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Review of the Plumbers, Drainlayers and Gasfitters Board continuing professional development scheme

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Executive Summary

This Report is written in response to the Plumbers, Drainlayers, and Gasfitters Board (PDGB) request for a comprehensive first principles review of their mandatory continuing professional development (CPD)[1] scheme that is currently a mandatory condition[2] of re-licensing for plumbers, gasfitters and drainlayers in New Zealand.

Desktop research has been completed to determine current thinking about CPD as a competence maintenance tool. This review of multiple models of CPD identified some best practice principles for effective CPD schemes[3]. Most of the academic reviews of CPD schemes have occurred in the professions, especially in health care, but the principles can be applied to all occupations[4]. Details of this research are in Appendix 1.

A review was also undertaken of current best practice schemes in New Zealand, Australia, Canada and the United Kingdom that may be relevant to the plumbing, gasfitting and drainlaying industries in New Zealand. Details are in Appendix 2. Information was also gained by discussion with a PDGB former CEO and the Acting CEO along with three staff members of PDGB involved in the current PDGB scheme to give an operational context.

This Report summarises the findings from this research and evaluates the Board's current CPD scheme against the results of the desktop research, to assess the PDGB delivery against the indentified best practice principles and elements. It then gives some options to strengthen the current CPD scheme for PDGB members to consider. This stage of the project does not consider any cost benefit of the possible changes but it does raise concerns the PDGB need to be aware of if considering change.

Key findings

The PDGB CPD scheme does encompass many of the practice principles and most elements of the schemes reviewed. It is noted that the trades may not yet be ready to take on some of the new thinking in CPD such as, for example, reviews of practitioners' performance. In addition, the PDGB must assess whether the cost of any substantive change is proportionate to the gains to be made and the potential to cause practitioner discontent at the early stage of CPD requirements. That said, the PDGB could adopt some of the new/emerging thinking to refresh their scheme such as:

- Extending the range of courses so learning is encouraged across all domains of competence.

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[1] CPD is defined as a range of learning activities through which practitioners maintain and develop throughout their career to ensure that they retain their capacity to practise safely, effectively and legally within their evolving scope of practice.

[2] Plumbers, drainlayers, and gasfitters registered in New Zealand have to fulfil the CPD requirements before they can be relicensed.

[3] In this Report a "scheme" means the system by which CPD is organised and implemented.

[4] In this Report "occupation" is used to cover both professions and trades and "practitioner" is used to cover both professions and trades people.

- The Board should limit continuing education to types of learning activities that have been shown to be effective for improving practice.
- Stricter application of the PDGB accreditation process and policies.
- Developing some courses on matters the PDGB views as important to reduce both the risk and the disciplinary burden on the PDGB.

This would also increase alignment with the Licensed Builders Practitioners and the Electrical Workers CPD schemes which may be of benefit if a single Act is implemented in the future to cover all these trades.

1. Introduction

1.1 Why regulate occupations?

The aim of occupational regulation is broadly to protect the public from the risks of an occupation being carried out incompetently or recklessly.

Statues, regulations and procedures vary from occupation to occupation but generally occupational regulation that is embedded in statute is designed to protect the public from harm - physical, mental or financial by:

- Providing barriers to entry, such as setting entry qualifications and mechanisms to assess potential registrant's character.
- Enforcing rules of practice and providing for disciplinary procedures.
- Requiring providers of services to disclose information that will assist consumers to assess the service[5].

1.2 What does occupational regulation achieve?

Occupational regulation refers to the process where entry into an occupation requires the permission of the government or a regulator[6] and encompasses the concepts of setting standards for:

- **Who gets onto the register**: ensuring those who are registered have the right qualifications and experience (both from within the country and from overseas), and are fit and competent to work.
- **Who stays on the register**: this includes issuing licenses or practising certificates, setting standards for practice, codes of ethics and systems for CPD so the public can trust that those on the register are able to practise safely and are maintaining their competence.
- **Who is removed from the register**: for long or short periods, because a practitioner has been shown to be incompetent or practising below the required standard or are not able to practise due to ill health[7].

Many occupational regulators use CPD schemes as a way to assess "who gets to stay on the register". The principle behind this assessment is that a certain amount of ongoing learning and development is needed to show that the practitioner is maintaining their competence. Therefore the regulator is taking steps to

[5] http://www.med.govt.nz/business/better-public-services/regulatory-reform/information-for-policy-makers/policy-framework-for-occupational-regulation.

[6] "Regulator" is used in this Report to define a body that has the statutory right to control the activities of an occupation for example the PDGB.

[7] Thompson, E. *Understanding medical regulation – a guide to good practice*. HLSP Consulting 2005.

protect the public from inadequate or incompetent work. This approach takes into account that while entry qualifications may provide surety about the knowledge and skills necessary to start to practise, ongoing education and development is needed to ensure continuing competency while in practice.

Associations or voluntary grouping of practitioners may also have mechanisms to ensure those joining the association meet entry requirements and these groups may have CPD schemes in place, but these groups lack the statutory ability to enforce them on all members of the occupation. Their only solution to deal with non compliance is to expel the member from their association.

1.3. Recertification and forms of CPD

While several of the organisations studied, especially in the trades, do not have any CPD requirements or have voluntary requirements, linking recertification or re-licensing to completing mandatory CPD is a growing trend across a range of occupations, as happens now in the PDGB. That is, the practitioner cannot continue to practise until they have completed the required CPD.

There is a range of CPD mechanisms for a regulator to use to ensure their practitioners are able to be recertified or relicensed. Some of these mechanisms assist the regulator to ensure their registrants' competence, but most rely on defining a range of learning activities that need to be completed.

For example, in New Zealand the Health Practitioners Competence Assurance Act 2003 (HPCAA) gives the following options for assessing if the person can be recertified. The registrant has to:

- Pass an examination.
- Complete a period of practical training.
- Undertake a course of instruction.
- Accept an examination of their clinical and other practices, examination of relations with other colleagues and/or perusal of records kept by practitioner.
- Undergo an inspection or assessment.
- Adopt and undertake a systematic process for ensuring that the services provided by the practitioner are of a quality appropriate to his or her registration.
- Undergo anything else that the regulator considers appropriate.

There are numerous forms that CPD can take and further examples are in Appendix 3.

2. Current thinking about the effectiveness of CPD

2.1 Is CPD effective?

There is a continuing debate on whether CPD is effective in terms of ensuring practitioners are competent. The Altegis Group in their review of *Professional Development Industry Perspectives* in Victoria, Australia, echoes other reviews by noting there is little research that indicates that CPD produces "measurable results."[8] However, the authors of this review for the Victorian Plumbing Industry Commission, go on to state there is no research that suggests CPD is wasteful.

[8] Walker, J; Powers, T; & Altegis Group, *Professional Development Industry Perspectives*, 2010 Victoria. Australia.

Other researchers have noted that "a practitioner who engages in CPD cannot be guaranteed to perform well, but the performance of a practitioner who does not engage in CPD will almost certainly deteriorate as time goes by."[9] Numerous studies have been conducted showing that, while didactic sessions such as lectures can *increase professional knowledge*, they do not necessarily *improve practice*.[10] This point is expanded later in this Report.

Further, CPD can also reduce the risk of poor performance through professional isolation[11]. Others have noted that "CPD as well as supporting skills and knowledge development and understanding of technology, can improve the occupation's standards and its standing in the community"[12]. And "the more knowledge members of a profession have, the more likely the profession is to retain the respect of the public and the support of the governing agencies."[13]

2.2 Current thinking about CPD

The debate about the outcomes of CPD has not slowed the trend for professional and trade regulators to increasingly require mandatory CPD, as shown by the number of groups researching and reviewing CPD principles and implementing CPD schemes, as illustrated in Appendix 1 and 2.

Medical professionals and the health sector generally, are seen as the leaders in developing and implementing ways to ensure practitioners are maintaining their competence. Hence the greater number of articles researched is about these professions (refer Appendix 1). The first reported course in continuing medicine education (CME)[14] was in 1935[15], however the authors of this article noted it was not till the 1960s that CME was discussed as a "coherent body of literature". In time, CME or continuing education (CE), was differentiated from CPD. CPD is a broader concept and can be described as "a range of learning activities through which practitioners maintain and develop throughout their career to ensure that they retain their capacity to practise safely, effectively and legally within their evolving scope of practice."

In New Zealand, the Medical Practitioners Act 1995 (MPA) introduced the concept of recertification and this was extended to other health professional groups under the Health Practitioners Competence Assurance Act 2003 (HPCCA). In its time the HPCAA was seen as world leading professional regulation. The MPA and the HPCAA gave the regulator the power to set programmes to "ensure the practitioner was fit to practise" and to recertify the practitioner so they could continue to practise and get an annual practising certificate.

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[9] Reid, A. 2006, *To discipline or not to discipline? Managing poorly performing doctors*, *Law in Context*, vol. 23, (2)
[10] Griscti, O. & Jacono, J. *Effectiveness of continuing education programmes in nursing: literature review*. 2006. Journal of Advanced Nursing, 55.
[11] Heslop, R*., Review of continuing professional development systems in healthcare regulation and recommendations for regulators implementing new systems in small jurisdictions.* July 2013.
[12] Zajkowski; M; Sampson, V; & Davis, D. *Continuing Professional Development: Perceptions from New Zealand and Australian Accounting Academics* Accounting Education Dec 2007 16 (4). p. 405-420.
[13] Ibid.
[14] Continuing medical education (CME) includes attendance at appropriate at education conferences, courses and workshops, courses, self-directed learning programmes and learning diaries, assessments designed to identify learning needs in areas such as procedural skills, diagnostic skills or knowledge journal reading.
[15] Filpe H., Silva E., Stutling A., & Golnik K., *Continuing Professional Development: Best practices*. Middle Eastern Journal of Ophthalmology 2014 April – June 134-141.

The evolution of mechanisms to ensure competence continues today. The Medical Council of New Zealand is currently promoting "demonstrations of performance" as a way to ensure ability to perform on the job. This change takes into account the complexity of defining professional competence[16] and the recognition that competence is what a professional has been "trained to do". This differs from performance, which is what a person "actually does in day-to-day practice". Performance depends upon the level of competence, but it is also influenced by individual and system-related factors. This work is leading ways to assess performance, because what is actually done in day to day practice is more important for ensuring public health and safety than only taking part on ongoing learning. Current thinking is that performance assessment is more reliably done via external review as in a regular practice review[17] or performance appraisal, (both of which should be informed by evidence of actual practice gathered, for example, by activity analysis, practice visits, observation of work, audits of outcomes, and reports of external quality assurance programmes), along with use of tools to promote insight such as multisource feedback[18] and followed through by a "constructive conversation[19]" with a respected peer to assess current performance and to guide future professional development.

The current mandatory CPD scheme of the Medical Council of New Zealand includes the requirement to complete 50 hours which must include an audit of practice, peer review and continuing education. In effect it covers some review of actual performance as well as maintenance of competence.

Peer review is seen as a useful mechanism to increase professional insight. Peer review is required by the Dental Council of New Zealand in addition to CE. However, it is not always easy to organise peer review in occupations where the peers may be in competition with each other for business.

Further, other schemes researched encourage reviews to establish self identified training needs, priorities and to set goals to develop a professional development plan. This approach is used in the construction industry in Ireland, the Safety and Reliability Society in the United Kingdom and the Chartered Institute of Building Services Engineers in the United Kingdom. However, current research indicates that professionals are not good at identifying their own deficiencies and have limited ability to accurately self-assess their personal learning needs without help. To be effective this approach can be enhanced though peer

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[16] Professional competence of medical practitioners is a complex construct. It has been defined as the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice for the benefit of the individual and community being served. It includes clinical competence (technical skills and knowledge) and behavioural competence (interpersonal and affective skills, such as the ability to communicate effectively, use judgement and empathy and manage relationships) and the HPCAA also requires doctors in New Zealand to be culturally competent.

[17] Regular Practice Review (RPR) is a supportive and collegial review of a doctor's practice by peers, in a doctor's usual practice setting and is a quality improvement process. An RPR provides an assessment across the domains of competence and includes multi source assessment, some component of external assessment and must include a process for providing constructive feedback to the doctor being assessed and the development of a personal development plan.

[18] The multi source feedback (MSF) or 360degree review collects information from the practitioner and also about him or her from seniors, staff and peers. It is designed to evaluate a person's interpersonal, management and leadership behaviours and capabilities - not their clinical skills. The process encourages the practitioner to assess his or her own strengths and compare these with assessments made by his or her seniors, staff and peers and to assess areas within his or her capabilities which may be further developed and enhanced.

[19] A constructive conversation with peers or seniors, brings all of the components together, fosters self-reflection and identifies areas for further development in the coming year.

involvement. For example, with the Pharmacy Council of New Zealand, each step of the learning cycle (reflection, planning, action and outcome) must be discussed with a learning peer. Peer input into the pharmacist's practice review will ensure they are working in domains and competencies relevant to their area of practice.

Several of the CPD schemes studied are currently giving increased emphasis to occupations and trades people ensuring their CPD covers all domains of competence[20]. For example, the Skills Maintenance requirements for Licensed Building Practitioners in New Zealand includes learning in relation to technical and legal competence such as changes to the building regulations and building materials, but also learning about good business practices, workplace safety and keeping the public safe from financial and physical harm.

Another trend is for CPD schemes to have some mandatory aspects of learning set by the regulator (that may or may not be delivered by the regulator) as in the Medical Council of New Zealand, Electrical Workers and the Real Estate Agents CPD schemes.

Moreover, research completed as part of this Report identifies most schemes used by regulators and associations in professions such as health professionals, teachers, librarians and accountants, and trades such as overseas plumbers, electrical workers and builders (refer Appendix 2), are still concentrating their efforts on CPD that leads to the "acquisition of new knowledge, skills and attitudes."

3. Identification of best practice principles for effective CPD schemes

Appendix 1 details research conducted for this Report on the principles used for developing and implementing CPD in jurisdictions and occupations in New Zealand and overseas. An overview of the research has led to identification of the following indicators of best practice for effective CPD.

In summary, an effective CPD should:

- Deliver learning linked to the competencies identified as necessary for the safe practice of the occupation.
- Ensure learning is across all domains of competence including ethical, managerial and professional activities, legal updates, and not just technical competence.
- Be a participatory process designed to encourage and increase self reflection.
- Promote lifelong learning and maintenance of professional standards.
- Encourage engagement with colleagues as a core aspect, such as in peer review, performance appraisal, a "constructive conversation" with a peer or respected senior or use of multisource feedback (MSF).
- Utilise continuing education that is known to lead to improvement in practice[21].

[20] Where domains of competence include consideration of all the technical knowledge and domains such as interpersonal communication skills, ethics, practice management, professionalism, and updates on the legal context in which the group's practice, and thus results in improvements that reflects the changing needs of the occupation and developments in the sector.

[21] Dr Steven Lillis, the medical adviser of the Medical Council of New Zealand, has researched the effectiveness of CE and has concluded effectiveness of CE has been substantially questioned and it is now generally accepted that such techniques have little to offer modern complex professional practice. Details of the references for this research which is in medicine is in Appendix 5.

- Require demonstrations of performance or audits of what is actually done in practice.
- Incorporate adult learning principles of autonomy, self-direction, goal orientation, and practice-based learning.
- Be designed to have clear, attainable, and measurable learning outcomes and offer relevant and evidence-based content and post learning assessment.

Schemes are also aimed at assuring quality in the process of re-licensure and where possible, aim at decreasing regulatory risk and disciplinary action [22] and therefore must be accountable, transparent, amenable to regulation, and useful for assuring quality in the process of re-licensure[23].

4. Review of schemes to identify best practice elements

Appendix 2 gives an overview of CPD schemes in other jurisdictions for both professions and trades. This research did not identify any single "best practice" scheme but it did identify various elements against which PDGB could evaluate its current scheme and areas where it could extend its current scheme.

4.1 General requirements of CPD schemes

- It is usual for regulators to set minimum CPD requirements that practitioners must meet in a given time period, as this is measurable and assists practitioners to set and reach the required amount of CPD.
- Most statutory regulators have mandatory compliance.
- Further, schemes need to meet the needs of practitioners and employers by offering a wide range of learning activities (programmes and courses[24]) and tailored to suit the different roles and organisational responsibilities of all those involved in the occupation.
- For self employed practitioners, the business case for justification of CPD is important as "these groups are not interested in theoretical conceptualisation, but in the business benefits of CPD, such as adding value for clients"[25].
- The onus should be on the practitioner rather than the regulator to ensure CPD is recorded[26]. This is motivating the current trend to develop an e-portfolio where practitioner can store information about the CPD they undertake.

4.2 Points allocated to CPD activities

As noted in the report *Professional Development Industry Perspectives*[27] and confirmed by this research, most trades operate a points system to assess how much CPD is achieved. Generally, systems allocate one point to one hour of learning or, alternatively, the number of points allocated reflects the complexity of the learning, where the more complex or advanced topics gain higher points rating.

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[22] Filipe, H., Silva, E, Stulting, A. & Goink, K. *Continuing Professional Development: Best Practice*, Middle East Journal of Ophthalmology. 2014. 134-141.

[23] Ibid.

[24] In this Report "programme" or "course" is a unit of learning or study and the terms are used interchangeably depending on the usage in the scheme under discussion.

[25] De Lange, P. Jackling, B; & Basioudis, I. *A framework of Best practice of Continuing Professional Development for the Accounting Profession,* Accounting Education 2013, 22 (5).

[26] There is an increasing trend to develop on line recording systems for CPD or e-learning portfolios where all aspects of the CPD and professional development plans may be stored by the practitioner.

[27] Walker, J; Powers, T; & Altegis Group, *Professional Development Industry Perspectives*. 2010. Victoria. Australia.

Some authorities require practitioners to obtain CPD points of a certain type, or in certain areas of practice. This can ensure they do not limit their CPD to areas they are comfortable with, although this adds a layer of complexity to the process of auditing CPD activity.

The number of hours of CPD required does vary considerably with the number of hours or points being higher in the professions. For example, the Dental Council of New Zealand requires dentists to complete 80 points whereas dental technicians are only required to complete 40 points.

Points are allocated in such a way so that a practitioner can be in charge of at least some of their own learning such as applies to the Real Estate Agents authority who count both "verifiable[28]" and "non verifiable" activities.

Points allocation can be used to "motivate", practitioners to do a certain type of activity for example self directed learning is often worth fewer points than directed learning or fewer points can be gained from these activities. If a regulator wanted, for example, to promote practice reviews they could give a much higher point allocation to this area and this would persuade some to take part in these activities.

4.3 Delivery mechanisms for CPD

The most practical schemes from a regulator's point of view are where the regulator has some level of control over the quality of CPD delivered, but where it does not have to approve individual activities.

There are a variety of delivery mechanisms used by various regulators:

- Delegating delivery of courses to an approved or accredited external group.
- Delegating organisation of the schemes to providers accredited by the regulator, for example:
    - In medicine, the specialist Colleges develop, deliver, and monitor compliance with recertification programmes.
    - The Pharmacy Council takes the approach that the identification of useful learning is a professional role so it delegates this to the Pharmaceutical Society. The regulator then only sets the standards for what is required to help assure competency.
    - In Ontario, Canada, large employers of engineers have a responsibility to assure competency of their workers.
- Encouraging on-line delivery, pod casts, web based learning, videos streamed meetings are becoming increasingly popular as these delivery mechanisms have the advantage that they are available 24/7, are not limited to a geographic area and should be able to increase variety and choice available.

[28] Verifiable education is delivered through organisations that are approved or accredited as providers. Providers may provide classroom-based, correspondence or e-learning options. Non-verifiable education is chosen by the agent and includes learning such as in-house training provided by agencies, sales, marketing or listing training by third-party providers and property management training courses – both commercial and residential.

The regulator themselves may deliver courses on matters where the regulator has decided learning is needed, such as the New Zealand Electrical Workers Registration Board which delivers a Board approved course which includes matters relating to safety and current electrical practice, keeping the public safe from financial and physical harm and risk management.

4.4 Frequency of checking CPD

This varies across the organisations researched. In general, in simple points CPD schemes compliance is reviewed every year. The more complex schemes that have reviews of practice or completion of longer term learning goals as used in medicine, pharmacy, engineers, architecture, have longer cycles of 3-5 years.

4.5 Measuring the effectiveness of CPD activities

Measuring CPD activities' effectiveness is considered an important element in that assessments can be used to justify cost and the effectiveness of educational outcomes.

"Therefore CPD assessment should provide information on whether:

- Target audience needs were addressed.
- Learning objectives were met.
- Participants were engaged.
- Behaviour changes were achieved"[29].

4.6 Auditing

Auditing is the way regulators check that the practitioners are meeting the requirements of the CPD schemes. Some have a high trust model and do not audit practitioner's compliance. Others, like the PDGB, do not have to audit because the deliverer of the course verifies the practitioner's attendance and achievement/non achievement.

Audit of practitioners' compliance with CPD can become a very time consuming task for regulators. Therefore a balance needs to be found between selecting a manageable sample to audit, while obtaining sufficient data to be assured of compliance; and by auditing sufficient numbers that professionals are aware of the likelihood of being selected and treat this as an incentive to comply with requirements[30].

Most Boards do audit a sample of those regulated to ensure compliance and the number audited varies from 2.5% to 10% per annum, although some organisations audited up to 15 %. This figure is often limited by the resources the regulator has to conduct audits.

5. Evaluation of the PDGB's current scheme

5 .1 The PDGB's current scheme

Currently the PDGB has set competencies that are used to underpin registration and licensing provisions for each trade and the PDGB accredits courses that provide learning in relation to the PDGB agreed

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[29] Filipe, H., Silva, E, Stulting, A. & Goink, K. *Continuing Professional Development: Best Practice*, Middle East Journal of Ophthalmology. 2014. 134-141.

[30] Heslop, R., *Review of continuing professional development systems in healthcare regulation and recommendations for regulators implementing new systems in small jurisdictions.* July 2013.

competencies. The PDGB has two guides for course providers; the first is the Course Development Guide explains how to develop a useful course, the other is the Course Accreditation Booklet which details the PDGB accreditation requirements. Points can be obtained from attendance at the accredited courses and from non-accredited (self-directed) learning[31] outlined in Table 1.

Table 1 PDGB requirements and points allocation in any 12 month period

NUMBER OF LICENCES HELD	TOTAL NUMBER OF POINTS REQUIRED	SELF-DIRECTED LEARNING
One	12	A maximum of 3 points may be from self-directed learning.
Two	20 (at least 1 point per trade)	A maximum of 5 points may be from self-directed learning.
Three	24 (at least 1 point per trade)	A maximum of 6 points may be from self-directed learning.

5 .2 Evaluation of the PDGB scheme against best practice principles

As shown in Table 2, the PDGB's scheme meets several of the best practice principles identified from Appendix 1 and in section 3 of this Report.

Table 2 Comparison of best practice principles for CPD to PDGB requirements

Best practice principles for CPD schemes	PDGB requirements
Deliver learning linked to the competencies identified as necessary for safe practice of the occupation.	The PDGB meets this requirement as in accrediting CPD courses a link to the competencies is required. **This principle is met.**
Ensure learning is across all domains of competence not just technical competence. (That is, consideration of domains such as interpersonal communication skills, ethics, practice management, professionalism, and updates on the legal context in which the groups practise and thus result in improvement that reflects the changing needs of the occupation and developments in the sector)[32].	The PDGB has been legally challenged on the ability to require the trades to complete courses that do not directly link with PDGB competencies. Currently these competencies primarily define technical ability. It is noted that staff believe the PDGB scheme would benefit by inclusion of courses on matters such as supervision, new technology, legal and regulatory compliance. Some of these areas appear to be possible if the stated competencies are defined widely as there are competencies that relate to "health and safety" and "legal compliance". However, best practice would indicate courses should cover all technical knowledge and all domains, but to extend the PDGB schemes this far will need a review of the competencies. **The PDGB scheme does not fully meet this principle.**

[31] Self-directed learning can include reading and researching published material, attending seminars or industry conferences or other non-accredited programmes, and on-the-job training. Self-directed points must relate to one or more of the PDGB competencies.

[32] This is required as practice changes over time.

Be a participatory process to encourage and increase self reflection and identification of personal learning needs.[33]	The trades can choose from a wide range of courses and there is some ability for self directed learning, albeit for a limited number of points. Identification of learning needs could be encouraged, using tools such as a professional development plan or use of a planning and review learning cycle, but as noted in the body of the research, this is more effective with involvement of peer, respected senior or external review. In the PDGB scheme for example gas fitters applying for exemptions under Section 20 have to report on their own learning through self reflection and systematic identification of learning needs. This process is assisted by staff but it is too time intensive to apply to all registrants. **This principle is partly met.**
Promote lifelong learning and maintenance of professional standards.	This principle underpins the accreditation[34] of course process. **This principle needs input from the trades to assess** what they see the purpose of CPD is, this is beyond the scope of this Report.
Encourage engagement with colleagues as a core aspect, such as in peer review, a "constructive conversation" with peers or a respected senior and use of multisource feedback (MSF).	At PDGB courses, the trades are exposed to peers and to informed and respected colleagues but peer review and "constructive conversations" are not explicit requirements for the CPD scheme. **This principle is partly met**
Utilise CE[35] that is known to lead to improvement in practice.	In terms of "self directed learning", the PDGB does not limit forms of CE to those that have been shown to be more effective such as interactive courses, take a multifaceted approach to education and individualised educational initiatives, as opposed to attendance at conferences and meetings, didactic sessions, self assessment of educational needs and large group teaching[36]. **This principle is not met.**

[33] Research indicates for healthcare professionals by themselves are not good at identifying their own deficiencies and have limited ability to accurately self-assess; which is why there is an increasing focus on peer review and /or external review of performance.

[34] Formal educational accreditation processes or systems of programmes usually consist of some or all of the following steps; institutional self-evaluation, peer review/external peer review, a site visit, and it can included ongoing monitoring programmes, but it can be expensive.

[35] See appendix 5 and research on effectiveness of types of CE completed by Dr S Lillis for the Medical Council of New Zealand.

[36] As noted in research by Dr Steven Lillis.

Require demonstrations of performance or audits of what is actually done in practice.	The PDGB has considered requiring individual reviews of competence which would review actual practice but this is not able to be "required" within the current legislation. If performed voluntarily it is not likely those "requiring PDGB attention" would be those volunteering to take part. **The PDGB scheme does not meet this principle.**
Incorporate adult learning principles of autonomy, self-direction, goal orientation, and practice-based learning.	The PDGB expects course providers to adopt adult learning techniques when accrediting the providers to deliver CPD – these are set out in the Course Development Guide. **This principle should be met if the Guide is followed.**
Be designed on clear, attainable, and measurable learning outcomes and offer relevant and evidence-based content and post learning assessment.	In accrediting CPD courses the PDGB does review these issues. Course providers are expected to have ways for the learner to evaluate the course and for providers to assess whether the learner's outcomes is achieved or not achieved. However, there have been comments when developing this report that some courses are not as robust as desired- such as the "BBQ courses" product retailers. This could be solved by a more robust and regular accreditation systems but this would be costly. **This principle is partly met.**

5.3 Summary of evaluation of the PDGB scheme against elements used by other similar regulators

As shown in Appendix 2, the PDGB's scheme is well ahead of schemes in many other similar trades overseas including, Australia, Canada and the United Kingdom. In several jurisdictions CPD schemes are still being introduced, are often voluntary and not linked to relicensing.

Table 3 compares the parameters of the PDGB scheme to the best practice elements identified in other jurisdictions schemes as set out in section 4 and Appendix 2. These elements are scheme requirement, allocation of points, delivery options, CPD cycle, evaluation and auditing of compliance.

Table 3 Comparison of elements identified in other schemes to PDGB requirements

Elements	PDGB requirements
Requirements of schemes	
Set minimum CPD requirements to be met in a given time period. Whether the requirements are mandatory or voluntary usually depends on the regulator's ability to require CPD.	PDGB scheme is in line with other schemes in this area. PDGB as a statutory regulator has mandatory CPD. It is unlikely all practitioners would participate at this early implementation stage without this requirement.

Offer a wide range of activities and tailored to suit the different roles and organisational responsibility of all. For self employed practitioners, the business case for justification of CPD is important (i.e. "these groups are not interested in the theoretical conceptualisation but with the business benefit of CPD such as adding value for clients"[37]. Schemes where the professional records their CPD.	PDGB accredit a wide range of courses (over 100 courses across the trades that deliver on the PDGB competencies). In PDGB scheme the practitioners or their employers can select from a range of accredited courses. The PDGB scheme operates differently as the course providers have to provide results from their courses electronically and within one week of completion. This is an efficient way of recording results but it may not emphasise to the trades that CPD is their ongoing duty that allows them to practise. This method also limits personal responsibility for the development of a professional development plan. **Elements partly met.**
Points allocated to CPD activities	
Allocation of CPD points of a certain type. Some points can be allocated to some self learning. The number of points or hours of CPD required. Allocations of points can motivate practitioners to do a certain type of activity.	Courses have to link to the identified competencies and points are pre allocated to the courses via the accreditation process. An individual would not have to extend their learning to new areas. Plumbers, drainlayers and gasfitters do both directed and self-directed activities, with the former selected by the person and the latter is self directed learning. PDGB allocate points per hour and total points required are in line with other trades. Greater allocation of points to certain areas of activity is not used by PDGB. This could be considered if the PDGB wanted the trades to complete a particular course as then PDGB could allocate more points to the desired course. **Elements met**
Delivery mechanisms for CPD	
Delegating delivery of courses to an approved external group. Delegating the schemes to providers accredited by the regulator. This may be to providers who deliver learning programmes.	Delivery of courses is delegated to a range of accredited providers using the PDGB Course Accreditation Booklet. PDGB administrate their own accreditation of courses and review those accredited every two years. This will be time consuming especially with over 100 courses to accredit. Contracting out the all provision and administration of

[37] De Lange, P., Jackling, B; & Basioudis, I. *A framework of Best practice of Continuing Professional Development for the Accounting Profession,* Accounting Education 2013, 22 (50).

Delegating the organisation and administration to another provider. Moving assurance of competency to the employer. Encouraging on-line delivery. Setting and delivering the programme to topics the practitioner view as essential.	CPD may be possible. As many plumbers, drainlayers and gasfitters are either self-employed or work for small employers, passing on the delivery, administration and/or monitoring to employers is not practical. While some of the older members of the trades are not computer literate on-line delivery is used by PDGB and this trend may in time be extended. PDGB could consider delivering courses on specific topics so practitioners learn matters identified as important by the PDGB. **Elements partly met**
Frequency of checking CPD	PDGB assess CPD on an annual cycle which is in line with other groups – however a cycle of 2-3 years may reduce the work load for the PDGB. **Element met**
Measuring the effectiveness of courses or programmes	The PDGB does make it clear in its PDGB guidelines that courses should have participant evaluation and course providers do need a way to assess if participants have achieved the course outcome or not. **Element partly met**
Auditing • Regularity of auditing in other schemes is within 1-5 years • The sample audit size is within 2.5 -15% of practitioners	Auditing of practitioner compliance is not applicable to PDGB as the providers send to the PDGB details of those who have completed their course which is entered into the data base. Non directed learning is taken on trust and only earns a small number of points. As PDG have to gain the required number of points to gain re licensure, compliance is assessed when re licensing takes place and only those that meet the requirements get relicensed. Compliance is improving and most tradespeople who want to relicense are able to do so – even if they have to quickly gain more CPD points. **Not applicable**

6. Options for extension of the PDGB scheme

6.1 Matters for the PDGB to consider in reviewing options

The New Zealand PDGB does deliver on many of the best practice principles and most of the best practice elements of the CPD schemes identified in this Report.

If considering changes to the current CPD scheme, the PDGB needs to be aware that there are costs both for the practitioner who has to take part in a CPD scheme, and for the regulator to manage a CPD scheme, and that on the whole the more complex the scheme the more costly it is.

A "right touch" approach to regulation, promoted by the Health and Care Professions Council which oversees several regulators in the United Kingdom, advises regulators to *consider a risk based approach to regulation and allocate scarce resources where the harm is most likely to occur*[38].

This concept is echoed by those who have noted a Board should make sure that the strategies can be organised into a hierarchy from the most minimally intrusive through to those that are maximally intrusive, with the regulatory preference being for the strategy that elicits compliance with least intrusiveness[39].

In terms of the PDGB, its 2014 Annual Report shows *the main disciplinary offences and thus risk to the PDGB comes from unregistered not incompetent practitioners*. Given this, the PDGB needs to consider how much resource should be allocated to enhancing its CPD scheme.

In addition, as the PDGB scheme has been introduced relatively recently, for some of the trades (and it is understood that most of the trades are now compliant) major changes at this time may not be wise.

Also when considering application of resources, the PDGB needs to be aware that required compliance is more likely for schemes that are:

- Easy for the trades to understand.
- Are reasonable for the trades to achieve.
- Are easy to implement, administrate and audit.

6.2 Other considerations

For some time there has been discussion across the trades covered by the Department of Building and Housing and now by MBIE about whether a change in the organisation of regulation of the trades is desirable.

The model being suggested is that used in New Zealand for the health professions where there is one Act which covers all regulated groups. Currently in health there are separate secretariats and separate Boards but there has been a strong push to move to a single secretariat. The rational for the single Act is that there would be a similar regulatory regime across all health professionals, then there could be a single disciplinary Tribunal at arm's length to the regulator. Furthermore, there could be increased learning and adoption of best practice across the various professions.

If this change is considered likely the PDGB, when assessing the need for changes in its CPD scheme, it needs to be aware it would be advantageous not get too far out of kilter in terms of CPD requirements of the other trades.

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[38] Right touch regulation where there is an evaluation of risk to ensure it is proportionate and outcome focussed, to create a framework where professionalism can flourish and where excellence is the consistent performance of good practice combined with continuous improvement. Harry Cayton of the Professionals Standards Authority for Health and Social Care in the United Kingdom.

[39] Braithwaite, V., *Ten Things You Need To Know About Regulation and Never Wanted to Ask*. 2006. Regulatory Institutions Network, Australian National University.

6.3 Options to consider

Best practice indicates planning and review cycles, including reflection to identify training needs, planning on how to meet set objectives, undergoing training and learning activities, and evaluation of achievements against objectives, are beneficial. However, as most of those in the trade are primarily kinaesthetic learners with a practical approach to learning, best skills development will be done via "hands on courses" rather than self reflection and documented planning and objective setting.

At this early stage of implementing CPD requirements for the PDGB, it is unlikely that the trades are yet ready to move from consideration of increasing knowledge and competence to a review of performance such as applies to medical specialists in New Zealand. Even if this was feasible consideration needs to be given as to whether this is a good allocation of Board resources. An intermediate step towards reviewing performance could be via an assessment of work completed (on the papers) similar to the New Zealand Architects Board. This would allow the Board to review what is actually done – not what the tradesperson knows to do, and the trades could them link future CPD to identified learning needs. This may be easier to apply to gas fitters as opposed to plumbers or drainlayers, who often work as part of the building construction team.

At this stage the Board could consider:

- Extending the range of courses so learning is encouraged across all domains of competence. Areas identified by staff where trades persons could be up skilled include legal matters and compliance, understanding the requirements of being a supervisor and new technical aspects of the work or materials. This may require a change in the competencies as previously the PDGB has been challenged that it is only able to require CPD that is directly linked to the agreed competencies. This would mean identification of a competency similar to that used by the Electrical Workers Registration Board such as "supervision of trainees and employees", or the Licensed Builders Practitioners where competencies expected include areas like "good business practices" which could possibly include communication issues, "workplace safety" and "keeping the public safe from financial and physical harm" which could cover both safety and good business practices.

- The Board should limit continuing education to types of education that have been shown to be effective and where research shows they are strongly associated with positive outcomes. This can be done by strengthening the accreditation of current courses.

- There is a suggestion that some of the courses are not as robust as they could be. Strict application of the PDGB accreditation process and policies should eliminate this concern. That said, it is understood the assessment of courses is primarily based on the paper. Site accreditation of courses would be more robust but also more expensive especially if a formal educational accreditation process was used.

- Developing some courses on matters the PDGB views as important in order to reduce the risk and the disciplinary burden on the PDGB. These courses could even be delivered by PDGB in a manner similar to the Electrical Workers in New Zealand on topics the PDGB has identified as crucial learning. This would have the advantage if the tutors were selected carefully of giving improved

peer review and contact with respected seniors in the trades and it may improve practitioners' relations with the PDGB.

7. Conclusion

In terms of the project scope and focus this Report provides the results of the desktop research, identified best practice principles and elements of CPD schemes, and measures the PDBG schemes against them.

The Report notes that the PDGB scheme does measure up well to schemes in other similar trades but they could be enhanced by:

- Extending the range of courses.
- Limiting continuing education to types of learning activities that have been shown to be effective.
- Stricter application of the PDGB accreditation process and policies.
- Developing some courses on matters the PDGB views as important.

These matters need further consideration including along with a study of the cost benefit of any changes arising.

Appendix 1 Summary of research to identify best practice principles for effective CPD schemes

Separate attachment

Appendix 2 Summary of research to identify best practice elements of schemes that may be relevant to the plumbing, gasfitting and drainlaying industries

Separate attachment

Appendix 3 Forms of CPD

Work based learning	Professional Activity	Formal/educational	Self-directed learning	Other
• Learning by doing • Case studies • Reflective practice • Clinical audit • Coaching from others • Discussions with colleagues • Peer review • Gaining, and learning from, experience • Involvement in wider work of employer (for example, being a representative on a committee) • Work shadowing • Secondments • Job rotation • Journal club • In-service training • Supervising staff or students • Visiting other departments and reporting back • Expanding your role • Analysing significant events • Filling in self-assessment questionnaires • Project work or project management	• Involvement in a professional body • Membership of a specialist interest group • Lecturing or teaching • Mentoring • Being an examiner • Being a tutor • Branch meetings • Organising journal clubs or other specialist groups • Maintaining or developing specialist skills • Being an expert witness • Membership of other professional bodies or groups • Giving presentations at conferences • Organising accredited courses • Supervising research	• Courses • Further education • Research • Attending conferences • Writing articles or papers • Going to seminars • Distance learning • Courses accredited by professional body • Planning or running a course	• Reading journals/articles • Reviewing books or articles • Updating knowledge through the internet or TV • Keeping a file of your progress	• Public service • Voluntary work • Courses

Appendix 4 Research on effectiveness of outcomes of CME activities

Dr Steven Lillis has reviewed current research to assess what CME activities are associated with positive effect (or with no positive effect) in terms of improving performance and/or outcomes.

He notes that a body of research on educational effectiveness has revealed some CME is of marginal value and some CME works well. He notes too that the task of good education is to understand where learning needs exist and meet those needs in the most effective and efficient way. The outcome should be either a positive change in behaviour or better outcomes and preferably the change should be measurable.

Although developed for medicine, the principles behind this research can be extended to other occupations as the principles rely on how and when adults learn. The list below gives the references used to back up Dr Lillis's research. The number in brackets refers to the references in the following list that support these statements.

In summary those types of CPD:

Strongly associated with positive effect include:

Interactive programs between practitioners and educators (3-7)
Comparison between optimal and actual care (3)
Academic detailing (3, 4, 8)
Outreach programs (3, 9)
Providing learners with access to their own data (10)
Teaching integrated with clinical practice (11)
Multifaceted approach to education (4, 6, 8, 9)
Individualised educational initiatives (12)

Moderately associated with a positive effect

Creation of opinion leaders to influence behaviour (3, 8)
Teaching removed from clinical practice audit (8, 9)
Providing educational material (9)
Small group teaching (6, 7)
Single discipline teaching (6)

Weak or no evidence of positive effect

Formal CME meetings or conferences (7-9)
Didactic sessions (5)
Self-assessment of educational needs (13)
Large group teaching and cross-discipline teaching sessions
Self-assessment (13)

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