigation	Impact	Likelihood	Residual Risk	
1	Too many candidates	Overwhelming recruiting system – CEFs are unable to process all candidates	Medium	Low	Medium	If one region has a high increase in candidates, other regions' CEFs and Recruiters can be given a candidate to process (not optimal). Applicants made aware through website and from CEFs/Recruiters that MERs not used, but academic requirements are still an important consideration in selection. Do not increase the number of boards. Ensure candidates who score below an SHL threshold cannot do a resit. Trades which are over-subscribed can keep MERs to prevent the system from being overwhelmed, but this should be the exception.	Low	Low	Low	
2	High failure rates	Filtering not working	High	Low	Medium	SHL provides a good predictor of future learning success. MERs are simplified and lowered, so they are still used for selection – this also makes it simpler to make changes if necessary. Statistical analysis of failure rates with information provided by TES – improved measuring. Oversubscribed trades can use educational qualifications for ranking. Defence Psych believes this should only be a short-term solution to address shortfalls, and over the first 12 months, NZDC should develop realistic MERs for trades which can be used when external factors have less impact on Recruiting meeting targets. [14] Learning support including: • Referral to SMEs within NZDF. • Courses, e.g. BD84010, Dyslexia and Other Learning Difficulties (a two hour face-to-face course) • Instructor resources and help. Connection between learning support and commanders and managers. Effective reporting.	Med-Low (depending on how much MERs are lowered)	Low	Med	Low
3	System not changed	Services/trades do not approve changes	High	Medium	High	Show research results. Ensure buy-in of changes and CDF Interim Workforce Plan	Medium	Medium	Medium	
4	No other checks on the likelihood of success	SHL does not work effectively.	High	Low	Medium	Defence Psych has set SHL scores based on empirical evidence to make it an effective predictor of success. MERs still used.	Medium	Low	Medium	
5	System not maintained	Complex systems controlled by various stakeholders	Medium	Medium	Medium	System simplified and centralised. NZDC have offered to be the "key education advisor so MERs are current and meet the needs of the trades and NZDF." [15]	Low	Low	Low	
6	Negative impact on SHL	Impact in confidence of the SHL tool by stakeholders.	Medium	Low	Medium	Do not initiate until SHL proctoring is in place. [16]	Low	Low	Low	

[14] Enclosure 2

[15] New Zealand Defence College Minute 16/2023

[16] Enclosure 2

		Candidates able to cheat on tests.				Defence Psych are planning to do internal NZDF communications on SHL to address nay-sayers.[17]			

---

[17] Enclosure 2

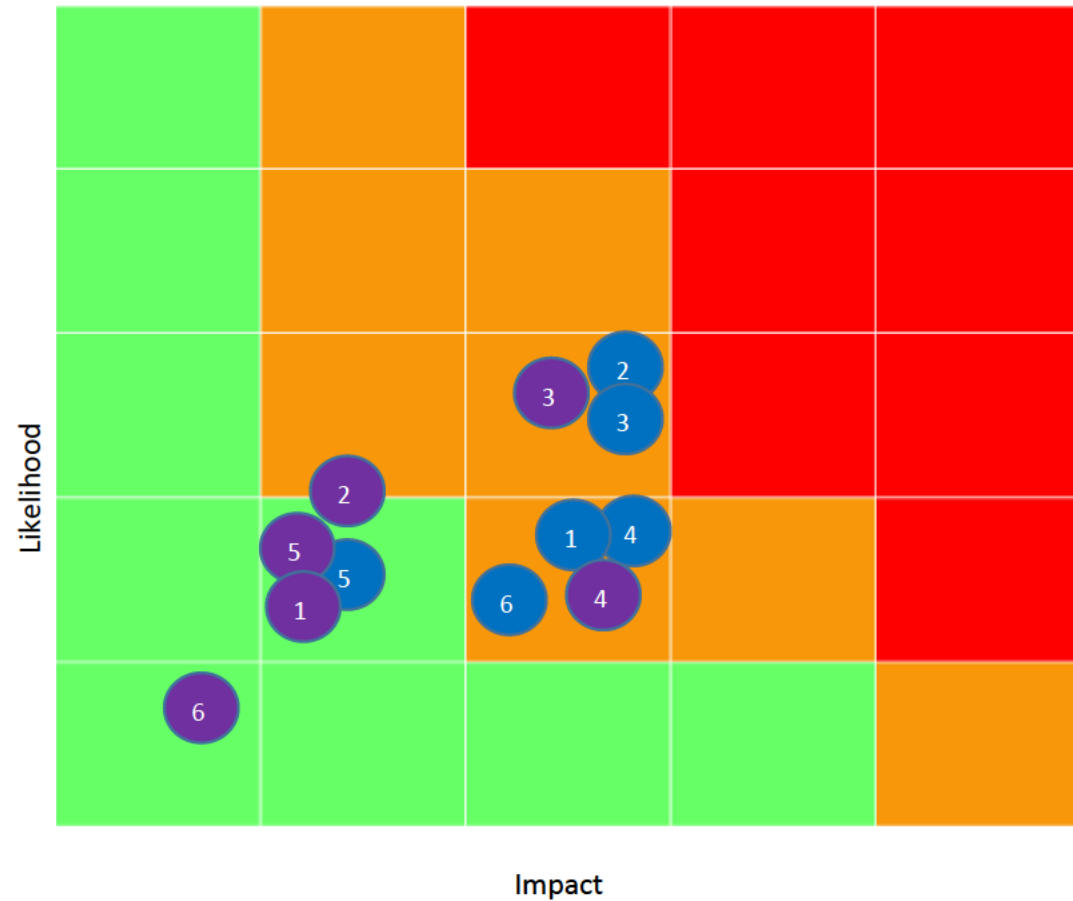*Figure 11: Comparison of COAs 2 and 3 risks after mitigation*

Key:

COA2

COA3

Factors:

1 Too many candidates

2 High failure rates

3 System not changed

4 No other checks on the likelihood of success

5 System not maintained

6 Negative impact on SHL

Likelihood

Impact

Summary of Comparisons

33.   COAs 2 and 3 prevent suitable candidates from exiting the recruitment pipeline early.

34.   The key benefits of COAs 2 and 3 over COAs 0 and 1 is that they can increase the number of suitable candidates and resolve systemic issues with MERs.

35.   After mitigation strategies, both COAs 2 and 3 carry low to moderate risk. The risk of COA3 is slightly lower than for COA2.

36.   COA2 has the greatest benefits in decreasing attrition from the pipeline. However, it has some risks which, when mitigated, are mainly at the medium level. COA3 has fewer benefits than COA2 but is also a lower risk.

37.   It should be noted a lag between implementating a COA and its impact on training and the workplace. This lag may be many years. There should already be evaluation in place to determine a relationship between different variables such as education, health and fitness. If there is not this should be implemented immediately, regardless of COA selected.
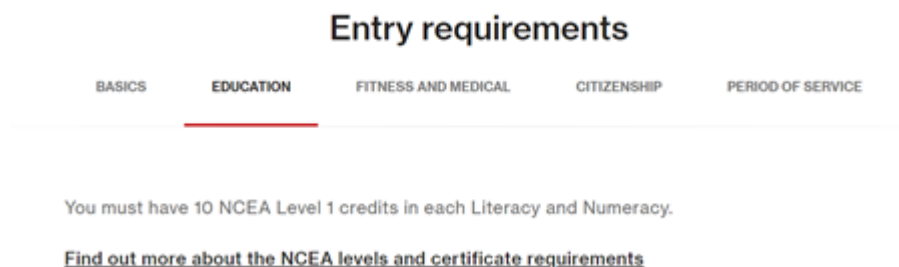
Roll out considerations

Communication

38.   All COAs require internal and external communication. Most external communication is done through the Careers website and by the CEFs and Recruiters. Internal communication includes within Recruiting and with other parts of the NZDF.

External communication

39.   All COAs which change MERs will require the Careers website to be updated. The Careers website is not set up for announcements, therefore, if more information needs to be required, this should be done in conjunction with DPA. The changes outlined here are illustrative only and will be done in consultation with MARCOM. The two main changes are:

    a.   **Education page** for each trade with no MER (see below for the current infantry one).

Entry requirements

BASICS   **EDUCATION**   FITNESS AND MEDICAL   CITIZENSHIP   PERIOD OF SERVICE

You must have 10 NCEA Level 1 credits in each Literacy and Numeracy.

Find out more about the NCEA levels and certificate requirements

    i. Changes for trades if no qualification is required:

        1. "You must have 10 NCEA Level 1 credits in each Literacy and Numeracy" becomes "No qualifications. Note, qualifications may be used to assess trade suitability.

        2. Remove the link to NCEA levels and certs (it is currently broken and does not work).

        3. Figure 11 shows the Royal Navy's and British Army's approach to trades with no MERs.

Figure 12: RN and British Army Careers website

b. **FAQ page**

    i.   Figure 13 shows the current FAQ page. It could be reworded to "Some trades have no minimum entry requirements. These trades will still look at your record of learning to determine if you will be able to successfully complete the training."

Figure 13: Careers MER FAQ page

What level of education do I need to apply?

The minimum entry requirement for the NZDF is at least 10 credits at NCEA Level 1 in both English and Mathematics. However, some trades require a higher level of education. The minimum criteria for each trade can be found on the trade pages on this website.

Internal communication

40.   The Who, What, When, Why, Who and How of MER changes needs to be conveyed to the whole NZDF.

41.   DR will ensure people understand the changes before they "go live" and they are included in all SOPs and manuals.

42.   A communication pack needs to be developed and sent out to the broader NZDF for people to understand that it is not that inferior people are being accepted into the NZDF; it is only that MERs are being changed.

Timeline

43.   COAs 2 and 3 cannot be initiated until SHL has proctoring in place.

44.   There will be a lag between any COA being implemented and its impact in two key stages: recruit course intakes and on completion of trade training.

45.   Due to the time it takes for candidates to go through the pipeline, changes in recruit course numbers will only begin occurring for courses whose start date is more than eight months after COA implementation.

46.   Trade training includes basic training, advanced training and On-the-Job Training, all of which takes many years to complete.

Measuring impact

47.   The impact of changes to MERs must be measured to determine impact. The following is already in place:

    a.   DR can measure the change in people entering the candidate pipeline and once they are in the pipeline, why they leave it.

    b.   TES NZDC has offered to provide data on Recruit Courses

    c.   Evaluation NZDC can evaluate trade courses to see the impact of changes.

General Mental Ability in the NZDF: How it's used in the NZDF and common misperceptions.

The NZDFs future operating environment will be defined by complex security concerns, advanced technologies, climate change, and multifaceted relationships. To meet these demands the NZDF will need to attract, develop, and retain personnel that can handle complexity and solve novel problems. General Mental Ability (GMA) tests are one way that the NZDF attempts to identify these individuals. This document provides a brief overview of GMA and its use in the NZDF, and addresses common misperceptions related to these tests.

Background

The NZDF has used some form of cognitive ability testing since at least 1976 when it introduced the R-series. In 2020, a number of concerns were raised regarding the R-series. Namely, the r-series no longer reflected best practice in intelligence testing, was resource intensive, could not be administered during Covid-19 lockdowns, and did not appear to be performing as expected.

To remedy these concerns, a new measure of GMA was sought. In 2021 SHL's Verify G+ GMA assessment (G+) replaced the R-series. This assessment was chosen because of its:

- **Validity.** The G+ was built in line with industry best practice and has been shown to predict performance regardless of role, industry, or country. Because it is a computer adaptive test, it provides a more accurate indication of a candidate's ability than traditional tests.

- **Ease.** The G+ is administered online and only takes 36 minutes to complete. Candidates no longer have to travel to testing, and spend less time testing. Recruiters no longer need to organise or supervise testing, freeing them up to attract and support candidates through the recruiting process.

- **Focus.** The G+ measures general intelligence rather than more narrow intelligences. It is a better predictor of an individual's general ability to process information and learn than more narrow measures.

Overview of General Mental Ability

The terms 'intelligence', 'cognitive ability', and 'general mental ability (GMA)' are often used interchangeably. GMA refers to an individual's ability to reason with information, make sense of their surroundings, solve problems, and learn. GMA is much more than an individual's academic ability.

That is because, according to the Cattel-Horn-Carrol (CHC) theory of intelligence, GMA is the top of a hierarchy of more narrow intelligences (see: figure 1). In the CHC model, specific intelligences (e.g., lexical knowledge) cluster together to form broad intelligences (e.g., crystallised intellect), and these broad intelligences cluster together to form a general intelligence. Because the different intelligences tend to be positively related each other, an individual with high GMA is likely to have high levels of the lower level intelligences.

From a measurement perspective, this is why we focus on GMA – it is an efficient way to make inferences about someone's general level of intelligence. From a practical perspective, we focus on GMA because processing information and solving problems in the real world almost always requires more than a single type of intelligence. Measuring GMA gives a more holistic view of an individual's aptitude than any single intelligence.
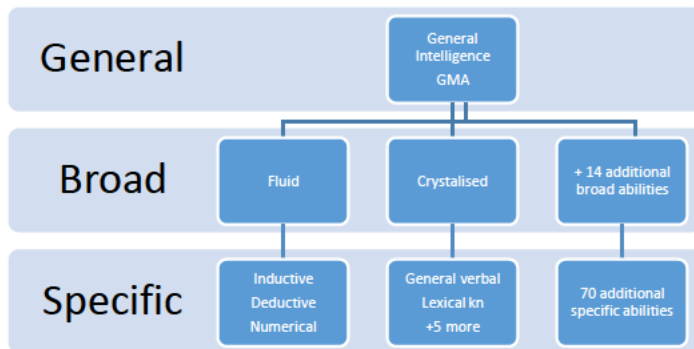
TE OPE KĀTUA O AOTEAROA
DEFENCE FORCE

Figure 1. Simplified Depiction of The Cattel-Horn-Carrol Theory of Intelligence

GMA in the Workplace

Of all the known predictors of on the job and training performance, GMA has been shown to be the most reliable and generalisable. Individuals with high GMA have greater capacity to process information and to learn. They acquire the skills and knowledge required to perform in a job faster than those with lower scores.

GMA is the largest known predictor of on the job and training performance. Though other selection methods (e.g. interviews, assessment centres) predict performance, they predict significantly less variance in job performance when GMA is also accounted for. This suggests that GMA is the driving force underlying the predictive ability of other selection methods (i.e., having high GMA enables an individual to perform better in an interview). The size, reliability, and generalisability of GMA's link with performance, and its influence on other common selection measures are the key reasons that the NZDF measures GMA.

GMA in the NZDF

The NZDF employs the G+ in two ways. It is first used as a relatively permissive hurdle that enables Defence Recruiting Organisation to focus on the candidates with the greatest potential. To do this, a cut-score is employed that requires candidates to score at or above the 31st percentile. Scores below this point indicate that candidates are below or well below the ability level of the average NZDF applicant.

All candidates that pass the cut-score continue on to complete other selection assessments. These scores are then combined to form an overall assessment weighting that allows high scores on one measure to compensate for lower scores on another. This is known as compensatory selection. One of the key benefits of this approach is that it provides a more holistic view of an individual's capability, and also mitigates group differences on assessment methods.

By employing the G+ in this way, Defence Recruiting is able to progress candidates while minimising the risk of training and performance failures. This ensures that the NZDF focuses its resources on the most individuals that are most capable of meeting the demands of service, now, and into the future.

Common Misunderstandings regarding GMA & the G+ Assessment

Cognitive ability testing, and aptitude testing more generally is uncommon territory for most. Understandably, some people have doubts about the use of GMA tests, the G+ assessment, and what both mean in the NZDF context.

The following section will highlight common concerns raised and will seek to clarify the importance of maintaining the current use of G+ assessment.

HEI MANA MŌ AOTEAROA
A FORCE FOR NEW ZEALAND

Misperception #1: "There are plenty of roles in the NZDF that do not require average GMA."

The link between GMA and performance depends on complexity. GMA becomes more important as role complexity increases. In low complexity roles (e.g., fruit picker), GMA predicts a modest amount of performance, while in high complexity roles (e.g., professional) it is the primary predictor of performance. Medium complexity roles fall somewhere between these two points. Though the ability of GMA to predict outcomes is lower in lower complexity roles, the basic finding of the last 100 years of personnel selection research is that GMA predicts performance across all jobs, industries, and groups.

The majority of roles in the NZDF are medium complexity or above. This is because of the technical nature of the organisation and the complexity of the operating environment. This is one reason that personnel in the NZDF require a reasonable level of GMA—the job demands require them to be able to make sense of their surroundings, solve problems, and learn.

Misperception #2: "We just need to get them through training, then they can learn as they progress."

Research also shows gaps in performance between high and low scorers can be observed for at least 5 years post selection. Individuals with higher GMA simply continue to learn at a faster rate than their peers while in the role. When you consider the nature of the NZDF – regular role changes, condensed postings handovers, requirement to promote, and novel situations (e.g. operations) – the capacity to acquire new knowledge and skills is clearly requires across an individual's career. Basically, high GMA continues to predict performance long after initial training, and this is likely exaggerated in the NZDF context.

Misperception #3: "If we lower the cut-score we will improve our recruiting and workforce numbers."

GMA is the most reliable and significant predictor of training and job performance we have. Reducing the minimum entry score is likely to lead to the recruitment of individuals that perform worse in training and on the job. This could have material costs in both the training and operational environments. Though research on lowering cut-scores is rare, two case studies illustrate the potential practical impacts of lowering cut-scores.

Project 100,000: In the 1960's, the U.S. Military has difficulty with recruitment and chose to reduce entry standards. This resulted in over 300,000 men entering different services that otherwise would not have been eligible. A significant portion of these individuals had GMA scores between the 10-30th percentiles. Beyond meeting recruiting targets, it was also hoped that military service would improve the life outcomes of those with lower aptitude scores. Namely, by providing skills and opportunities that would help personnel to improve their lives post service. Unfortunately, the lowering of entry standards resulted in several negative outcomes. For example:

- During service, the project 100,000 men demonstrated increased rates of training failure, increased rate of death on deployment, worse mental health outcomes, and increased incidence of Courts Martial.
- Post service, the project 100,000 men experienced greater dissatisfaction with their careers, lower salaries and higher divorce rates.

This suggests that the lowering of entry standards resulted in worse performance and outcomes for individuals, and did not lead to the post-service benefits that had been expected.

February 2023

HEI MANA MŌ AOTEAROA
A FORCE FOR NEW ZEALAND

RAND Research: In 2005/2006, the U.S military commissioned RAND Corporation to investigate which recruiting factors predicted military performance. The aim of doing so was to identify entry standards that could be reduced to meet recruiting targets. To assess this, the researchers ran a number of performance based activities immediately following technical training courses and utilised computer modelling to tease out the impact of entry standards, but particularly, aptitude. The researchers found that lower aptitude was reliably associated with worse performance post training. For example:

- **Reduced chance of mission success**. Low aptitude scorers had a 25% chance of success when asked to identify a fault in a system.
- **Increased requirement for operational resources**. Low aptitude scorers required greater more supervision and financial assets to achieve the same tasks. For example. low aptitude scorers used an additional 4 Patriot missiles to destroy a target compared to those in the 90th percentile.

Together, these findings suggest that lowering the GMA cut-score could impact organisational performance and operational outcomes. It is difficult to forecast the potential outcomes of lowering the G+ standards, but, these case studies suggest that if the NZDF did so, it might expect:

- Higher rates of training failure;
- Increased burden on recruiting and career managers due to higher attrition rate and training failures;
- Increased burden on command to manage discipline issues;
- Higher risk to life and cost associated with operations;
- Higher risk of personnel wellbeing concerns;
- Lower operational effectiveness.

Though it is true that reducing the G+ standard *could* increase the number of personnel that attest, case studies suggest that doing so will lead to significant organisational and operation consequences.

Misperceptions #4: "Too much emphasis is placed on GMA when selection decisions are made."

As described above, the cut-score is relatively permissive. Candidates that do not pass this cut-score are given a second attempt following a stand-down and encouraged to practice. This practice appears to pay off, as more than half of candidates improve their scores between time one and time two. Once candidates pass the initial threshold, their scores are entered into an overall assessment rating. It is this rating that determines whether candidates are selected or not.

The relatively low cut-score, opportunity to re-test, and use of a weighted score for the final selection decision mean that GMA does not have a major impact on the overall selection decision.

Misperception #5: "Candidates are saying the SHL G+ assessment is too hard."

Before clearing up this concern, it's useful to understand how SHL G+ assessment measures GMA. Traditional intelligence tests often present questions that seem achievable and gradually increase in difficulty. SHL G+ utilises computer adaptive testing (CAT) which assumes the candidate holds an average level of GMA as a starting point (49th percentile). Through the use of a unique algorithm, each question is then adjusted depending on the success or failure of their previous answer. For instance, the algorithm will choose another question to progressively narrow in on the candidates level of ability by adjusting the level of difficulty up or down. This results in greater reliability of a candidates GMA score.

February 2023

Because CAT's perform in this way, it is common for people to report their experiences as being more difficult than traditional tests. That is because the system constantly present questions at or just above or below the candidates ability. For this reason, it can feel harder than a traditional test.

Summary and Future Focus

The introduction of SHL G+ assessment has changed the way the NZDF selects personnel. As highlighted, these changes offer the NZDF greater flexibility and accuracy in determining a candidate's true ability. This leads to greater certainty that new recruits will be able to meet the demands of the future operating environment.

At present, the Directorate of Psychology's focus is on testing the predictive validity of the G+ and identifying whether there are group differences in test performance. Preliminary research is promising, and suggests that the G+ does predict performance under training and that group differences do not constitute adverse impact. Separate FAQ's have been developed that explain these findings in detail.

For further questions, please contact your local NZDF psychologist.

View Images

RE: MER Workshop

Sent: 6 July 2023 15:30

From: s. 9(2)(a)   SQNLDR

To: s. 9(2)(a)   SQNLDR;

2 Attachments

image001.png (13 KB);   image002.jpg (4 KB);

Message

Thanks s. 9(2)(a) – appreciate it!

SQNLDR s. 9(2)(a)
Head Psychologist Strategic Programmes, People Capability Portfolio - HQNZDF
Te Tauaarangi o Aotearoa | Royal New Zealand Air Force
Internal: s. 9(2)(a)
www.nzdf.mil.nz

TE TAUAARANGI AIR FORCE

From: s. 9(2)(a) SQNLDR
Sent: Thursday, 6 July 2023 3:28 p.m.
To: s. 9(2)(a) SQNLDR s. 9(2)(k)
Subject: RE: MER Workshop

Thanks s. 9(2)(a)

I'll put all this into the minute.

Cheers,

s. 9(2)(a)

From: s. 9(2)(a) SQNLDR s. 9(2)(k)
Date: Thursday, 06 Jul 2023 at 12:22 PM
To: s. 9(2)(a) SQNLDR s. 9(2)(k)
Subject: RE: MER Workshop

Hi s. 9(2)(a)

I've had a look over (the first minute in particular) and I would recommend including the comment regarding a 12month trail from my email:
A trial period be set for 12 months to enable enough time for NZDC to analyse the learning requirements for trade training IOT produce relevant MERs. The trial period would also offer an opportunity to monitor the impact of removing MERs for these roles.
If you include this in your email you are giving the working group 2 things; 1) a safety net for them to feel confident that if this doesn't work out we will catch it by analysing the outcomes in 12months, 2) an opportunity to replace the MERs with something more robust if NZDC have 12months to investigate an alternative. From a working group perspective I'd be more comfortable accepting your preferred COA if a trial period and hope for a new system was acknowledged. I recognise that getting NZDC to be involved may be difficult but perhaps the working group should still be made aware that this is an option and we actually need a contractor to support.

Otherwise the only other thing I might suggest is the wording in para 8, **Risk is mitigated through continued use of the SHL tool as empirical evidence shows it to be robust enough to select candidates for academic potential.**
I would change academic potential to 'learning potential'. From a psych perspective, academic potential includes characteristics that G+ is not assessing, such as motivation and conscientiousness. Unless you've seen this specifically noted somewhere, can you please change it to 'learning'.

Looks good but please let me know if you have concerns with these recommendations,

s. 9(2)(a)

SQNLDR s. 9(2)(a)
Head Psychologist Strategic Programmes, People Capability Portfolio - HQNZDF
Te Tauaarangi o Aotearoa | Royal New Zealand Air Force

Internal: s. 9(2)
www.nzdf.mil.nz

TE TAUAARANGI
AIR FORCE

_____
From: s. 9(2)(a)   SQNLDR
Sent: Wednesday, 5 July 2023 4:51 p.m.
To: s. 9(2)(a)   SQNLDR s. 9(2)(k)
Subject: RE: MER Workshop

Cool. I look forward to what you think.
I think the key thing I'm trying to say to the Interim Workforce Plan Working Group is that if we change/remove MERs these are the benefits and risks, are you willing to accept them? If you are, then we can do a number of COAs, which one will you approve?

Nga mihi,

s. 9(2)(a)

SQNLDR s. 9(2)(a)
Dep Director Recruiting Plans - DHR
Te Ope Kātua o Aotearoa | New Zealand Defence Force
www.nzdf.mil.nz
<< OLE Object: Picture (Device Independent Bitmap) >>

_____
From: s. 9(2)(a)   SQNLDR
Sent: Wednesday, 5 July 2023 3:23 p.m.
To: s. 9(2)(a)   SQNLDR s. 9(2)(k)
Subject: RE: MER Workshop

Thanks s. 9(2)(a)

I'll have a chance to look over your documents either Thursday afternoon of early next week.
Cheers, most appreciated!

SQNLDR s. 9(2)(a)
Head Psychologist Strategic Programmes, People Capability Portfolio - HQNZDF
Te Tauaarangi o Aotearoa | Royal New Zealand Air Force

Internal: s. 9(2)(a)
www.nzdf.mil.nz

<< OLE Object: Picture (Device Independent Bitmap) >>

_____

From: s. 9(2)(a)   SQNLDR
Sent: Wednesday, 5 July 2023 3:13 p.m.
To: s. 9(2)(a)   SQNLDR s. 9(2)(k)
Subject: RE: MER Workshop

Hi s. 9(2)(a)

Sorry I don't have your phone number or I would have hopefully explained it better.
Hopefully this makes sense:
The plan for the workshop was to go through the documentation I have already shown people and then get some final input. The boss has said I need to have this ready to present to the Interim Workforce Plan Working Group on 27 July.
I have already included your comments in the minute, annex A and as an enclosure. If you are happy that this is sufficient then you don't need to attend. The key things I have said are the proctoring needs to be in place first, the grading will not change. The other points you made are already in place so I haven't mentioned them in the minute. s. 9(2)(a) from NZDC has been given to me as an SME so she will be used to address your other concerns.

Nga mihi,

s. 9(2)(a)

SQNLDR s. 9(2)(a)
Dep Director Recruiting Plans - DHR
Te Ope Kātua o Aotearoa | New Zealand Defence Force
www.nzdf.mil.nz
<< OLE Object: Picture (Device Independent Bitmap) >>

_____

From: s. 9(2)(a)   SQNLDR
Sent: Wednesday, 5 July 2023 9:02 a.m.
To: s. 9(2)(a)   SQNLDR s. 9(2)(k)
Subject: RE: MER Workshop

Hi s. 9(2)(a)

Sorry it's been a busy week, I'm just getting to your emails now. In terms of this workshop, can you provide more detail regarding the involvement you were hoping to get from a psych being present? I'm hoping the email I sent several weeks back provided sufficient information to outline the psych perspective regarding MERs. Please note I have a number of tasks and courses scheduled for this month, being able to take a day out is difficult but not impossible. Hence, can you please let me know what additional support you would be hoping a psych can provide.
An alternative is to write the minute and send it through to me for review?

Cheers,
s. 9(2)

<< Message: RE: Minimum Entry Requirements >>

SQNLDR s. 9(2)(a)
Head Psychologist Strategic Programmes, People Capability Portfolio - HQNZDF
Te Tauaarangi o Aotearoa | Royal New Zealand Air Force
Internal: s. 9(2)(a)

Internal: s. 9(2)(a)
www.nzdf.mil.nz

<< OLE Object: Picture (Device Independent Bitmap) >>

-----Original Appointment-----
From: s. 9(2)(a) SQNLDR
Sent: Tuesday, 4 July 2023 8:27 a.m.
To: s. 9(2)(a) SQNLDR; s. 9(2)(a) SQNLDR; s. 9(2)(a) MAJ; s. 9(2)(a) LTCDR; s. 9(2)(a) SQNLDR; s. 9(2)(a)
Subject: MER Workshop
When: Wednesday, 19 July 2023 9:00 a.m.-1:00 p.m. (UTC+12:00) Auckland, Wellington.
Where: Reserve Bank Building RBB5.13

Morena,

BLUF: meeting with key MER stakeholders to complete minute for the CDF's Interim Workforce Planning Group to approve.

Background:
MERs have been identified in the CDF's Interim Workforce Plan as requiring action.
Defence Recruiting will be presenting a minute for approval to the Interim Workforce Plan Group at the end of the month.
Before then, I would like workshop the documents which will be sent to them.
I have attached the documents which will be sent for your perusal. If you are coming, please take time to read them and make any notes on anything you contest, want changed, etc and we will discuss it at the meeting.

<< File: MER MINUTE 27 2023.docx >> << File: MER MINUTE ANNEX A.docx >> << File: MER MINUTE ANNEX B.docx >> << File: MER MINUTE ENCLOSURE 1 SHL.pdf >> << File: MER MINUTE ENCLOSURE 2.docx >>
Aim of workshop:
Accurately identify the problem.
The focus will be on the minute and annex B.
Confirm the possible COAs and their benefits and risks.
Ensure minute is concise and presents the correct message.

If you cannot make it please let me know, and if possible get someone to represent you. Sorry I can't do MS Teams for this meeting.
If I have missed anyone out, feel free to invite them.

Nga mihi nui,

s. 9(2)(a)

Chapter 1: Military Recruitment and Selection

Overview

Introduction
6.1.1.

This Order is under development and contains only the necessary information to comply with DFO(T) 36/2023 *Academic Minimum Entry Requirement Standards (MERS)*.

Until the development of this chapter is completed, recruitment and selection orders can be found in the following references:

(1)   DFO 4, Chapter 2, Section 1 *General*, paragraph 2.7−2.15,

(2)   DFO 4, Chapter 5: *Citizenship*, and

(3)   DFO 4, Chapter 15: *Conditions of Service: Overseas Enlistment of Service Personnel*.

Contents
6.1.2.

This chapter contains the following sections:

Section A: Background of the Order

Overview

Introduction
6.1.3.

This section provides the background components of this Order comprising the scope, intent, principles, definitions and responsibilities.

Contents
6.1.4.

This section contains the following topics:

Scope of the Order

Application
6.1.5.

This Order applies to:

(1)   Applicants who apply to enlist or re-enlist in the New Zealand (NZ) Armed Forces (either in the Regular or the Reserve Forces). Applicants comprise:

   (a)   Ab-initio applicants; and

   (b)   Lateral applicants.

This Order does not apply to:

(1)   the recruitment of members of the Civil Staff.

   Refer: DFO 3, Part 6, Chapter 2.

(2)   the transfer of existing members of the NZDF into different trades or Services or between the Regular and the Reserve Forces.

   Refer: DFO 3, Part 11, Chapter 4 and DFO 4, Chapter 2, Section 7.

Cancellation
6.1.6.

This Order cancels:

(1)   DFO(T) 36/2023 *Academic Minimum Entry Requirement Standards*.

Effective date
6.1.7.

This Order is effective from 1 July 2024.

References
6.1.8.

This Order references the following:

(1)   Defence Act 1990.

Review
6.1.9.

This Order is to be reviewed every two years.

Point of contact
6.1.10.

The Director Defence Recruiting (DDR), Defence Human Resources, HQNZDF is the point of contact for this Order.

Intent of the Order

Intent
6.1.11.

The intent of this Order is to enable the recruitment of suitable applicants into the Armed Forces. This ensures the NZDF has members who are competent and ready to meet the NZDF's current and future outputs, and increases the NZDF's operational effectiveness.

Recruitment and selection will be achieved where the NZDF:

(1)   is the organisation of choice (the NZDF attracts and retains the future workforce that increases its operational effectiveness);

(2)   recruitment process is efficient and robust (the NZDF gets the basics right); and

(3)   recruits the right people with the right attributes and skills, at the right time and at a sustainable cost.

Principles that apply
6.1.12.

In addition to the overarching principles prescribed in DFO 3, Part 1, Preface, *Principles to Apply*, the following principles apply specifically to this Order:

Principle	Description
Fairness and Equity	The applicant's suitability is assessed against established competencies.
Merit	Applicant suitability is based on their qualifications and/or their demonstrated performance and capability to attain the required competencies.
Continuous Improvement	A review process is in place to enable the Order to be responsive to change according to legislative and organisational needs.
Organisational Primacy	When making decisions regarding the recruitment of applicants, the needs of the NZDF as an organisation take precedence over the needs of the applicant or branch or corps.

Definitions, Abbreviations and Acronyms

Definitions
6.1.13.

Term	Definition
Ab-initio applicant	An applicant who has no previous service in the Armed Forces, in New Zealand or another country.
Academic Minimum Entry Requirement Standards (academic MERS)	The academic requirements set for trades within the NZDF.
Applicant	Someone who: (1) is not a member of the New Zealand Armed Forces; and (2) has submitted an application to enlist or re-enlist in the New Zealand Armed Forces.
Lateral applicant	An applicant who: (1) is currently serving in the Armed Forces of another country; or (2) has previously served in the Armed Forces, in New Zealand or another country.

Responsibilities

Responsibilities
6.1.14.

The…	is responsible for…	
Applicant	(1)	applying to enlist or re-enlist in the New Zealand Armed Forces; and
	(2)	meeting the academic MERS for the trade they apply for.

Section B: Recruitment and Selection

Overview

Introduction
6.1.15.

In accordance with the Defence Act 1990, the Governor-General is responsible for raising and maintaining Armed Forces for:

(1)   the defence and security of New Zealand;

(2)   the contribution of forces under collective security treaties, agreements and arrangements, as well as to the United Nations; and

(3)   the provision of civil assistance and public service.

Crucial to ensuring that New Zealand's Armed Forces are raised and maintained, the NZDF must recruit the right people into the right trades at the right time.

Contents
6.1.16.

This section contains the following topics.

Academic MERS

Introduction
6.1.17.

This Order prescribes academic MERS as a recruitment criteria.

Note: A complete list of academic MERS is presently under development for all trades within the NZDF.

Eligibility
6.1.18.

Applicants must meet the academic MERS for the trade they are applying for in order to be eligible for entry into that trade.

Refer: DFO 3, Part 6, Chapter 1, Annex A: *Academic Minimum Entry Requirement Standards*.

Section C: Annex

Overview

Introduction
6.1.19.

The annex relevant to this Order is contained in this section.

Contents
6.1.20.

This section contains the following annex.

Annex A: Academic Minimum Entry Requirement Standards

Introduction
6.1.A1

This Annex prescribes the academic MERS corresponding to the related trade.

Note: A complete list of academic MERS is presently under development for all trades within the NZDF.

Three years secondary school
6.1.A2

These trades require **three years of secondary school** or equivalent.

Navy	Army	Air Force
Chef	Ammunition Technician	Aeronautic Structures Technician
Combat Systems Specialist	Armoured	Aviation Refueller
Communications Warfare Specialist	Armourer	Firefighter
Cryptologic Technician	Automotive Technician	Flight Steward
Diver	Carpenter	Ground Support Equipment Technician
Electronic Warfare Specialist	Caterer	Logistics Specialist
Hydrographic Survey Technician	Combat Driver	Military Police
Logistics Supply Specialist	Combat Engineer	Parachute Jump Instructor
Military Police	Electrical Fitter	RNZAF Security Forces
Seaman Combat Specialist	Electrician	Safety and Surface Technician
Steward	Emergency Responder	
Writer	Explosive Ordnance Disposal Operator	
	Gunner	
	Infantry	
	Logistics Specialist	
	Maintenance Fitter	
	Military Police	

Continued on next page

Annex A: Academic Minimum Entry Requirement Standards, Continued

Three years secondary school (continued) 6.1.A2

Navy	Army	Air Force
	Movement Operator	
	Plant Operator	
	Plumber	

Note: Equivalent includes other frameworks outside New Zealand Qualification Farmework (NZQF) such as Cambridge Assessment International Examinations, International Baccalaureate and Home Schooling New Zealand.

NCEA Level 2 Certificate 6.1.A3

These trades require an **NCEA Level 2 Certificate** or equivalent.

Navy	Army	Air Force
Airborne Tactical Officer	Dental Assistant	Aircraft System Technician
Electronic Technician	Electronic Technician	Air Warfare Officer
Helicopter Loadmaster	Electronic Warfare Operator	Air Warfare Specialist
Helicopter Pilot	General List Officer	Armament Technician
Hydrographic Survey Officer	Information Systems Operator	Communications and Information Systems Technician
Marine Technician	Intelligence Operator	Electronics Technician (Avionics)
Medic	Medic	Helicopter Loadmaster
Mine Warfare Clearance Diving Officer	Operational Support and Information Specialist	Intelligence Specialist

Annex A: Academic Minimum Entry Requirement Standards, Continued

NCEA Level 2 Certificate (continued) 6.1.A3

Navy	Army	Air Force
Warfare Officer	Radio Frequency Technician	Medic
	Systems Engineer	Physical Training Instructor
	Trooper NZSAS	Pilot

Note: Equivalent includes other frameworks outside NZQF such as Cambridge Assessment International Examinations, International Baccalaureate, and Home Schooling New Zealand.

HEADQUARTERS NEW ZEALAND DEFENCE FORCE

DDR MINUTE 71/2023

19 Nov 23   D1-0075/19

IWP WG

ASSISTANCE TO DEFENCE RECRUITING TO DELIVER MORE PEOPLE FASTER

Reference

A.   Defence Recruiting Action Plan issued May 2023.

Purpose

1.   The purpose of this minute is to formalise Defence Recruiting (DR) advice to the Single Services in terms of suggesting focus areas that, if implemented will significantly enhance DR's ability to recruit to target.

Background

2.   As a result of the direction resulting from May EXCO, DR has implemented a comprehensive plan of action IAW ref A, which centres on four pillars: improving pipeline efficiencies, restoring order, improving governance and accountability across DR, and re-establishing relationships. This minute intends to complement that plan and further enhance the good work already undertaken in partnership with the single services. It follows on from the formal DR request for support via various means this financial year.

3.   In considering which initiatives to prioritise, it should be noted that DR holds responsibility and accountability for pipeline management, attraction and the bulk of the processes used during recruitment; as such, DR has a complete understanding of and continues to monitor the percentages of candidates failing to progress through the recruitment process. Further, DR has a full understanding of the reasons why and prioritises workflow accordingly. The single services and portfolio leads have responsibility for entry-level standards, conditions of service and the mechanisms required to make the identified focus areas in annex A successful.

Discussion

4.   The enterprise's ability to move risk along the candidate journey and, therefore, increase candidate numbers is limited by resources, infrastructure and, in most instances, a lack of review post the establishment of DR in the current construct. Annex A details areas of focus that the single services could undertake IOT directly influence DR's ability to meet targets on their behalf. While not prescriptive, the focus areas cover the following:

   a.   known barriers for candidates which can be addressed,

   b.   inefficiencies in single service support provision creating undue pressure on DR staff,

   c.   infrastructure and resource development opportunities, and

   d.   ideas and initiatives already in place across the FVEY community.

5.   It should be noted that full review and consultation across all stakeholders must be undertaken as process, policy and decision-making authorities are not always identified. DR is currently drafting the inaugural Defence Manual of Recruiting policy. It should also be noted that DR has limited ability to absorb bespoke solutions and requests that the integrity of the selection process is respected at all times (e.g. should a single service lower an entry-level standard as an outcome of any review in isolation and it presents an easier pathway against the other two services it would create untenable processing difficulties for DR).

6.   While annex A contains comments on holistic considerations, risk and mitigation annex A is intended to serve as a potential predictor of impact only to prioritise effort. It is not considered an exhaustive list.

Recommendations

7.   In light of the above it is requested that IWPWG:

   a.   **direct** single services and portfolios to consider the initiatives contained in annex A when prioritising effort to support increased recruitment numbers, and

   b.   **Note** that having all parts of the organisation working on the same initiatives will improve NZDF's ability to meet recruiting targets.

s. 9(2)(k)

RJ MAGDALINOS
WGCDR, RNZAF
DDR

Mob: s. 9(2)(a)

Annex

A.   MORE PEOPLE FASTER - Recommendation for Single Service/Portfolio Lead focus

MORE PEOPLE FASTER - Recommendation for Single Service/Portfolio Lead focus

Initiative	Owner/Stakeholder	Commonality	Considerations	Impact	Mitigation (if applicable)	Risk	Comments
Review educational MER IOT ensure fitness for purpose	• Single Services • Trade Director/Sponsor/HOD • Defence Psychology	• Minimum education standards for entry need a common approach across the Single Services and should not be relaxed for a single service in isolation.	• DR use educational MER as a blunt instrument i.e. yes/no • May not be suitable for all trades e.g. technical • NCEA credits awarded during Covid could be skewing actual achievement • Current educational MER not robust (potentially meaningless for high percentage of trades)	• Higher numbers progressing to second gate where less people fail. • Ability to select on org fit and aptitude • Increased diversity because less people will self -select out.	• SHL tests useful as a predictor of academic performance • DR internal process change with increased uniformed recruiter touch points and enhanced coaching and mentoring • Defence Learning Num/Lit assessment at recruit course (then support planning)	• Perception of 'lowering the standard' • Potential training burden increase • Potential increase in burden placed on support agencies later in the process. • Undue pressure on a system change in its infancy within DR (career coaching) NB – all risk areas mitigated during review.	• A comprehensive review of MER has been undertaken and will be implemented WEF 4 Dec. • A residual validation review of the unaffected MER will be completed by DR and be completed prior to end of CY Q2 (24).
Streamlined selection boards	• Single Services • Career Managers • Defence Psychology • Defence Recruiting	• Commonality across all three services ideal	• Consistent formats for residential, virtual and paper boards • Defence Psychology to conduct a review of selection criteria	• Efficiency of board process, ease of administration and improved candidate experience	• N/A	• Risk only occurs if review doesn't occur.	N/A
Improved target planning and administration for trade groups within a portfolio	• Single Services • Workforce planning • Portfolio leads	• Commonality sought	• There is a requirement for the single services need to step into the planning gap where their trades are managed at Div/Joint level (e.g. Defence Health, Joint Support Group/Defence Psychology)	• Better target identification providing optimal chance to recruit to target	• N/A	• Trades get missed and/or are not factored into ab-initio numbers	N/A
Simplify the offer - trade pooling	• Single Services • Workforce planning • Career Managers	• Can be a single service undertaking	• Trade streaming on recruit course • SS trade and Corps/branch training school pipelines	• Larger selection pools • Easier to 'find' hard to recruit trades or low numbers (i.e.	• Precedent OR (positive) Army Combat specialists/IT Specialist • Precedent Army Officer	• Some candidates prefer certainty • Management overhead waiting for trade school	• Refer to Combat Specialist review for lessons learned

			• Implications for handshake between PCMS and SAP if trade set up is not completed prior to enlistment.	machinists, marine techs etc.) • For SS: trades selection on performance/ suitability and org need • For candidate: trade selection based on informed and engaged preference			
Simplify the offer - reduce minimum employment period	• Single Services • DHR • Career Management	• Needs to be a Joint/tri service consideration, cannot have differing standards for Single Services in isolation.	• 2nd and 3rd order consequences for conditions of service and employee benefits (e.g. medallic recognition, super etc.) • Aligned to average length of service	• Shorter engagements potentially more appealing • Unambiguous and unintimidating (meets expectations of current generation)	• IWP retention/incentivisation initiatives	• Not consistent with workforce strategy/people plan	• While reducing the minimum employment period complements acquisition, the Australian method of offering minimum engagement periods (akin to ROS) would aid in retention.
GAP year	• Single Services • DHR	• Ideally a common approach by all three services – bespoke systems challenging to administer (i.e. creates easy and less easy pathways) and protect the integrity of the process.	• Not suitable for all trades i.e. must be able to complete recruit and primary trade training and still be an effective producer within a year • Separate targets – Regular Force and Gap Year • Half way through gap year pers are offered RF or TF contracts based on workforce targets	• Captures the undecideds better • Full recruit and trade schools	• Precedent (positive) 77% of pers in ADF go on to accept regular force or reserve contracts	• Perceived management overhead to ensure gap year placements aren't mismanaged – train your relief	• Not to be confused with recruit when ready programme. Anecdotal evidence suggests the latter creates much dissatisfaction while in holdover.
Target Flexibility	• Single Services • Workforce planning	• Single services case by case	• Select pers in trades when they are ready as opposed to when trade school is available • Over recruiting in one trade may come	• Don't lose pers waiting for recruit course • Wider entry points = momentum		• Management overhead waiting for trade school	• As described above, over recruiting can lead to dissatisfaction if not administered in

			at the expense of another • Recruit schools not resourced to train higher numbers.	• Greater competition			a meaningful way.
Active lateral recruiting (as opposed to passive)	• Single Services • DR (lead)	• Single Services to highlight priority trades	• Requires a NZDF Visa (or similar) • Includes re-enlistments • Would require pers support to Lat recruitment team	• Fills stressed/hollow workforce faster		• Those that stay see promotion block • Generate interest but can't follow through (no suitable visa) • Longer periods away from Service can result in increased medical/security red flags.	• Tiger team set up recruiting eligible candidates in situ.
Trade collateral and information management	• Single Service head of trade (or equivalent)	• Single service cost with brief from DR to ensure consistency.	• Requires financial outlay	• Trade information on Defence Careers website always up to date • Career coaches empowered • Trade banners/pull ups at DED's/high value events	• N/A	• Version control	• Underway with Air and Navy.
RAP availability and engagement	• DR • Single Service		• In the prospect and candidate pipeline (specifically) as mentors • Accurate capture of conversations/advice and guidance	• Trade SME represented at high value recruiting events • Higher numbers of pers retained between prospect and candidate	• Teams/Zoom based activity only	• Burden on individuals as a secondary appointment too much • Personal information made public • More RAP's = increased complexity and management overhead for solo resource on reduced hours	
RAP Training module incorporated in to every basic training course.	• Single Services • DR (facilitating training)		• Grow RAP database. • Increase diversity of RAP database to complement uniformed recruiters = increased trades/skills/ethnic representation.	• Immediate increase in RAP database numbers. • Increased options of RAP support criteria (home town, high school,	• RAP support requests always go through one or two up in first instance to confirm if RAP is suitable to support recruiting activity and/or engage with candidate.	• Per not suitable to perform RAP duties will be listed on database.	

				sports, cultural interests etc) • Increased opportunity to connect candidate with suitably matching RAP.			
Base RAP Tiger Teams	• <u>Single Services</u> • DR (training)		• Have specialised 'host RAPs' selected for their personal skills rather than trade skills.	• Recruiters have confidence that the primary points of engagement during base visits have strong personal skills to leave leads and candidates with a positive impression of NZDF personnel. • Enables specialisation in hosting lead and candidate visits.	• Build sufficient pool of specialised hosts on each base to mitigate against same per being used every time.	• Tiger team suffers 'performance punishment' with recruiting support tasks at detriment to training.	

Defence Recruitment analysis: attraction, attrition, attestation

With the start of a new year and the introduction of numerous new personal, it is useful to establish Defence Recruiting (DR) position and performance across three key areas: attraction (prospects and applicants), attrition (where and when candidates fall out of the pipeline), and attestation (targets and intake performance).

Attraction

1. Prospect account performance and conversion rate
2. Application performance with demographic trends
3. Economic factors affecting application trends
    a. Unemployment rate
    b. Military pay growth relative to private sector wage growth
4. Attraction insights

Attrition

1. Attrition and attestation rate
2. Pipeline attrition analysis
    a. Attrition by pipeline stages
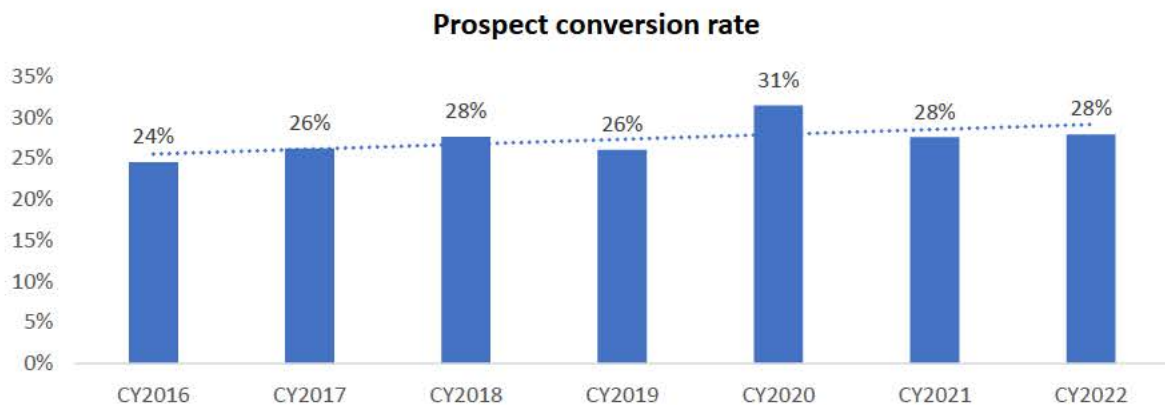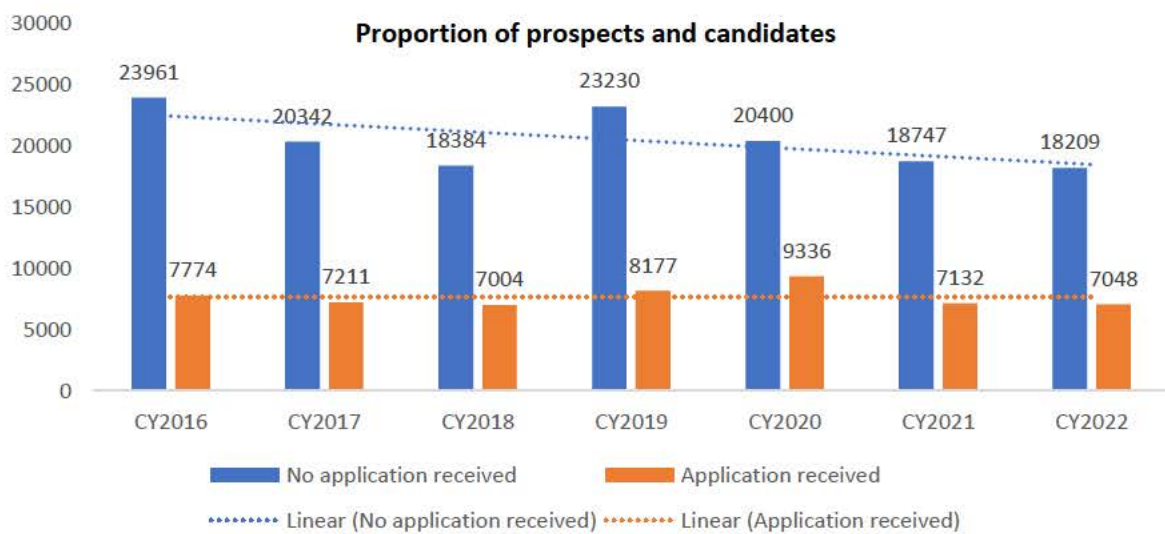   b. Attrition by reason
3. Attrition insights

Attestation

1. Tri-service intake performance
2. Tri-service targets and targets met
3. Attestment insights

Attraction

Prospect performance

A prospect is a person who has created or partially created a profile within the NZDF recruitment portal, but not yet applied to join the NZDF. Once a prospect has created an application, they become an applicant/ candidate (either term is used). The number of prospect accounts can be considered the measure of public interest in joining the NZDF. Applications trends are directly correlated with prospect account, with growth in prospect accounts leading to growth in applications and vice versa.

Between 2016-2022, 196,955 prospect accounts created an average of 28,136 per year. The number of yearly prospect accounts created have been falling on average by 2.9% per year since 2016, from 31,735 in 2016 to 25,257 in 2022.

Proportion of prospects and candidates

Year	No application received	Application received
CY2016	23961	7774
CY2017	20342	7211
CY2018	18384	7004
CY2019	23230	8177
CY2020	20400	9336
CY2021	18747	7132
CY2022	18209	7048

Legend: No application received, Application received, Linear (No application received), Linear (Application received)

Prospect conversion rate

| Year	Conversion rate
CY2016	24%
CY2017	26%
CY2018	28%
CY2019	26%
CY2020	31%
CY2021	28%
CY2022	28%

The conversion rate is the rate at which prospects make applications. Of the total 196,955 prospect accounts, 53,682 made an application, an average conversion rate of 27.2%. Conversion rate has slightly increased from 2016-2022 (from 25%-28%).

**Application performance with demographic trends**

Once a prospect has submitted their applications, they become an applicant /candidate. Applicants are classed either as "ab-initio" (no previous military experience) or "lateral" (previous military experience). From here on this report will refer only to ab-initio candidates as lateral candidates proceed through a different application process.

Long term ab-initio application trends 2012-2022
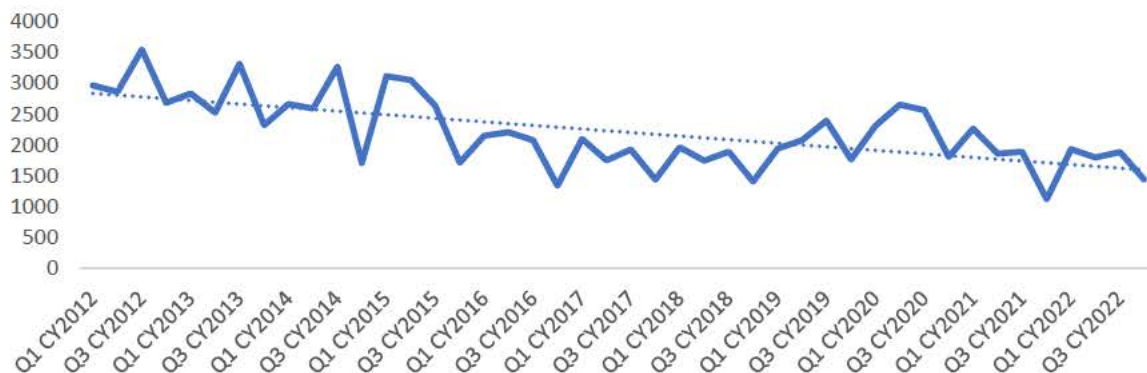
Applications to join the NZDF have been steadily declining on average by 4.1% each year since regular data capture started in 2012. Between 2012 and 2022, applications have fallen by 41.5%, from 12,048 in 2012 to 7047 in 2022.

Ab-initio applications by service
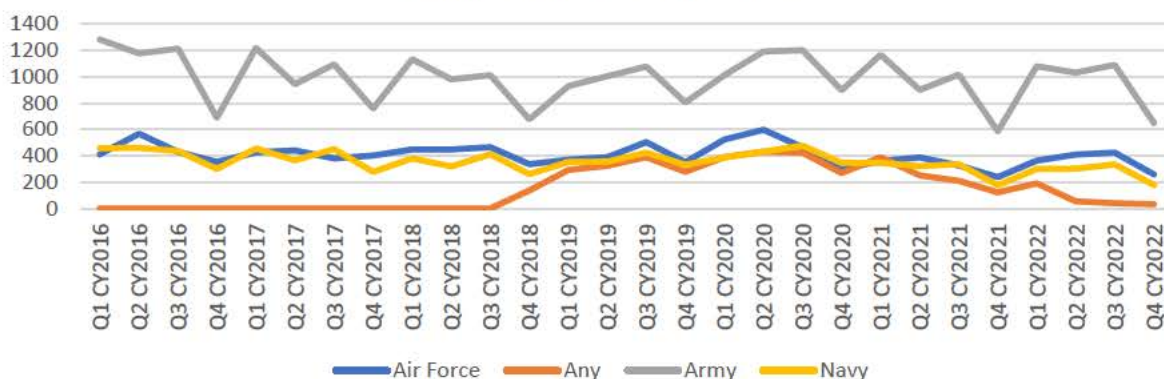
From 2016-2022, Army received 52.1% of applications, Air Force received 21.3%, Navy received 18.7% and the "Any" option received 7.9% (the "Any" option was added in 2018). These proportions have remained steady throughout the period with no significant changes.

Ab-initio applications by gender
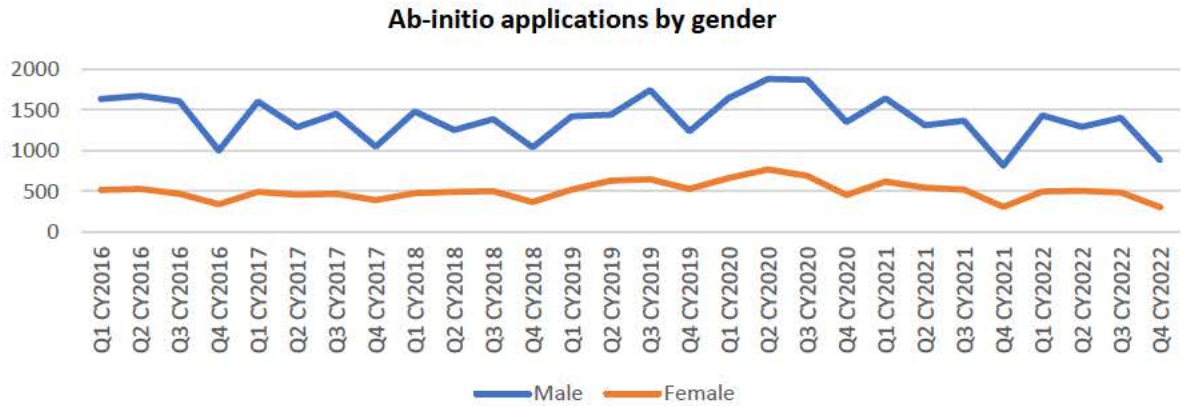
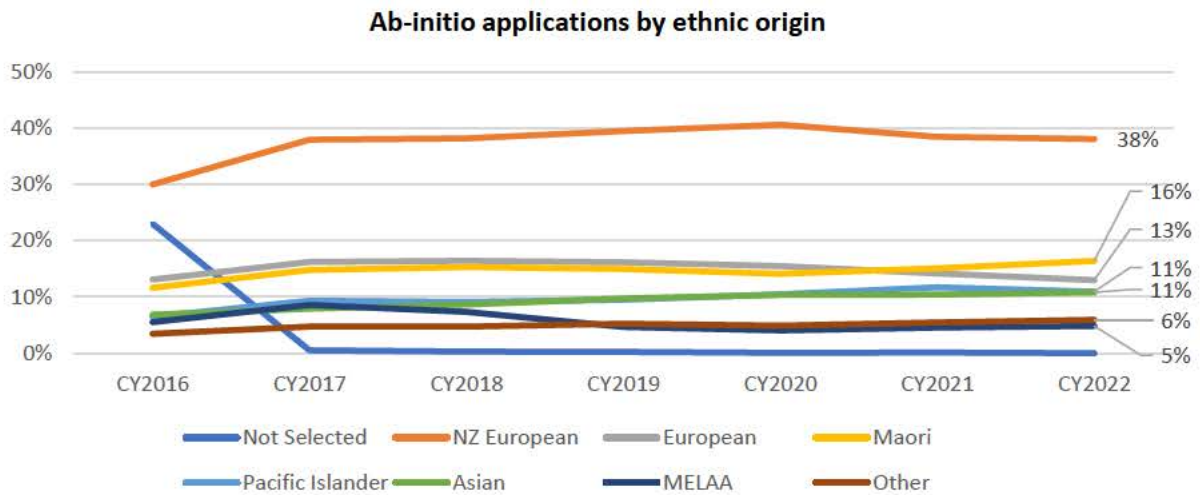From 2016-2022, on average 73.4% of applications were Male, and 26.6% was Female. These proportions have remained steady with a high of 28% Female in 2019-2020 and a low of 23% female in 2016.

Ab-initio applications by ethnic origin

From 2016-2022, an average of 38% of applications were made by NZ Europeans, 15% made by Europeans, 15% made by Maori, 10% made by Pacific Islanders, 6% made by MELAA (Middle Eastern, Latin American, African), 5% made by Other, and 3% Not Selected. The numbers on the chart represent the proportions as of Q4 2022. These proportions have remained steady throughout the period, with minor increases in Maori and Pacific Islander applications, and slight decreases in MELAA applications.

Economic factors impacting application trends

Applications to join the NZDF fell consistently between 2012-2022. An analysis of the economic factors can partially explain this phenomenon. The literature regarding which external factors impact military enlistment finds two causal variables:

1. The civilian unemployment rate
2. The level of military pay growth relative to civilian wage growth

The table below shows the findings of studies measuring the elasticity (elasticity is defined as the percentage change in enlistments associated with a percentage change in a given variable) of both

civilian unemployment and military wage relative to civilian wage on American military enlistment rates[123].

| Study	Service	Data Type and Time Period	Relative Pay	Unemployment
Knapp et al., 2018	Army	Monthly by company, 2012–2015	N/A	0.30
Asch et al., 2010	Army	Quarterly by state, 2000–2008	1.15	0.11
Simon and Warner, 2007	Army	Quarterly by state, 1996–2005	0.70	0.42
Warner and Simon, 2004	Army	Quarterly by state, 1989–2003	0.71–0.81	0.25–0.31
Simon and Warner, 2003	Army	Monthly by state, 1989–1997	0.78	0.22
Warner, Simon, and Payne, 2001 (mean[a])	Various	Various, pre-drawdown	0.75	0.62

To read the table above think: *"For every 1% change in enlistments, how much does the variable have to change?"*. For example, the findings of Knapp et al. (2018) indicate that for every 1% fall in the unemployment rate will result in a 3% reduction in enlistment.

Although the magnitude of the impact of these variables are debated, all findings unambiguously conclude that low unemployment rates and low relative military wage growth to civilian wage growth will result in poor numbers of applications. These findings appear to be consistent with DR experience.

New Zealand unemployment rate 2012-2022

The unemployment rate over the last 10 years (aside from 2020 COVID year), has shown a remarkably steady year-on-year decline, which has coincided with DR similar year-on year application decline. The unemployment rate and ab-initio applications have a correlation of 65%, meaning the two variables move in the same direction 65% of the time, a moderately strong correlation. Put simply, a fall in the unemployment rate will likely result in a fall in applications. This phenomenon is likely the key reason why applications have been falling year on year.

Ab-initio applications with quarterly unemployment rate

Legend: Applications — Unemployment rate — Linear (Unemployment rate)

---
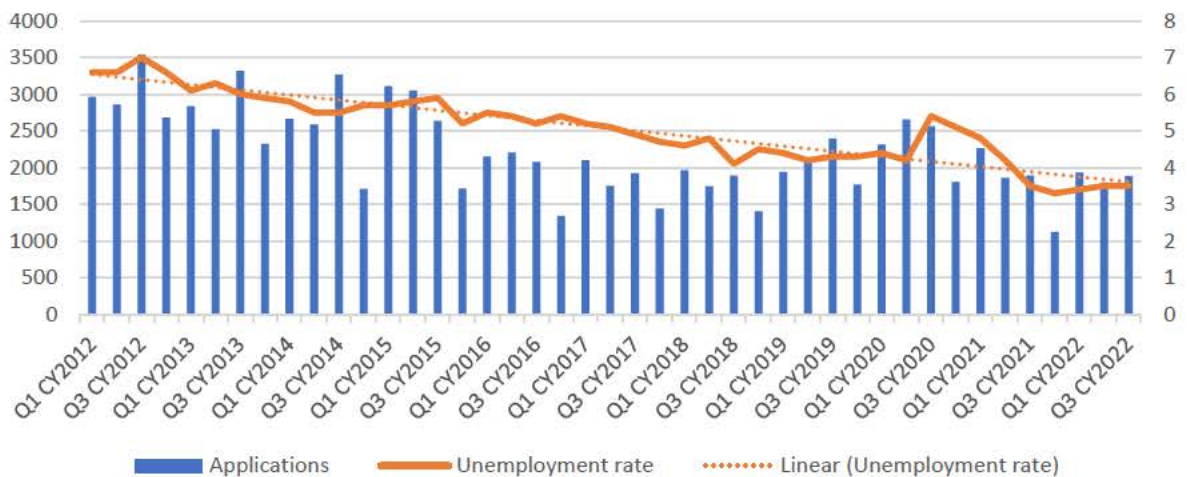
[1] https://www.rand.org/content/dam/rand/pubs/research_reports/RR3100/RR3107/RAND_RR3107.pdf

[2] https://militarypay.defense.gov/Portals/3/Documents/Reports/SR05_Chapter_2.pdf

[3] Note that the following data is regarding *enlistment* (or attestation rates) rates rather than application rates. There is a lack of international data/ analysis on factors impacting application rates. As enlistments/ attestations are driven by applications, the same factors apply by proxy to application rates (assuming stable pipeline attrition rates).

Military wage growth relative to civilian wage

Unfortunately, data regarding average military wage growth was unavailable at time of writing. As the NZDF is technically a government entity, average hourly public sector wage growth was used as an inexact proxy.

Average quarterly hourly percentage wage growth by sector
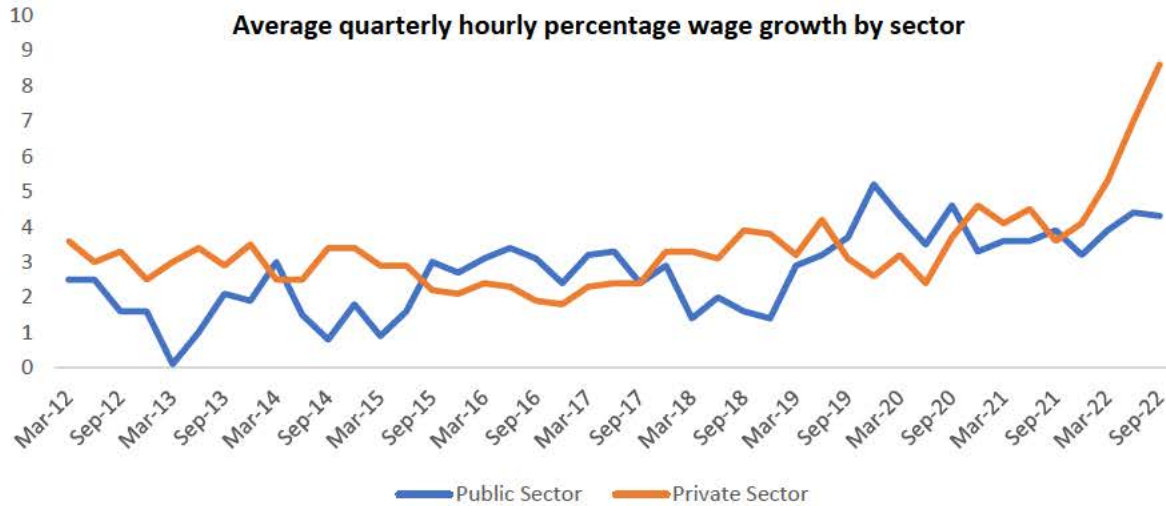
Simple analysis of the trends show that private sector wage growth has consistently outstripped public sector wage growth between 2012-2022, meaning that the NZDF's value proposition (what the organisation can offer potential candidates) has weakened compared to the private sector.

Attraction insights

1. Numbers of yearly created prospect accounts are falling by 2.9% each year (2016-2022). However, DR still receives an impressive number of prospects, with 2022 seeing 25,257 accounts created. This is a major source of optimism as it indicates a vast pool of people who are motivated to join the NZDF.

2. Currently the prospect-to-applicant conversion rate is 28%. Because of the large number of prospect accounts, if DR could improve the conversion rate by even small percentages, it would result in hundreds of additional candidates each year. For example, in 2022, a conversion rate of 28% resulted in 7048 candidates while a conversion rate of 33% (5% change) would result in 8334 candidates. Methods of improving conversion rate could include but are not limited to:
   a. Nurturing prospects with communication and outreach strategies
   b. Streamlining application process by removing excess questions and fields

3. From 2012-2022, applications numbers fell by 41.5%, from 12,048 in 2012 to 7047 in 2022. Despite falling numbers of applications, proportions of applications have remained steady across demographics, service, and region (not shown), indicating the fall in applications was caused by a proportional decline across all groups.

4. Academic studies have identified two key external variables that impact military enlistment. These are the civilian unemployment rate, and military pay growth relative to civilian wage growth. From 2012-2022, both factors have worked against DR. Unemployment rates have fallen consistently over this time, reaching a record low in the nations history in 2022 (3.2%

in Q2). Meanwhile public sector pay has consistently lagged private sector wages, with private sector wage growth literally doubling public sector wages in Q3 2022 (4.3% to 8.6%).

Attrition

Attrition and attestation rate

The attestation rate is the percentage of applicants who attest out of total applicants. Conversely the attrition rate is the percentage of applicants who are declined or withdraw throughout the process. Between 2016-2021, the NZDF had an average tri-service attestation rate of 9.8% (9.7% for Air Force, 3.5% for Any, 10.3% for Army, 11.3% for Navy).

Withdrawn and declined applications

Note that both reasons for decline and statuses when declined are composite values, made by combining multiple datapoints over the years. For example, failures because of R-tests have been coded as "Aptitude". Because of this, values may not line up exactly with other reports.

Attrition by pipeline stage

From 2016 – 2022, the average percentage of failed candidates per stage are as follows.

Application stage[4]	**83.8%**
Assessment stage	**7.57%**
Interview Stage	**0.78%**
Selections Stage	**1.14%**
Ready for Intake	**0.73%**
Stand down/ on Hold	**4.77%**
Declined/ Withdrawn	**1.03%**

Application Stage (83.4%)

The Application Stage (*application received & application under review in PCMS*) is the initial stage where the CEF processes the application. To pass this stage, candidates must pass residential requirements, their Initial Health Check (IHC), the education standards and submit their CV.

Assessment Stage (7.57%)

The Assessment stage (*Ready for Assessment, Selected for Assessment, Assessment report under review in PCMS*) is the second stage of the application process where candidates must complete their physical and aptitude tests. While 7.57% of applicants fail at this stage, many more withdraw while on standdowns.

Interview Stage (0.78%)

The interview stage (*Ready for Interview, Selected for Interview, Interview report under review in PCMS),* is the third stage of application process where the candidate interviews formally for their trade with a recruiter and/or Service representatives.

---

[4] As candidates who fail due to inactivity overwhelmingly fail at the Application stage, candidates whose "status when declined" was wrongly recorded as "closed due to inactivity" (as seen in the PDF), has had their "status when declined" recoded as "Application stage" to get a more accurate picture of the pipeline.

Selections Stage (1.14%)

The Selections Stage (*Consider for Selection, Ready for Selection in PCMS)* is the fourth stage in the process where candidates are evaluated by the selections team and are selected to go on intakes. If successful, candidates concurrently receive an offer of service and start their full medical.

Ready for Intake (0.73%)

The Ready for Intake stage is the final stage of the candidate pipeline. At this stage candidates have signed their offer of service and are waiting for the intake to begin. Candidates stay at this stage until they attest and responsibility for the candidate transfers to the service.

Standdown / on Hold (4.77%)

This status records if the candidate withdrew or was declined while on standdown or on hold. A standdown is a mandatory waiting period initiated by DR, while an application on hold is a waiting period initiated by the candidate. Candidates who are failed at this stage have either withdrawn their application or are closed due to inactivity.

Declined/ withdrawn (1.03%)

A data capture error included for the sake of transparency.

Attrition by reason

From 2016 – 2022, the average percentage of failed candidates per reason are as follows.

Note that there is some overlap between the reasons for decline, and the statuses when declined.

Closed due to Inactivity (CDI)	**33.77%**
Withdrawn	**17.07%**
Residency	**15.37%**
Medical	**12.34%**
Declined while on Hold/SD	**8.26%**
Duplicate application	**3.21%**
Background Checks	**3.16%**
Education Requirements	**3.08%**
Declined	**2.63%**
Aptitude	**0.92%**

Closed due to Inactivity (CDI) (33.77%)

CDI candidates are candidates who have been unable to be contacted and so their accounts have been closed. Candidates at the Application Stage are given 14 days to respond to emails, texts, and calls from the CEF, while candidates at later stages are given more leeway. 91.2% of CDI candidates are declined at the Application Stage, 7.34% at the Assessment Stage, the remainder spread across the process. For the majority of CDI candidates, they have purposely ignored CEF contact efforts, which is in effect a withdrawal of their application and should be thought of as such.

Withdrawn (17.07%)

Candidates withdraw by either getting in touch with their CEF or withdrawing via the web portal. The percentage of stages at which candidates withdraw is shown below:

Application Stage	**48.34%**
Assessment Stage	**24.71%**
Interview Stage	**2.78%**
Selections Stage	**6.59%**
Ready for Intake	**2.58%**
Standdown/ On hold	**12.10%**
Closed due to Inactivity	**3.20%**

The majority of withdrawals occur at the initial stages, with withdrawals declining significantly in latter stages. However, withdrawals at latter stages are equally significant because candidates at latter stages are far more valuable than candidates just starting out. Furthermore, withdrawal is the single biggest reason why candidates post the Assessment Stage are declined. Across the Interview, Selections and Ready for Intake stages, withdrawals are responsible for 68% of these valuable candidates not progressing.

Residency (15.57%)

To be eligible for NZDF service, a candidate must be from one of the 5-eyes nations. Because DR receives applications from around world, simply thousands of candidates are ineligible to join. Because of this, residency disproportionately impacts some ethnic groups than others. The proportion of applicants failed due to residency by ethnic group are as follows: Applicants from MELAA (Middle East, Latin America, Africa) and Asia are failed respectively 66% & 36%, followed by Pacific Islanders (22%), and Europeans (11%). Naturally, Maori and NZ Europeans are never failed due to residency issues. Residency issues is the key reasons why attestation rates fluctuate between ethnic groups.

Medical (12.35%)

Candidates must complete the Initial Health Check (IHC) at the application stage and a full medical (FM) at the Selections / Ready for Intake Stages. 90-95% of medical declines occur at the IHC, with the remainder being split between vaccination failure and full medical failure. Its worth noting that a significant number of IHC declined candidates were not *medically* declined, but declined when asked to complete a medical check, finding the process too costly or time consuming. Similar to failures due to withdrawals, failures due to FM are disproportionately impactful because it affects candidates in the latter stages. Across the Interview, Selections and Ready for Intake stages, failure due to FM is responsible for 13% of later-stage failure.

Declined while On Hold or Stand Down (8.26%)

This composite reason for decline captures all candidates who were failed/withdrew while on Standdown or On Hold. The decision was made to bucket the values this way to get better visibility over how many candidates were being declined because of standdowns (and associated wait times) versus the reason they were declined (e.g. rather than assigning "failed while on R-Test stand down" to the "Aptitude" composite value, those candidates represented here). Of this composite value, the biggest components were "Standdown R-Test, Standdown Medical, Standdown A-day". If stand-down related declines were assigned to the primary reason for decline, then failures due to Aptitude would increase by 2.44%, Medical 1.75%, Physical by 1%.

Duplicate Applications (3.21%)

Candidates who have duplicate applications are immediately declined.

Background Checks (3.16%)

DR can only employ candidates with a checkable history and clean criminal history. Of the total failed candidates due to background checks, 78.81% of these were declined due to non-checkable history, and 21.19% were declined due to failed police check. Similar to residency declines, declines due to failed background checks disproportionately impact Asians, MELAA and Pacific Islanders.

Educational Requirements (3.08%)

These candidates have failed to meet educational requirements or have failed to produce documents proving that they have suitable levels of education necessary for entry into the NZDF.

Declined (2.63%)

A composite value capturing mostly historical values that do not fit neatly into any other category (e.g., "declined prior to this picklist reason", "declined-other").

Aptitude (0.92%)

Candidates who were failed due to aptitude requirements. Note this is *not* including those who failed an aptitude test and then withdrew while on standdown. If we include these candidates, Aptitude would be responsible for 3.36% of all failed candidates. However, this is most likely an under-estimate as an unknown number of candidates in this situation will be classed as "Withdrawn" or "CDI".

Attrition insights

1. If Defence Recruitment could reduce pipeline attrition by even small percentages, it would lead to massive improvements in the numbers of candidates who would attest. For example, between 2016-2021[5], DR had 46634 applications and 4569 attested candidates with an attestation rate of 9.8%. If the attestation rate was improved by as little as 2%, (from 9.8 to 11.8), then during this time period, 5503 candidates (933 more, or 156 per year) would have attested.

2. Historically DR has tried to boost application numbers to meet targets, but it is far more efficient to reduce attrition. Following from the previous example, to achieve an additional 156 attested candidates per year (at current attrition rate of 90%), DR would have to attract an additional 1560 candidates per year or improve attraction by 21.8% (using 2021 application numbers). In other words, to achieve the same increase in attested candidates per year, we would either need to increase attraction by 21.8%, or reduce attrition by 2%.

3. In 2022, against a target of 1200, 7048 candidates applied with 719 candidates attesting, an attestation rate of 10.2%. To meet target, an attestation rate of 17.2% would be needed. Put simply if DR could reduce attrition by 7%, targets would be consistently met.

4. There are multiple areas in which improvements to the attrition rate can be made by improving the processes by which candidates are assessed. For example

    a. A review of our residency policy to better capture Pacific Islanders applicants who should be eligible to join the NZDF but are failed due to technicalities.

---

[5] (Ignoring 2022 as candidates who applied in 2022 are still in the pipeline)

b. A review of the initial medical check to remove outdated red-flag questions and reduce financial costs that candidates must pay.
c. A review of the stand-down periods associated with failure of aptitude or physical tests.
d. Creation of APIs between NZQA and NZDF that allow CEFs to pull candidates education records, eliminating the need for candidates to go through this process.

Aside from improvements to individual assessment processes, there are several potential avenues that could lead to improvements in the attrition rate. For example

a. An optimization of the order of assessments. The current order in which candidates complete their assessments was designed around a set of criteria no longer in use. An examination of the order of assessments may yield opportunities to reduce processing time and improve candidate experience.

b. Institute mandatory upload of essential documents to apply. This ensures that DR is processing only committed and eligible candidates. As thousands of applicants each year fail to provide documents, this option could free up significant time for CEFs and the medical team. More free time means more time to engage with candidates leading to better candidate experience.

c. Take steps to reduce withdrawal of post Assessment-Stage candidates. The key reason why high value candidates (candidates who have passed all assessments) do not attest is withdrawal. Ongoing communication/ engagement with post assessment candidates will improve candidate experience and may reduce withdrawals.
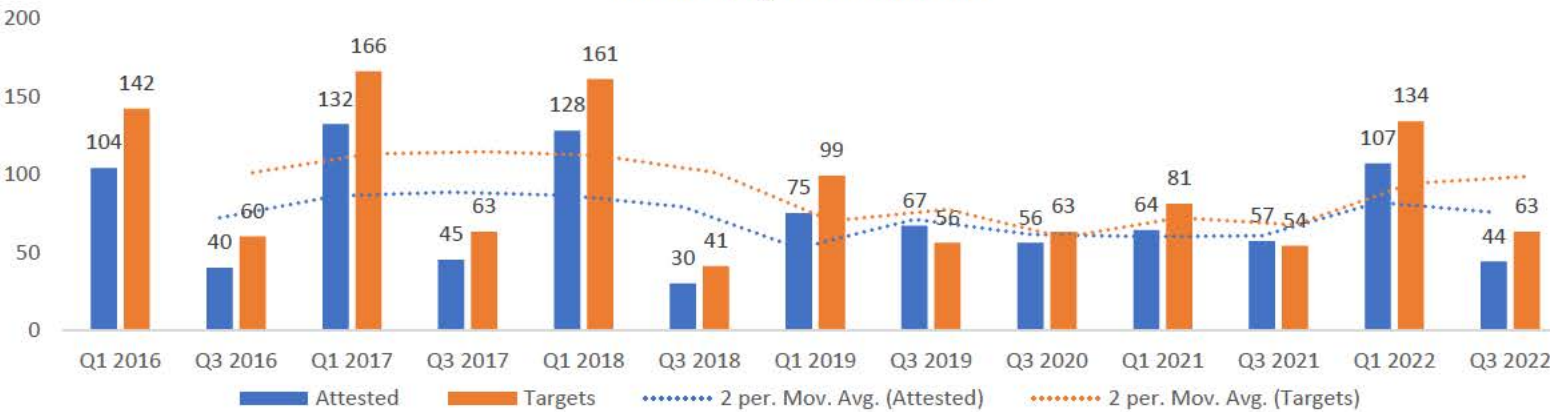
Attestation

The ultimate measure of Defence Recruiting organisational success is the percentage of intake target met. The following data shows 2016-2022 bi-annual targets and attested for each service.

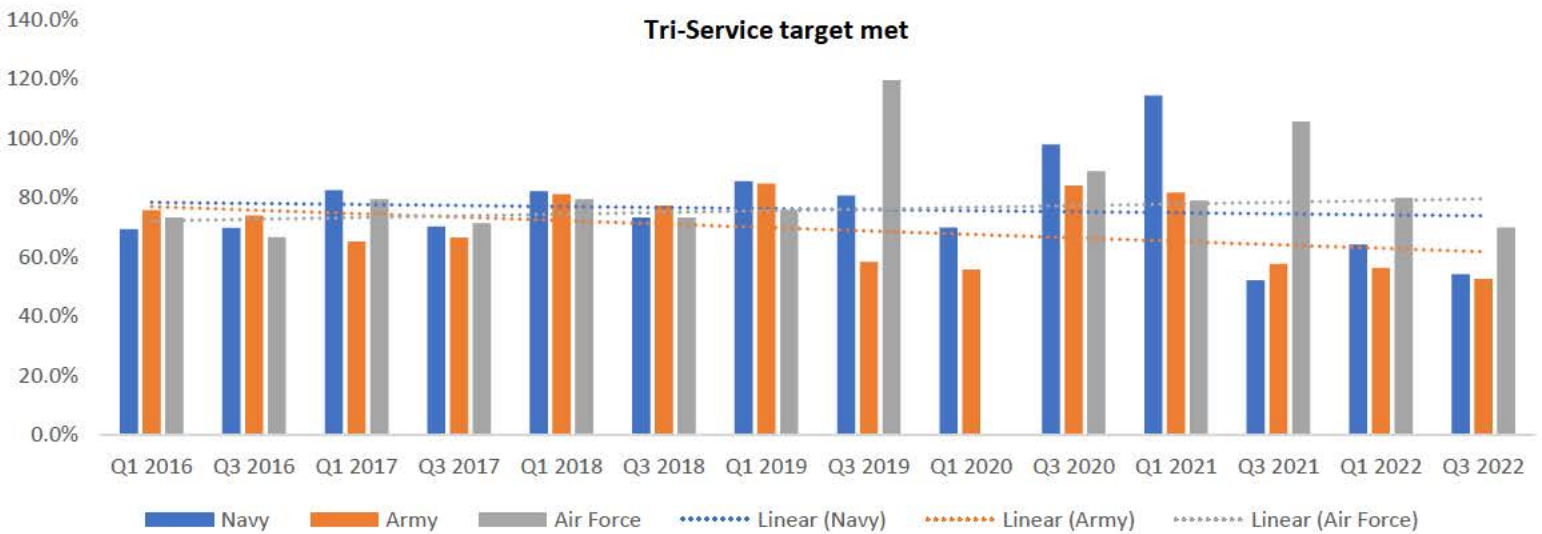### Navy Targets and Attested
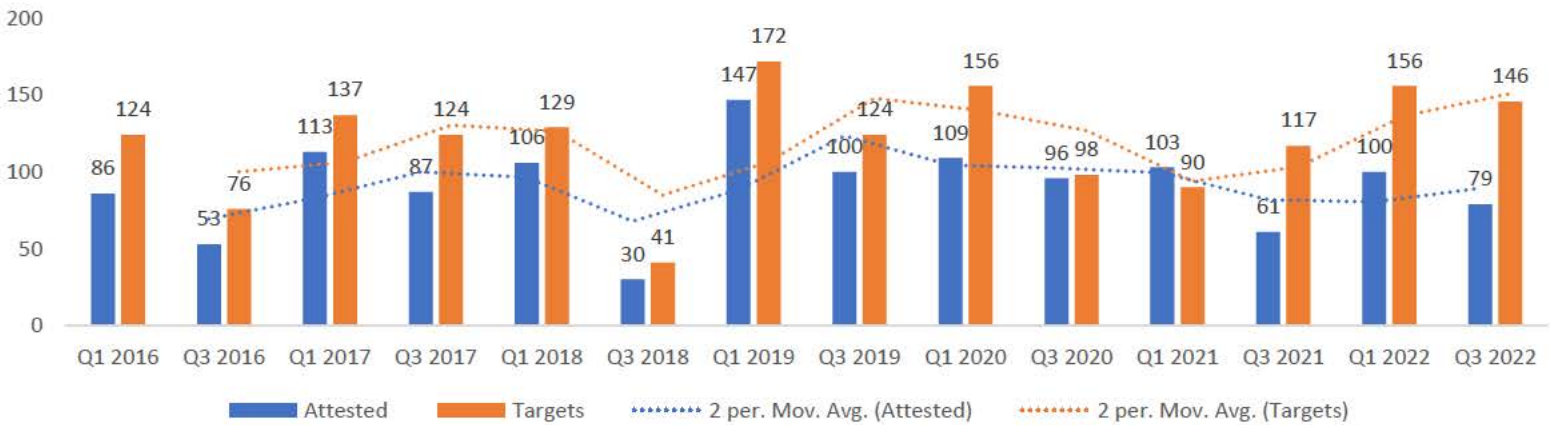
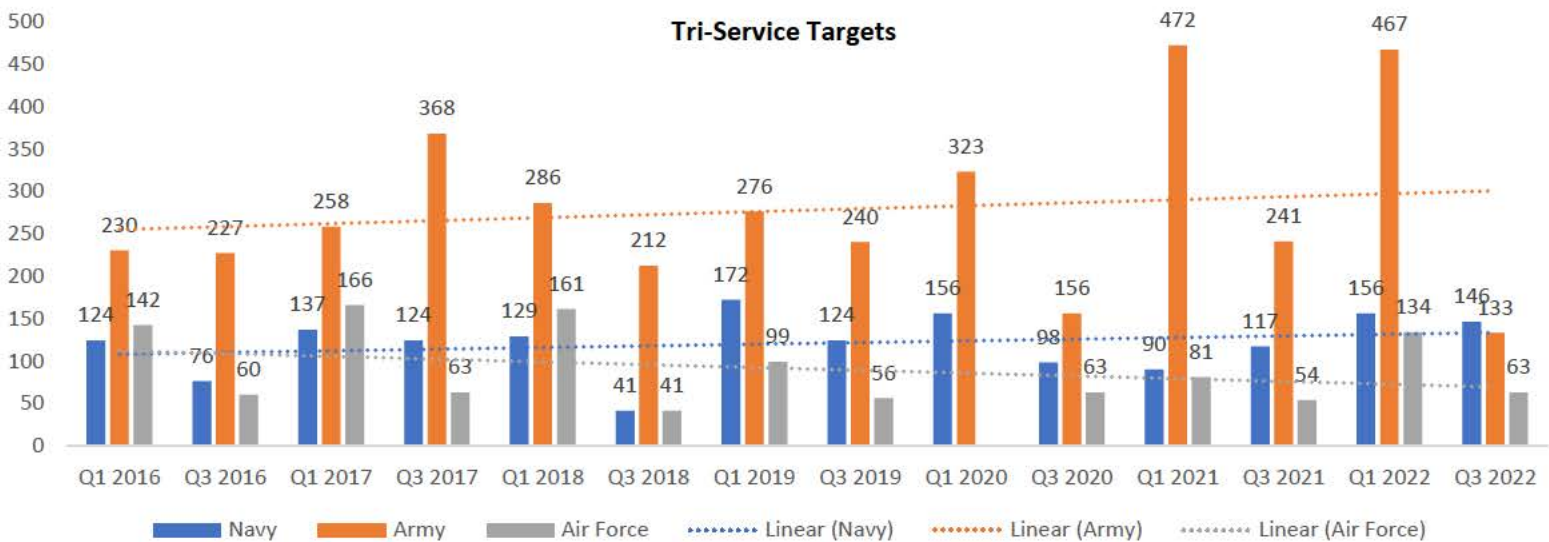### Air Force Targets and Attested

Army Targets and Attested

Tri-service targets and targets met

Tri-Service target met

Tri-Service Targets

Attestation insights 2016 – 2022

1. Overall target met Statistics

    a. Navy had a yearly average attestment of 181 candidates against an average yearly target of 241. An average of 75% of target met.

    b. Army had a yearly average attestment of 384 candidates against a yearly average target of 555. An average of 69% of target met.

    c. Air Force had a yearly average attestment of 146 candidates against a yearly average target of 182. An average of 80% of target met.

2. During the time period, there has been modest, non-linear changes to targets. Targets are set by Workforce Planning and reflect the needs of the organisation, meaning therefore they move somewhat randomly. Despite the variance, there is some overall trends.

a. Yearly Navy targets have increased on average by 4 candidates per year since 2016.
b. Yearly Army targets have increased on average by 7 candidates per year since 2016.
c. Yearly Air Force targets have decreased on average by 6 candidates per year since 2016.

This data simply reflects the overall movement of the past targets, showing that over time targets have increased year on year. It should not be used to predict future target movement. However, the changes in targets can be used to partly explain why target met has been decreasing for Army and Navy and increasing for Air Force.

3. During this time period, the average overall target met has seen modest changes

a. Overall target met for Navy has been decreasing by 0.7% each year, falling roughly 4.9% over the whole time period.
b. Overall target met for Army has been decreasing by 2.34% each year, falling roughly 16.3% over the whole time period
c. Overall target met for Air Force has increased by 0.014% each year, increasing roughly by 0.078% over the time period.

Overall, Navy targets have slightly increased, resulting in overall target met falling slightly each year. Army targets have been increasing significantly, resulting in a significant reduction in target-met performance. Air Force targets have been falling significantly, with a slight increase in target met.

4. It is important to be aware of the overall movement of targets as it helps establish a true picture of DR organisational performance. Over the last 7 years, targets have been increasing, and, as less candidates overall are applying, less candidates are attesting. So, two things are simultaneously true:
   a. DR *has* failed to meet the increasing targets and fulfil its organisational purpose
   b. DR organisational performance has not been irretrievably poor, nor is there anything fundamentally wrong with the organisation that would require a profound altering of the business structure.

Pipeline Attrition Analysis

Executive Summary

Beginning in 2023 Defence Recruiting (DR) made a strategic pivot towards reducing attrition in the recruitment process and away from a focus on increasing attraction efforts as a key avenue to meet recruitment targets. Since the last analysis of attrition in the recruitment pipeline was released in January 2023, improvements around how DR captures data on declined candidates have been made, changing DR understanding of the attrition distribution. This document will therefore provide a comprehensive updated analysis of attrition in the DR pipeline. As this document is intended to be read by both internal and external stakeholders, the document gives an outline of the candidate journey and key requirements associated with each application stage to give readers an understanding of the overall candidate journey. The document will then outline key stages and reasons for failure and provide some analysis around who these candidates are, and why/how particular requirements cause attrition. Ultimately a few key recommendations will be made about the most efficient ways to reduce attrition in DR pipeline.

Pipeline stage when declined 2023

In 2023 the percentage of failed candidates per stage are as follows:

Application stage (90%)

Assessment stage (7.25%)

Interview stage (0.75%)

Selections stage (1%)

Ready for intake (1%)

Application stage (90%)

The application stage is the first stage in the candidate's journey. The candidate provides proof that they meet minimum entry requirements (MER). To progress to the assessment stage the candidate must:

- Provide documentation to prove eligibility. Documents include:
    - Record of learning (NZQA record & University academic transcripts)
    - Proof of citizenship (passport and/or birth certificate scan)
    - Driver's license
    - Resume and references
- Pass an initial health check and provide medical records.
- Complete a police check and have a clean criminal record.
- Provide proof of vaccination status. If candidate cannot prove their vaccination status, they must undergo a vaccination program.

Assessment stage (7.25%)

The assessment stage is the next stage in the candidate journey where the candidate must pass physical and mental assessments. To progress to the interview stage candidates are required to:

- Pass an online aptitude test with an aptitude score in the 31st percentile[1].
- Pass the initial physical fitness test. Male applicants must score 7.1 or higher on the beep test and do 35 sit-ups. Female applicants must score 5.1 or higher on the beep test and do 25 sit-ups[2].
- Candidates applying for Aircrew trades must pass further computer-based aptitude testing (CBAT).

Interview stage (0.75%)

During the interview stage the candidate will undergo a formal interview with a recruiter who will assess whether the candidate is suited for the chosen trade/service. Very few candidates will be declined at this stage, with a far higher proportion of failure at this stage being associated with withdrawals rather than interview declines. Those who are declined by a recruiter at an interview are declined due to being a severe and obvious poor fit for the services.

Selections stage (1%)

During the selection stage, candidates will be formally selected for their trade and will receive an offer of service. Before a candidate can be selected, they must have their personal documents in order, have completed their vaccination program, passed physical and aptitude tests and been recommended at their interview. Before receiving an offer of service, an internal selections teams will evaluate the merits of a candidate against the requirements of the trade. If a candidate fails to meet the requirements of the trade, they will be offered an alternative trade.

For officer trades and select ratings trades, candidates will be required to attend selection boards. A selection board is an evaluation performed by representatives of the services to gauge candidate fitness for the trade. Depending on the trade and service, selection boards can range from a single day interview event to a multi-day event where candidates complete physical, medical, and mental evaluations. Candidates who are failed at a selection board will be offered an alternative trade, although some will receive a mandatory stand down.

Ready for intake (1%)

During this stage the candidate will complete final assessments and screening checks. To pass this stage the candidate must

- Complete a full medical assessment (a second more comprehensive medical assessment)
- Complete an Online Vetting Form (a second more comprehensive background check)
- Travel to an in-person induction day (I-Day) event that is conducted by recruiters where they will be educated as to what life will be like on recruitment course. During this induction day, candidates will be required to
    - Provide relevant employment documentation (KiwiSaver, tax code etc.)
    - Complete a second, more rigorous fitness test (I-Day fitness test).
- Travel to basic training and attend basic training until they attest. As DR is technically responsible for recruits up until the point they attest, failures at the initial stages of recruit courses are counted as failure during the 'ready for intake' phase.

---

[1]Being in the 31st percentile means the candidate has scored higher than 31% of all candidates who take the aptitude test. Effectively the test cuts the lower third of candidates taking the test.

[2] https://www.defencecareers.mil.nz/defence-careers/how-do-i-join/fitness-standards/

Data Insights

1. 90% of all failed applications will be declined during the Application Received stage. Because this proportion is so extreme, improvements to application stage processes/systems will have a greater impact on overall attestation rate than improvements made to any stage in the pipeline. In other words, to reduce attrition efficiently DR should seek to streamline the Application stage. Improvements could take the form of:

    a. Review of candidate facing systems such as the candidate application portal or Defence Careers website to ensure these touchpoints are industry standard and fit for purpose.

    b. Review of internal processes associated with the Application Stage to optimize candidate retention. This could include an optimization of DR communication strategy or DR application processing practices.

    c. Review of entry standards (health, vaccination, education, residency, checkable history requirements) to ensure these standards are properly calibrated. Many entry requirements have been upheld long after the original justification for the requirement has expired, resulting DR using a set of outdated and sometimes conflicting entry standards. For example, until recently some mental health issues (e.g. ADD) were classed as a red-flag medical issue and would result in an immediate decline of a candidate's application. As DR does not have the authority to internally update MER and issues caused by outdated standards are rarely communicated to the Services, outdated standards remain in use. If the Services were interested in assisting DR in a meaningful way, a review of entry standards with a focus on removing outdated requirements would be an incredibly impactful action.

    d. Review of costs/processes associated with meeting MER. Aside from the entry requirements themselves, an often overlooked hidden barrier is the time and cost associated with the process of proving a candidate meets entry criteria. The criteria of what is accepted as proof a candidate meets MER is owned by the Services and is rarely reviewed, meaning the financial and time obligations accruing to the candidate because of these criteria are rarely considered. For example, DR can only accept overseas academic qualifications as legitimate if they are verified by NZQA. This process has a minimum cost of $445[3] that candidates with foreign qualifications must pay. If a candidate has an unacceptable body-mass-index (BMI) score, the candidate is stood down and required to maintain an acceptable BMI for six months before they can reapply. If a candidate does not have the appropriate documents to prove their vaccination history, instead of accepting a serology report (blood test testing for antibodies in the bloodstream), the candidate is required at own cost to undergo the full vaccination course[4], the cost of which can reach thousands of dollars. As much of the financial cost associated with meeting MER occurs at the start of the candidate journey, the NZDF is effectively expecting candidates to pay to even have their application considered. Not only detrimental to DR attestation rate,

---

[3] https://www2.nzqa.govt.nz/international/recognise-overseas-qual/apply-iqa/fees/
[4] Vaccination requirements: 3x Tetanus, 3x Polio, 2x MMR, 3x Hepatitis B, 2x COVID-19. Link to one vaccination price list in Auckland: https://vicparkmed.co.nz/auckland-doctor-gp-travel-vaccines/

financial barriers are also discriminatory against those from lower-socio economic backgrounds. If the Services were willing to broaden what they accepted as 'proof' that a candidate met MER, many barriers to entry could be effectively removed.

2. A key insight drawn from the fact that 90% of all failed applications will be declined during the Application Received stage, is that the current application process allows fundamentally unqualified candidates (candidates who are prevented from joining the NZDF because of NZDF policy[5]) to make applications. When these candidates are processed by DR, they are subsequently rejected within weeks as they do not meet entry requirements. This indicates there are efficiencies to be gained by configuring the application process to ensure unqualified candidates are removed from the application process *before* they make an application, rather than have DR staff process these applications, and decline them *after* they make an application.

3. A third implication of DR attrition distribution is that as candidates progress through the pipeline their likelihood to attest (and thus their value to DR) increases exponentially. Once they pass the application stage, 90% of candidates who will fail, will have failed. Once they pass the Assessment stage, 97.25% of candidates who will fail, will have failed. This has a few implications:

    a. Reducing attrition post application stage (and particularly past assessment stage) should remain an important priority as these candidates are very likely to attest. The key reason for failure post assessment stage is candidate withdrawals, indicating that programs to reduce withdrawals in the latter stages of the pipeline would be very beneficial.
    b. Any DR initiated declines post assessment stage (e.g. candidate failed by services at selection boards) should be strongly justified as otherwise these candidates would almost certainly attest.
    c. Requirements that cut candidates in the latter stages of the candidate journey will have a disproportionately large impact on attestations as although only a small proportion of total attrition will be due to latter requirements, these requirements will be responsible for a greater proportion of attrition in qualified candidates. For example, although SHL online aptitude testing is only responsible for 5.2% of total candidate failure, it is responsible for 25-31% of all attrition in *qualified* candidates[6].

Reason for decline 2023

In 2023 the percentage of failed candidates per grouped reason for decline are as follows:

Closed due to inactivity (34%)

Withdrawn (22%)

Health requirement (14.5%)

Residency requirement (13%)

---

[5] These candidates include those who have a red-flag medical issue, don't meet residency/checkable history requirements, have a criminal history etc.
[6] Although SHL does cut the lower 31% of candidates on the initial test, as candidates can re-take the test, the proportion of candidates who decline *because* of SHL is smaller.

Aptitude requirement (5.2%)

Duplicate Application (5.2%)

Miscellaneous decline (4.8%)

Not groupable (1.3%)

Closed due to inactivity (34%)

Closed due to inactivity (CDTI) candidates are candidates whose application has been closed as the candidate is inactive and unable to be contacted by the candidate engagement facilitator (CEF). To understand CDTI candidates it is helpful to consider them similar to withdrawn candidates as by becoming inactive the candidate effectively withdraws their application. CDTI occurs almost exclusively at the application stage[7] meaning 34% of all failed candidates will be closed due to inactivity within days of applying.

Breaking CDTI category down further[8]

1. **CDTI – Ceased Contact (44.5%).**
   These candidates simply become inactive during the process, with the CEF being unable to isolate why the candidate became inactive.
2. **CDTI – No Initial Contact (34.5%).**
   These candidates made an application but simply *never* responded to any communication attempts. Occurs only at the very start of the process.
3. **CDTI – Failed to provide medical documents (11.1%).**
   These candidates became inactive after being asked to provide medical/vaccination documents for the initial health check.
4. **CDTI – Failed to provide education transcripts (5.1%).**
   These candidates became inactive after being asked to provide education transcripts.
5. **CDTI – Failed to complete IPC process (3.5%).**
   These candidates became inactive after being asked to complete their Initial Police Check.
6. **CDTI – Failed to provide passport / birth certificate (0.5%).**
   These candidates became inactive after being asked to provide scans of their passport / birth certificate.

CDTI Insights

1. One of the data capture changes implemented in 2023 was a change in the way DR captures data around CDTI candidates. Instead of a singular CDTI category, CEFs could give more insight around the circumstances when the candidate went inactive. From this data, the following insights can be established:

   a. A stunning 34.5% of all CDTI candidates (or 11.7% of total attrition) will be *CDTI – No initial contact*, meaning that hundreds of candidates are applying each year, only to instantly become inactive. Precisely why these candidates never make contact is unknown, but this does indicate that *something* in the application stage is fundamentally broken.

---

[7] A small amount will CDTI at assessment stage
[8] A small amount of data error has been removed for ease of reading.

b. After *CDTI - No initial contact*, the most common areas where candidates CDTI is when they are asked to provide medical documents and education records, and asked to complete their initial police check online. The varying proportions gives some indication of which requirements in the application stage are most onerous, with the data showing that medical documentation requirements are potentially a key pain point for candidates.

2. The phenomenon of mass CDTI candidates at the start of the candidate journey has persisted since 2011 and it has become expected and accepted that roughly a third of all applications will become inactive and subsequently closed. One factor that contributes to this phenomenon is the design decisions made in 2011 around DR application process. To make a NZDF application, the candidate is not required to provide any type of supporting documentation (e.g. resume, education record) upfront, and instead must provide these documents after the application is received. The idea behind this decision is that the requirement to provide documentation may intimidate younger prospective candidates, and so it is better to not ask for documentation upfront as to be able to coach candidates through the process. The unintended consequences of this however is that both fundamentally unqualified and low-motivation candidates can easily make applications, and once these candidates realize that they are either disqualified from joining or they don't *actually* want to join the NZDF, these candidates CDTI or withdraw.

The decision to have no barriers to application creation makes sense in the context of low-application numbers, and DR having a dedicated team to converting low-motivation candidates into high-motivation candidates. Unfortunately, DR has high application numbers and *no* dedicated team to candidate conversion meaning this design decision simply burdens DR with the need to process (and decline) thousands of poor-quality candidates each year. The CDTI phenomenon supports the idea that erecting some sort of barrier in the application process to prevent ineligible candidates/low motivation candidates from applying would be incredibly beneficial to DR.

Withdrawn (22%)

Withdrawn candidates are simply those who wish to withdraw their application. The distribution of withdrawals throughout pipeline stages are as follows:

Application stage (73%)

Assessment stage (19.5%)

Interview stage (2.1%)

Selections stage (3.3%)

Ready for intake (2.1%)

Withdrawn Insights

1. The majority of withdrawals occur at the initial stages of the application process, indicating that the best way to reduce overall withdrawals would be to optimize process and policy associated with the application and assessment stages. According to a 2023 qualitative survey of withdrawn & CDTI candidates *Recruiting Pipeline Wastage: Candidate Experience*, key pain points identified in the application and assessment stages include:

a. Exhaustive record requirements
b. Health records and requirements
c. Education records and entry requirements
d. Aptitude and Physical process and requirements
e. Financial cost of process
f. Candidate portal and website being outdated and unfit for purpose

2. Although most withdrawals occur in the initial application stages, withdrawals constitute the majority of pipeline dropout in the *latter* stages of the candidate journey. Withdrawals are responsible for 55% of failure at interview stage, 80% of failures at selections stage, and 50% of failures at ready for intake. According to *Recruiting Pipeline Wastage: Candidate Experience*, key pain points identified in the latter application stages include:

   a. Poor communication of candidate requirements at latter stages leading candidates to become confused regarding next steps in application process.
   b. Recruitment process being long and drawn out, and a perceived double standard by the candidate whereby candidates were expected to display a sense of urgency when communicating with DR, but DR did not demonstrate the same urgency when responding to the candidate.

Health requirement (14.5%)

Health requirements encompass candidates who are failed due to the initial health check (IHC), or their full medical assessment. Breaking this category down further:

1. **Declined – IHC Automatic (58.5%)**
   These candidates were declined because they triggered a red flag question in the initial health check, resulting in an automatic decline.
2. **Declined – IHC MO overview (28%)**
   These candidates were declined after the medical team reviewed their medical history.
3. **Stand Down – Medical (12%)**
   These candidates have been stood down due to a medical issue and cannot reapply until the issue is resolved. As most stand down periods are 6-24 months, most of these candidates withdraw.
4. **Declined – Full medical (1.5%)**
   These candidates are declined due to failing their full medical assessment. Despite making up a relatively small percentage of total pipeline failure, because the full medical occurs later in the candidate journey, the impact of full medical failures is felt disproportionately.

Health requirement insights

1. 58.5% of declined candidates due to medical checks (8.8% of total declines) will be declined due to a red-flag medical question[9]. Like other fundamentally unqualified candidates (e.g. candidates with criminal history, s. 6(a)   ), it should be considered whether DR would benefit by disallowing these candidates to make applications. While some red-flag candidates do successfully appeal their red-flag and attest, this is very rare especially for the most serious red-flags. For example, since 2011 of the 511 candidates who indicated

---

[9]Medical red flags: Psychosis, Kidney Stones, Diabetes, Inflammatory Bowel Disease, Coeliac Disease and Hearing Aids.

that they suffered from psychosis, just 2 have attested. Since 2011 of the 229 candidates who indicated they suffered from diabetes, just 1 has attested. In practice, disallowing red-flag candidates could be as simple as stating DR medical policy in the application portal (where candidate makes NZDF application) in order to make the candidate self-select out of the process. This would mean the candidate does not have their time wasted, and also free up the medical team to work on more productive endeavors.

2. Out of all the obligations expected of candidates, the process to secure medical documentation to prove the candidate meets medical requirements is potentially the most onerous. There are multiple factors that make the medical process difficult for candidates including:

   a. Significant financial cost associated with seeing doctors and meeting vaccination requirements.
   b. Logistical challenges for candidates to meet specialists (e.g. candidates may not be able to secure an appointment, candidates may be regionally isolated and cannot access doctors).
   c. Inconsistent communication around health check requirements and expectations of candidates leading to repeat GP visits.
   d. High standards for what medical proof is considered acceptable (e.g. in many cases will only accept specialist diagnosis over GP reports)

   It is estimated that anywhere from 25%-33% of total withdrawals & CDTI can be attributed to the health check process, meaning anywhere from 12%-16% of total attrition can be attributed to this requirement. When including those who *directly* failed due to the medical checks, the true impact of the health check requirement should be placed at around 27%-32% of total attrition.

Residency requirement (13%)

To be eligible for service in the NZDF the candidate must be a NZ Citizen or holder of a NZ Residency Visa who has resided New Zealand continuously for at least the last five to ten years or has resided continuously in one of the five eyes countries for the last five to ten years or from the age of 18. Breaking this category down further:

1. **Declined – Does not meet citizenship/residency requirements (67%)**
   These candidates were declined as they were not either New Zealand Citizens, New Zealand residents or New Zealand Residence class visa holder with indefinite stay.
2. **Declined – Does not meet 5 years checkable history requirements (28.5%)**
   These candidates were declined as they did not meet the checkable history requirements (resided outside of NZ in the least five years for more than 6 months over the age of 18). These requirements can occasionally be waived if candidate resided in five eyes countries.
3. **Declined – Citizen of CRSSR (4.5%)**
   These candidates were auto declined as they applied from restricted countries s. 6(a)

Residency insights

In practice, the combination of citizenship and checkable history requirements disqualifies candidates who are not citizens of the Five Eyes countries, select European countries or citizens of select Pacific Islands. Occasionally candidates will attest despite not meeting residency requirements, but this is exceedingly rare, especially when only considering ab-initio candidates[10]. Between 2016 – 2023, 7296 ab-initio candidates applied who did not meet citizenship or checkable history requirements, but of these applicants only 3 candidates attested[11]. The clear implication is that similar to medical red-flag candidates, processing candidates who do not meet residency requirements is an inefficient use of time and resources, and DR should consider disallowing these candidates to even make an application.

Aptitude requirement (5.2%)

Aptitude tests have a significant impact on attrition in the pipeline as while only making up only 5.3% of total declined candidates, as the aptitude test occurs after the application stage, aptitude requirements cut 25- 31% of the *remaining* candidates[12]. As of changes made to the aptitude process on 4th December 2023, candidates will have three attempts at passing the SHL aptitude test. If they fail the first attempt, they receive a mandatory three month stand down until they can re-test. If the candidate fails the second attempt, they receive a 12 month stand down. If the candidate fails the third attempt, they are permanently declined.

DR should not seek to alter the SHL model to reduce attrition. Those who score below the 31st percentile (the failure cut off point) will genuinely struggle to be successful in the NZDF, and DR does a disservice to both the NZDF and the candidate if DR lowered this entry barrier. However, there are certain actions that can be taken to optimize this situation. According to research provided by NZDF psychologists, only 21% of candidates will re-sit their tests, but of that 21%, 68% of candidates who attempted the test for a second time were successful[13]. In other words, a failure on the first SHL test does not necessarily indicate that the candidate will fail the test for a second time. This has two implications:

1. If candidate were better prepared for the test, more candidates would pass on their first attempt rather than second. Therefore, a key action DR could take would be to better prepare candidates to take the test by ensuring candidates complete the practice tests and ensuring candidate understanding of the mechanisms of the test.

2. After failing their first SHL attempt, 79% of candidates will withdraw their application, despite having a reasonable chance at SHL success if they were properly prepared for the test. This represents a major opportunity for DR to reduce pipeline wastage of qualified candidates. As these candidates have already passed MER (the largest barrier to entry), if they could be kept in the recruitment process, despite some of them failing their second SHL attempt, it would significantly increase the attestation rate. This could be achieved by

---

[10] Lateral candidates function differently, with lateral candidates often applying during the Residency/ Visa process.
[11] Each of the three candidates arrived in New Zealand before the age of 18 meaning residency requirements could be waived.
[12] 25-31% depending on measurement methodology used. The test will fail 31% of candidates on the first attempt, but as candidates can retake the test, the true pass rate is higher.
[13] It is theorized that these candidates set themselves up to succeed by doing practice tests, familiarizing themselves with the test format, completing the tests in a quiet location etc.

a. Improving and maintaining communication to stood down candidates in an effort to reduce withdrawals. These candidates should be considered incredibly high value as the chances that they will attest (if successful at SHL) are very high (85-90% likelihood to attest).

b. Optimizing the length of time given as a stand down to candidates after failure at their first SHL attempt to balance impact on withdrawal rates and minimization of testing effects[14].

Duplicate application (5.2%)

These are applications made by candidates who have a previous application already, so these applications are closed. Duplicate applications are not necessarily made by previously declined candidates (although this is a significant proportion), with many of these applications being made by candidates who are unable to access their account and so remake an application. Updating the candidate portal to make it easier for candidates to re-activate old accounts would reduce this phenomenon.

Miscellaneous decline (4.8%)

This is a grouped field that encompasses multiple smaller reasons why a candidate would be declined by DR. Smaller reasons for decline are omitted.

1. **Declined – Education requirements (48.1%)**
   These candidates were declined because they failed to meet the minimum education requirements. As of time of writing, the minimum education requirements are 10 NCEA level 1 numeracy credits, and 10 NCEA level 1 literacy credits. Although education requirements are only directly responsible for 2.3% of total attrition, when including the *indirect* consequences of this requirement (withdraw/CDTI candidates or applicants who don't apply in the first place), the total impact of education requirements will be greater.

2. **Declined – Other Provide comment (22.3%)**
   These candidates were declined for any number of reasons that do not fit into any other category. For example, a significant amount of these candidates are declined because they are seeking a civilian role within the NZDF, but accidentally make an application for a military position.

3. **Declined – Security Checks (19.6%)**
   These candidates are those who have been declined due to failing the initial police check, or extended security check that occurs at the Ready for Intake stage. Candidates with a criminal record are prohibited from joining the NZDF, although candidates with low level traffic offences are permitted to continue their application.

---

[14] Testing effects is a phenomenon whereby a candidate may artificially change their aptitude scores through means outside of their innate intelligence (e.g. Remembering questions from a previous SHL attempt, remembering strategies to complete the test etc.). To reduce testing effects a stand down period is initiated. While testing effects pose a risk that unsuitable candidates may pass the SHL test, this organisational risk needs to be balanced with the risk posed by a long stand down period causing withdrawals and reducing overall attestations.

4. **Declined – Selection Boards (4%)**

These are candidates who failed at a selection board, and then subsequently withdrew their application, or those who have been stood down after being failed at a selection board. Although these candidates make a very small proportion of total attrition (roughly 25-35 candidates per year), as these candidates had progressed almost to the end of the recruitment journey, any decline at a selection board is almost directly one less candidate who will attest. If the Services were willing to take on more risk, accepting more candidates at a selection board would directly lead to more attestations.

5. **Declined – Fitness related failure (3.2%)**

These are candidates who were stood down due to failure to meet the fitness requirements, and subsequently withdrew. This value encompasses those who were failed at the initial fitness test, as well as those who failed at the induction day fitness test.

6. **Declined – Recruiter/ interview (2.6%)**

These are candidates who were either declined by the recruiter during the interview, or were stood down due to poor interview performance, and subsequently withdrew their application.

Miscellaneous Decline Insights

A key takeaway from the miscellaneous declines grouping is just how insignificant the impact of some of DR requirements are on overall attrition. Candidates failing security (IPC) checks are only responsible for 0.9% of total attrition, fitness related failure only contribute 0.15% of total attrition, and interview declines are only responsible for 0.12% of total attrition. An understand of which requirements are relatively benign in terms of attrition allows DR to better prioritize which changes to implement. Conclusively, DR should *not* be prioritizing changes to fitness tests, interview process or police checks, and instead should be focusing on optimizing the initial application stage streamlining health check requirements, and providing support around the aptitude testing process.

Overall recommendations

1. Create a barrier in the application portal to prevent ineligible & low motivation candidates from applying

Defence Recruiting processes thousands of ineligible/ low-investment candidates each year. Each of these candidates has their application manually reviewed, discussed, and ultimately declined. This process takes up significant time and resources that could be reallocated elsewhere. DR should consider automating the current manual process of screening candidates for eligibility, ensuring that only eligible candidates need to be processed by CEFs.

At a high level, this barrier in the application portal could look like:

1. A series of mandatory declarations outlining DR entrance policy (e.g. candidate cannot have criminal history, candidate must be over 17 etc.) that a candidate must complete before making an application, ensuring unsuitable candidates self-select out of the process.
2. Make it mandatory for candidates to submit essential documentation to apply (e.g. Resume, copy of passport/ birth certificate), ensuring that only motivated candidates apply.
3. Make it mandatory for candidates to sign into a RealMe account to make an application, reducing numbers of foreign ineligible candidates.

Whatever screening tool utilized, the case for pre-screening in the application portal is supported by multiple datapoints within this analysis. To give a sense of just how many candidates could be successfully removed from CEF workflow:

If just using option (1) outlined above:

In 2023 (between 01/01/2023 – 01/12/2023), 7532 total ab-initio candidates applied. 501 ab-initio candidates applied who did not meet residency requirements, and so all 501 were manually processed and declined. 252 candidates applied with a red-flag medical condition[15], and off those, 244 have declined (with some still in pipeline). 27 candidates applied with serious criminal history, and all 27 were declined. 26 candidates were declined due to being underage. 134 candidates were declined as they thought they were applying for a civilian role. In summation, in 2023 932 (12% of total applications) fundamentally ineligible candidates applied and were declined. In other words, with a few tweaks to the application portal, 12% of incoming workflow could be eliminated with no repercussions.

If using option (2) outlined above

While estimates of how many candidates a document requirement would cut are uncertain due to the nature of CDTI and withdrawn candidates (candidate rarely explain exactly why they withdrew), conservatively when including all *CDTI- No Initial Contact* (as these are clearly the least motivated candidates) and 25% of total withdrawals at application stage, respectively 703 and 276 candidates could be cut. In total therefore, in 2023 a documents requirement would cut 979 candidates, or 13% of incoming workflow.

---

[15] Here we are using only the current red-flags, so not including those who were declined due to red flags at the start of 2021.

Whatever option or combination thereof is utilized, moving towards a processing system that focuses on fewer (but more qualified) candidates would lead to multiple benefits. At a macro level, the two key benefits are

- Current processes/requirements designed to cut ineligible/unmotivated candidates can be reworked into more precise requirements that only cut the ineligible candidates, and not impact eligible candidates. DR needs to remove ineligible and unmotivated candidates at some point in the candidate journey. Currently instead of having targeted barriers upfront, processes and requirements are purposely calibrated to cull ineligible candidates by being difficult/expensive to overcome, the problem being that difficult/ expensive barriers also cut good candidates. For example, the initial health check process was purposely designed to remove unmotivated candidates by being opaque and expensive. By erecting targeted, specific barriers at the start of the process, requirements could be redesigned to only cut ineligible candidates.

- More time and resources could be allotted to each candidate, leading to:
  - Quicker processing of candidates' application, and lessening of time candidates spend in the recruitment process
  - More flexibility in management of candidate's application, allowing DR to manage each candidate's journey on a case-by-case basis, rather than employing a strict linear candidate journey
  - Better and more targeted communication with the candidate

The benefits outlined above *do* lead to a higher attestation rate, and thus more attested candidates per year. Historically attestation rates have been negatively correlated with application numbers, meaning that as more candidates apply the rate at which these candidates attest decreases. As shown below, in the years where less candidates applied (2017,2018,2021), the attestation rate is higher than the years in which more candidates applied[16] (2016,2019,2020). The reason for this phenomenon is that DR has more time and resources to expend on each candidate, leading to all the benefits outlined above. The key implication of this finding is that by reducing the number of incoming ineligible candidates by the introduction of some type of barrier in the application process, the attestation rate of the remaining candidates will increase.

Application and attestation negative correlation

---
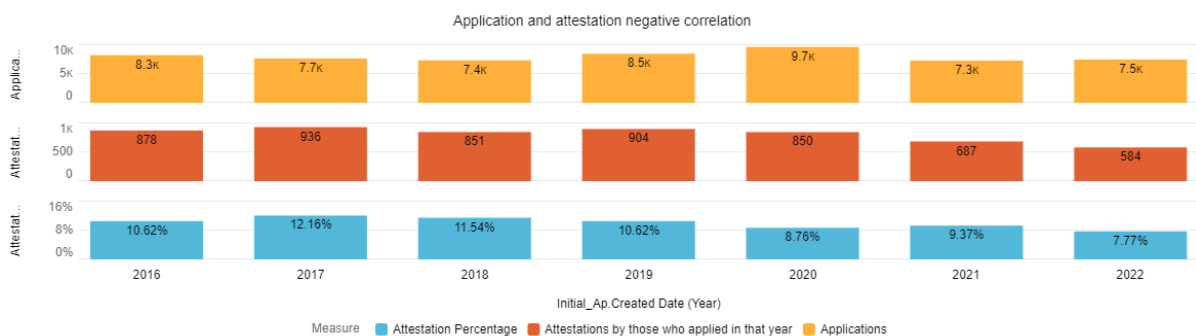
[16] Note that candidates who applied in 2021-2022 will still be in the pipeline, and so the attestation rate will increase overtime for candidates who applied in 2021,2022.

2. Increase percentage of candidates who re-test after SHL stand down

One of the key insights drawn from this analysis is that once a candidate passes SHL aptitude testing, their likelihood of attestation increases to 85-90% as after SHL, the only significant candidate requirement is full medical, meaning the only noteworthy reasons candidates decline after SHL is full medical and withdrawals. Another key insight is that just 21%[17] of candidates complete a re-test of aptitude testing after stand-down, but of those 21%, 68% of those who attempted the test a second time, passed the test. In other words, failure of the first SHL test does *not* guarantee failure at future SHL tests, and in fact candidates have the same odds of passing the SHL test the second time as they did the first. The obvious implication of these two insights together is that if DR could increase the proportion of candidates who re-test, more applicants would attest each year.

Using data from SHL attempts 01/01/2022-31/12/2022, this principal can be observed.

2022 Assessments (actual)

Assessment Attempt	Fail	Pass	Total
1	492	1081	1573
2	61	140	201
Total	553	1221	1774
Outcome	40% retest rate		
Attested candidates	1038 (.85*1221)		

Potential SHL configeration with 60% retest

Assessment Attempt	Fail	Pass	Total
1	492	1081	1573
2	91	201	292
Total	583	1282	1865
Outcome	60% retest rate		
Attested candidates	1089 (.85*1282)		

Potential SHL configeration with 80% retest

Assessment Attempt	Fail	Pass	Total
1	492	1081	1573
2	126	268	394
Total	618	1349	1967
Outcome	80% retest rate		
Attested candidates	1147 (.85*1349)		

In 2022 40% of candidates re-tested, meaning the overall number of candidates who passed the test in 2022 was 1221. When applying the rough rule of thumb of 85% of candidates who pass SHL will attest, 1038 candidates from this cohort will attest. If 60% of candidates re-tested, the overall number of candidates who would have passed the test in 2022 would be 1282, and overall attestations (applying the rough rule of thumb) would be 1089. If 80% of candidates re-tested, then 1349 candidates would pass SHL, and of those 1147 would attest. Overall, a rough rule of thumb should be: For every 100 candidates who re-test, 58 will attest (68 passing SHL, and 58 successfully attesting).

There is no reason why DR should not aim for an 80-90% SHL aptitude re-test rate. These incredibly valuable *qualified, eager* candidates are already in DR system, yet receive no support or communication for the months they are on SD. There are multiple outreach strategies that could be employed such as using automated marketing outreach strategies to keep these leads warm or altering the recruiting coaching call program to include candidates on SHL stand down.

---

[17] This data encompassed 2021-2022. Less candidate re-took the test in 2021, moving the average re-test proportion downwards. In 2022, 40% of candidates re-took the test. In 2023, 36% re-took the test, with some still on SD.