Appraisal and revalidation - time to assess the evidence

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Appraisal and revalidation - time to assess the evidence

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KEY MESSAGES

- **Appraisal is the product of two determining discourses: regulation and professionalism. It aims to respond to distinct, often competing priorities which require different processes.**
- **There is currently little evidence of appraisal achieving its objectives which range from assuring a doctor's fitness to practise and performance management, to driving personal and professional development whilst providing coaching, mentoring and pastoral care.**
- **The pause of appraisal and revalidation during the pandemic offers an opportunity for clarification of its purpose. This should be followed by research to identify the appropriate intervention tools and outcomes, measurement of intended and unintended consequences, and evaluation of cost-effectiveness.**

Contributors and sources
The authors worked together on the initial manuscript and revisions and all shared in the design, literature review, and drafting of the manuscript. VTB is a GP and an appraiser and has been involved in research on the design and evaluation of complex interventions and their effect on professional behaviour. MM is a GP and honorary fellow of the Centre for

Evidence Based Medicine in Oxford University. CH is Professor of Evidence Based Medicine in Oxford University.

VTB is the guarantor of the article.

Conflicts of Interest

We have read and understood BMJ policy on declaration of interests and have the following interests to declare: VTB is a GP appraiser. MM has previously written of her concerns about appraisal. All have to undergo appraisal as part of revalidation. There are no other potential conflicts of interest.

Licence

Patient and Public Involvement

This analysis did not involve patients or the public in its design or reporting. Any redesign of appraisal and revalidation will need to involve patients and the public as key stakeholders.

Appraisal and revalidation - time to assess the evidence

Introduction

The pause of appraisal and revalidation during the pandemic offers an opportunity for critical thinking on their purpose and cost-effectiveness and for redesign of their processes argue Victoria Tzortziou Brown and colleagues.

The COVID-19 pandemic has resulted in the General Medical Council (GMC) taking a more flexible approach to regulation, with appraisals largely suspended to allow doctors to focus on clinical safety and workload.[1] Preparing for its reinstatement, we argue for the need for clarification of the purpose of appraisal, an evidence-based approach for its implementation and the need for ongoing evaluation.

Medical revalidation and appraisal

Revalidation practices vary widely amongst countries in the absence of a unified agreement surrounding its definition, mechanisms and appropriate design.[2] Some countries have no formal process in place [3] while others heavily rely on evidence of continuing medical education.[2]

The GMC is the first regulator in the world to implement a compulsory and comprehensive revalidation process[4] for over 335,000 doctors on its register.[5] According to the GMC, revalidation "gives your patients confidence that you're up to date".[6] A cost and benefit analysis in 2012 showed that, in England alone, revalidation would cost the NHS nearly £1billion over a ten-year period. [7] The expected benefits included: increased public trust and confidence in doctors, improved patient safety and quality of care, reduced costs of support for underperforming doctors, reduced malpractice and litigation costs, better information about care quality and positive cultural change in the medical profession [8] but there is no evidence these have materialised.

Appraisal is the only route to revalidation and must contain supporting information under six defined categories: continuing professional development, quality improvement activity, significant events, feedback from patients and colleagues, and complaints and compliments.[9] Most doctors (97%) revalidate through annual appraisals and a five-yearly recommendation to the GMC from their responsible officer, based on the outputs from their appraisals. [9]

There is an ongoing tension on whether the mode of revalidation and its key component, appraisal, should be summative (a pass/fail test against a defined standard), or formative (a

flexible, informative exchange of information). [10, 11, 12] This tension results from unclear articulation of what problem appraisal is trying to solve whilst responding to numerous stakeholders with competing priorities.[13]

The current roles of appraisal appear to include a combination of assuring a doctor`s fitness to practise, performance management, driving personal and professional development and providing coaching, mentoring, pastoral care and support. This panoply of undertakings means appraisal has become a mini industry, with numerous personnel planning, overseeing, recording, or performing appraisal, and commercial and membership organisations offering tools to complete it. In the absence of a clear and consistent aim of appraisal, we evaluate each of these purported purposes.

Appraisal and assurance of fitness to practice

The White Paper on medical regulation[14] proposed that appraisal should remain central to the revalidation process with a greater emphasis on the summative aspects 'which confirm that a doctor has objectively met the standards expected'. However, there is no relevant research and evidence on what tools, data and processes can objectively demonstrate that doctors meet these minimum expected standards.

The Medical Board of Australia dropped the term 'revalidation' and instead developed a "Professional performance framework" which proactively identifies doctors at risk of performing poorly and includes strengthened assessment and management of medical practitioners with multiple substantiated complaints.[15]

The existing appraisal process in the UK has a strong focus on collecting, recording and reflecting on supporting information. However, written reflection is not necessarily translated into ongoing reflective practice[16] and there is no robust evidence to show that appraisal improves safety, patient outcomes or gives patients confidence in doctors.[17] In fact, the existing process is often seen by doctors as onerous and bureaucratic.[18] Accordingly, appraisal and revalidation were largely suspended during the COVID-19 pandemic "to free up capacity to maintain essential care".[19] Additionally, retired doctors were automatically re-registered with the GMC and told they did not have to engage with revalidation.[20]

Appraisal and performance management

Another summative role of appraisal, especially in hospital settings, is performance management. According to NHS England's Revalidation Support Team, medical appraisals

may be used to ensure doctors are working in line with the priorities and requirements of the organisation in which they practise.[21]

The Review Body on Doctors' and Dentists' Remuneration has gone further by recommending linking pay progression to achievement of excellence as assessed at appraisal.[22] However, the incorporation of job planning, performance reviews and pay progression within the appraisal process introduces inherent conflicts of interests and challenges around appraisal confidentiality.[13] In addition, doctors are sometimes asked to include evidence of mandatory training within appraisal documentation, an organisational but not GMC requirement, which adds to the confusion and conflict.[23] Further, the role of the responsible officer is often held by a senior clinician within the organisation which presents a potential conflict, as the appraisee may want to raise contractual, safety or management concerns.

Performance management is poorly underpinned by evidence.[24] A rapid evidence assessment [25] by the Chartered Institute of Personnel and Development showed that while appraisal can contribute towards performance, there is considerable variation and often it has no effect or even worsens performance. The review found that employees' reactions to appraisals are especially influential, in particular whether they feel that appraisal judgements are fair and useful. The review suggested that performance management should be a continuous chain of connected activities, not a discrete process that is occasionally revisited and recommended separating developmental performance issues from administrative ones, as they involve different types of professional behaviour. [25]

Appraisal, learning and professional development

A formative element of appraisal is continuous professional development (CPD). Appraisal is meant to help doctors identify, reflect on and plan to address their educational needs.[26] However, reliance on formal annual assessment of learning needs risks turning learning from a reflexive and responsive process into a narrow and fixed one.[27]

There is little causal evidence to demonstrate a link between appraisal process and improvement in practice.[28] A systematic review of multi-source feedback found limited evidence of variable quality for its' influence over professional behaviour.[29] A 2014 NHS Revalidation Support Team report summarizing research on the impact of medical revalidation [30] found that only a quarter of doctors reported they changed their clinical practice as a result of their last appraisal. According to a cross sectional GP survey, less than half reported that appraisal enhanced learning or improved practice, and just over half

said that it encouraged CPD.[28] Findings are often based on self-reported, subjective assessments on the impact of appraisal and results can vary widely. For example, feedback in 2019 using the NHS England Medical Appraisal Policy questionnaire, found that 91% of doctors agreed that appraisal was useful for promoting quality improvement [31] but only 34% responded 'yes' to this question in the 2017 Royal College of General Practitioners` survey. [31]

Appraisal provides a means to document practice but may not necessarily improve it and some doctors identify potentially negative impacts on practice and professional autonomy.[16] According to a survey of over 1000 UK GPs and trainees in 2017 "70% stated that summative, written reflection is a time-consuming, box-ticking exercise which distracts from other learning." [18] Another study reiterated the perception of a tick-box process which creates the impression of accountability [32] and added that doubt about the value of appraisal, or lack of trust, mean the process is more likely to be regarded as purely procedural.

Appraisal and professional coaching/mentoring

Appraisal may go beyond identifying learning needs and agreeing CPD plans. It is sometimes seen as an opportunity for medical professionals to reflect on their careers, consider their aspirations and develop their potential. Thus, appraisal may adopt elements of career coaching and mentoring. However, these rely on the development of a trusting relationship over time rather than during a single annual encounter and both depend on confidentiality, an unconditional positive regard for the client and a non-judgmental approach.[33] Most organised mentoring schemes attempt matching of mentees with mentors.[34] Such conditions are not possible in the existing appraisal process and therefore, although coaching and mentoring are increasingly being advocated within the NHS and the GMC Good Medical Practice guidelines, such interventions are likely to be more effective outside the appraisal process.

Appraisal, life coaching and wellbeing

A relatively new appraisal role is life coaching, which explores issues such as work-life balance, 'wellbeing' and pastoral care.[31, 35] The GMC`s report Caring for doctors Caring for patients [36] recognises that organisations which prioritise staff wellbeing provide better quality of care, see higher levels of patient satisfaction, and retain more of their workforce. The GMC has committed to working with relevant stakeholders towards improving doctors' working lives. However, it is unclear how appraisal can meaningfully contribute towards wellbeing.

The appraisee is expected to use their own judgement when making health declarations. If a health concern is identified during an appraisal, the matter is addressed within other processes, for example by an Occupational Health assessment, and not within a performance framework. [37] In addition, as the Academy of Medical Royal Colleges advised, a once a year intervention is not the right form of support. [38] Furthermore, a qualitative study showed that if appraisal data are used as evidence for revalidation, it can inhibit doctors from openly exploring difficulties or limitations.[39]

The evidence base for interventions aiming to identify and prevent mental health conditions among healthcare professionals is limited. [40] The NHS Staff and Learners' Mental Wellbeing Commission recommended a coordinated approach to promote staff wellbeing including suitable, safe and confidential work spaces where staff can socialise, share and discuss experiences, as well as quick access to proactive occupational health, emotional and psychological support services. [41]

Not only appraisal may not be the most effective tool for identifying and addressing health needs, but some appraisees perceive the process as unhelpful, time consuming and of low value [18, 42] with some evidence showing appraisal and revalidation having a negative impact on morale and burnout and contributing to GPs and consultants leaving the profession.[43, 44] It has been argued that this may be due to their inflexibility and time-consuming nature and that women aged between 30 and 39 are disproportionately affected. [45]

Redesigning appraisal

Medical Research Council guidance [46] on developing and evaluating complex interventions emphasizes the need for clarity of purpose. The draft updated guidance [47] recommends understanding problems in order to propose informed solutions, identifying existing evidence, involving relevant stakeholders, and developing programme theory describing how an intervention is expected to lead to effects and under what conditions, while choosing from the outset the outcome measures required to evidence change.

Appraisal is the product of two determining discourses: regulation and professionalism. These are the result of different drivers, with different aims that require different processes.[10] Despite the at scale mobilisation and engagement of most doctors on the register, the enthusiasm and hard work of appraisers and responsible officers and the efforts to understand its impact and improve its processes,[48] there is currently little objective evidence of appraisal achieving its distinct and often incompatible objectives, the number of which

seems to compromise the integrity, quality and efficiency of the appraisal process and confuses stakeholders.[13]

The pause of appraisal and revalidation during the pandemic offers a unique opportunity for critical thinking and reflection. A study considering the international evidence base for revalidation, identified six key principles that should underpin its effective implementation, development, and evaluation: clarity of purpose, facilitation, consideration of target groups, resource provision, multi-dimensional, interactive and quality controlled approach and patients/public involvement. [49] Clarity of purpose is the most fundamental [50] and should be followed by a process of researching the best way of addressing it, with a firm grasp of the opportunities and limitations of big data and the potential for unintended consequences. Such an approach would enable a clearer distinction between regulation and the other roles of appraisal which could sit outside a GMC mandated system. Cost-effectiveness evaluation should be incorporated in any redesign. New models of appraisal should not be started without these features.

References

1. Changes made to revalidation in response to the coronavirus (COVID-19) pandemic [Internet]. Gmc-uk.org. 2020 [cited 15 June 2020]. Available from: https://www.gmc-uk.org/registration-and-licensing/managing-your-registration/revalidation/changes-made-to-revalidation-in-response-to-the-coronavirus-COVID-19-pandemic
2. Archer J, Pitt R, Nunn S, Regan De Bere S. The evidence and options for medical revalidation in the Australian context Final Report [Internet]. Medicalboard.gov.au. 2015 [cited 6 July 2020]. Available from: https://www.medicalboard.gov.au/News/Past-Consultations/Consultations-August-2016.aspx
3. De Vries H, Sanderson P, Janta B, Rabinovich L, Archontakis F, Ismail S et al. International Comparison of Ten Medical Regulatory Systems [Internet]. Gmc-uk.org. 2009 [cited 6 July 2020]. Available from: https://www.gmc-uk.org/-/media/gmc-site images/about/internationalcomparisonoftenmedicalregulatorysystemsfinalreportpdf 25404378.pdf?la=en&hash=73D6FE0A6D1D833D73550874895F923B9FFDB230
4. Revalidation gets its own appraisal [Internet]. Improving medical education and practice across the UK. 2014 [cited 15 June 2020]. Available from: https://gmcuk.wordpress.com/2014/03/05/revalidation-gets-its-own-appraisal/
5. The medical register [Internet]. Gmc-uk.org. 2020 [cited 15 June 2020]. Available from: https://www.gmc-uk.org/registration-and-licensing/the-medical-register
6. Revalidation [Internet]. Gmc-uk.org. 2020 [cited 15 June 2020]. Available from: https://www.gmc-uk.org/registration-and-licensing/managing-your-registration/revalidation
7. White C. Revalidation will cost nearly £100m a year. BMJ. 2012;:e7659

8. Revalidation to cost £1bn over a decade but benefits 'hard to predict' | GPonline [Internet]. Gponline.com. 2012 [cited 15 June 2020]. Available from: https://www.gponline.com/revalidation-cost-1bn-decade-benefits-hard-predict/article/1158490
9. Revalidation guidance for doctors [Internet]. Gmc-uk.org. 2019 [cited 15 June 2020]. Available from: https://www.gmc-uk.org/-/media/documents/revalidation-guidance-for-doctors_pdf-54232703.pdf
10. Archer J, Regan de Bere S, Nunn S, Clark J, Corrigan O. "No One Has Yet Properly Articulated What We Are Trying to Achieve". Academic Medicine. 2015;90(1):88-93.
11. Brennan N, Bryce M, Pearson M, Wong G, Cooper C, Archer J. Understanding how appraisal of doctors produces its effects: a realist review protocol. BMJ Open. 2014;4(6):e005466-e005466.
12. Irvine D. Good doctors: safer patients--the Chief Medical Officer's prescription for regulating doctors. Journal of the Royal Society of Medicine. 2006;99(9):430-432.
13. Khisty N. Appraising appraisal. BMJ. 2016;:i4248.
14. Trust, Assurance and Safety – The Regulation of Health Professionals in the 21st Century [Internet]. Assets.publishing.service.gov.uk. 2007 [cited 15 June 2020]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/228847/7013.pdf
15. Medical Board of Australia - Professional Performance Framework [Internet]. Medicalboard.gov.au. 2018 [cited 6 July 2020]. Available from: https://www.medicalboard.gov.au/Registration/Professional-Performance-Framework.aspx
16. Evaluating the regulatory impact of medical revalidation [Internet]. Gmc-uk.org. 2018 [cited 15 June 2020]. Available from: https://www.gmc-uk.org/-/media/documents/umbrella-report-final_pdf-74454378.pdf
17. Archer J, Regan De Bere S, Brennan N, Lynn N. Evaluating the strategic impact of medical revalidation Building an evaluation framework [Internet]. Gmc-uk.org. 2013 [cited 15 June 2020]. Available from: https://www.gmc-uk.org/-/media/gmc-site-images/about/evaluatingthestrategicimpactofmedicalrevalidationpdf55293756.pdf?la=en&hash=B33C4D13B70465DFE6AD3F3386A1F2E53CE50F8F
18. Curtis P, Taylor G, Riley R, Pelly T, Harris M. Written reflection in assessment and appraisal: GP and GP trainee views. Education for Primary Care. 2017;28(3):141-149.
19. Correspondence to all Responsible Officers and Medical Directors in England [Internet]. England.nhs.uk. 2020 [cited 15 June 2020]. Available from: https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/letter-from-prof-powis-to-ros-and-mds-19-march-2020.pdf
20. About your registration and licence to practise [Internet]. Gmc-uk.org. 2020 [cited 15 June 2020]. Available from: https://www.gmc-uk.org/registration-and-licensing/temporary-registration/information-for-doctors-granted-temporary-registration/about-your-registration-and-licence-to-practise
21. Medical Appraisal Guide A guide to medical appraisal for revalidation in England [Internet]. England.nhs.uk. 2013 [cited 15 June 2020]. Available from:

https://www.england.nhs.uk/revalidation/wp-content/uploads/sites/10/2014/02/rst-medical-app-guide-2013.pdf

22. Contract reform for consultants and doctors and dentists in training – supporting healthcare services seven days a week [Internet]. GOV.UK. 2015 [cited 15 June 2020]. Available from: https://www.gov.uk/government/publications/contract-reform-for-consultants-and-doctors-and-dentists-in-training-supporting-healthcare-services-seven-days-a-week
23. Mythbusters: Appraisal and revalidation [Internet]. Aomrc.org.uk. 2018 [cited 15 June 2020]. Available from: https://www.aomrc.org.uk/wp-content/uploads/2018/04/Revalidation-Mythbusters-April-2018-1.pdf
24. 5.2 The evolution of performance appraisal [Internet]. Le.ac.uk. [cited 15 June 2020]. Available from: https://www.le.ac.uk/oerresources/psychology/individualsatwork/unit5/page_03.htm
25. Gifford J. Research report. Could do better? Assessing what works in performance management [Internet]. Cipd.co.uk. 2016 [cited 15 June 2020]. Available from: https://www.cipd.co.uk/Images/could-do-better_2016-assessing-what-works-in-performance-management_tcm18-16874.pdf
26. Oxley J. Appraising doctors and dentists in training. BMJ. 1997;315(7116):2-2.
27. Grant J. Learning needs assessment: assessing the need. BMJ. 2002;324(7330):156-159.
28. Finlay K, McLaren S. Does appraisal enhance learning, improve practice and encourage continuing professional development? A survey of general practitioners' experiences of appraisal. Quality in Primary Care [Internet]. 2009 [cited 15 June 2020];17:387–95. Available from: https://primarycare.imedpub.com/does-appraisal-enhance-learning-improve-practice-and-encourage-continuing-professional-development-a-survey-of-general-practitioners-experiences-of-appraisal.pdf
29. Ferguson J, Wakeling J, Bowie P. Factors influencing the effectiveness of multisource feedback in improving the professional practice of medical doctors: a systematic review. BMC Medical Education. 2014;14(1).
30. Critchley R, Ader P, Godden G, Ball K. The Early Benefits and Impact of Medical Revalidation: Report on research findings in year one [Internet]. England.nhs.uk. 2014 [cited 15 June 2020]. Available from: https://www.england.nhs.uk/revalidation/wp-content/uploads/sites/10/2014/03/earl-ben-impact-mr-report.pdf
31. Cockman P. Medical appraisal: Feedback from GPs in 2018-19 [Internet]. England.nhs.uk. 2019 [cited 15 June 2020]. Available from: https://www.england.nhs.uk/wp-content/uploads/2019/07/medical-appraisal-feedback-from-gps-18-19-v1.1.pdf
32. McGivern G, Ferlie E. Playing tick-box games: Interrelating defences in professional appraisal. Human Relations. 2007;60(9):1361-1385
33. Gibbons A. Mentoring definitions [Internet]. Coachingnetwork.org.uk. [cited 15 June 2020]. Available from: http://www.coachingnetwork.org.uk/information-portal/articles/ViewArticle.asp?artId=54
34. Recruiting and matching mentors and mentees : Guidance for mentoring scheme coordinators : Organisational Development : Schools and services : University of Sussex [Internet]. Sussex.ac.uk. [cited 15 June 2020]. Available from: https://www.sussex.ac.uk/organisational-development/mentoring/guidance-for-coordinators/mentors-and-mentees

35. NHS England » ROAN information sheet 27: Keeping appraisal submissions proportionate [Internet]. England.nhs.uk. 2019 [cited 6 July 2020]. Available from: https://www.england.nhs.uk/medical-revalidation/ro/info-docs/roan-information-sheets/keeping-appraisal-submissions-proportionate/
36. West M, Coia D. Caring for doctors Caring for patients: How to transform UK healthcare environments to support doctors and medical students to care for patients [Internet]. Gmc-uk.org. 2019 [cited 15 June 2020]. Available from: https://www.gmc-uk.org/-/media/documents/caring-for-doctors-caring-for-patients_pdf-80706341.pdf?la=en&hash=F80FFD44FE517E62DBB28C308400B9D133726450
37. Conlon M, Kirk J. A practical guide for responding to concerns about medical practice [Internet]. England.nhs.uk. 2019 [cited 15 June 2020]. Available from: https://www.england.nhs.uk/wp-content/uploads/2019/03/practical-guide-for-responding-to-concerns-about-medical-practice-v1.pdf
38. Appraisal & Revalidation during COVID-19 - Academy of Medical Royal Colleges [Internet]. Academy of Medical Royal Colleges. 2020 [cited 6 July 2020]. Available from: https://www.aomrc.org.uk/revalidation-cpd/appraisal-revalidation-during-COVID-19/
39. Hill J, Asprey A, Richards S, Campbell J. Multisource feedback questionnaires in appraisal and for revalidation: a qualitative study in UK general practice. British Journal of General Practice. 2012;62(598):e314-e321
40. Harvey S, Laird B, Henderson M, Hotopf M. The Mental Health of Health Care Professionals. A review for the Department of Health [Internet]. Champspublichealth.com. 2009 [cited 6 July 2020]. Available from: http://www.champspublichealth.com/writedir/8265The%20Mental%20Health%20of%20Health%20Care%20Professionals%20-%20A%20Review%20by%20the%20DH%20(June%202009).pdf
41. NHS Staff and Learners' Mental Wellbeing Commission [Internet]. Hee.nhs.uk. 2019 [cited 6 July 2020]. Available from: https://www.hee.nhs.uk/sites/default/files/documents/NHS%20%28HEE%29%20-%20Mental%20Wellbeing%20Commission%20Report.pdf
42. Riley R, Spiers J, Buszewicz M, Taylor A, Thornton G, Chew-Graham C. What are the sources of stress and distress for general practitioners working in England? A qualitative study. BMJ Open. 2017;8(1):e017361
43. Dale J, Potter R, Owen K, Leach J. The general practitioner workforce crisis in England: a qualitative study of how appraisal and revalidation are contributing to intentions to leave practice. BMC Family Practice. 2016;17(1).
44. Archer J, Bloor K, Bojke C, Boyd A, Bryce M, Ferguson J et al. Evaluating the development of medical revalidation in England and its impact on organisational performance and medical practice: overview report [Internet]. Alliancembs.manchester.ac.uk. 2018 [cited 15 June 2020]. Available from: https://www.alliancembs.manchester.ac.uk/research/health/Portals/0/Docs/development-impact-medical-revalidation-report.pdf
45. Collins A. Is revalidation pushing doctors out of the profession?. BMJ. 2016;:i5630.
46. Craig P, Dieppe P, Macintyre S, Michie S, Nazareth I, Petticrew M. Developing and evaluating complex interventions: Following considerable development in the field since 2006, MRC and NIHR have jointly commissioned an update of this guidance

to be published in 2019 [Internet]. Mrc.ukri.org. 2006 [cited 15 June 2020]. Available from: https://mrc.ukri.org/documents/pdf/complex-interventions-guidance/

47. Craig P, Matthews L, Moore L, Simpson S, Skivington K. Developing and Evaluating Complex Interventions Draft of updated guidance [Internet]. Sphsu.gla.ac.uk. 2019 [cited 15 June 2020]. Available from: https://www.sphsu.gla.ac.uk/stakeholder-survey-2019/Full%20complex%20guidance%20draft%20for%20consultation%20v1.1%2026.03.19.pdf

48. Regulation [Internet]. University of Plymouth. [cited 15 June 2020]. Available from: https://www.plymouth.ac.uk/research/camera/regulation

49. Archer J, Pitt R, Nunn S, Regan De Bere S. The evidence and options for medical revalidation in the Australian context Final Report [Internet]. Medicalboard.gov.au. 2015 [cited 6 July 2020]. Available from: https://www.medicalboard.gov.au/News/Past-Consultations/Consultations-August-2016.aspx

50. Van Zwanenberg T. Revalidation: the purpose needs to be clear. BMJ. 2004;328(7441):684-686

Appendix 1: The history of appraisal and revalidation

Year	Key events
1975	**Merrison committee report (Inquiry into the Regulation of the Medical Profession)** On re-licensure the report mentions that "continued registration should not depend on continued participation in education, but the GMC should encourage the development of continued participation in education" and proposes annual certification requiring doctors to make a declaration of their continued fitness to practise.[1]
1998	**Bristol paediatric heart surgery scandal:** At the Bristol Royal Infirmary, babies died at high rates after cardiac surgery. **Sir Donald Irvine-Bristol paediatric heart surgery enquiry:** There is a growing awareness of a "'clear public expectation that medical regulation should include measures to assure patients that consultants, and general practitioners, continue to perform effectively throughout their working lives.' [2]
1999	**GMC proposes revalidation as necessary to practise** Panel of senior doctors and lay people proposed to judge doctors against criteria with a non-confidential appraisal document folder. "Revalidation will be a proactive, inclusive programme, designed to demonstrate that the performance of doctors is acceptable. It will apply to all doctors on the register, be conducted locally by peers and lay people, be monitored nationally by the GMC, and must be implemented with a 'light touch' if it is to succeed" [3]
2000	**English GP, Harold Shipman,** found guilty of the murder of fifteen patients under his care, with his total number of victims approximately 250. GMC produces the **Principles of Revalidation** Consultation Paper, the first proposal of a formal process of Revalidation, followed by **Revalidating Doctors: Ensuring Standards, Securing the Future**. [1] GMC claims revalidation would improve doctors` weaknesses, improve patient confidence, and benefit employers by ensuring employees were fit to practise by identifying and correcting poor performance.[2]
2001	**Bristol paediatric heart surgery enquiry** published revealing shortages of key surgeons and nurses, and a lack of leadership, accountability, and teamwork. **GMC performs 'mock revalidation pilot'**: Results showed that doctors had little difficulty in assembling their folders, and for some, the exercise took just 30 minutes to complete. In the case of hospital physicians, only 36% were recommended for revalidation and further information was requested on the remaining 64%. General practitioners managed to provide more information, with 86% recommended for revalidation.[4] Cost estimated at £9-14 million annually and the annual full time equivalent of 204 doctors.[2]
2001-2002	**Medical appraisal** becomes a requirement for consultants in 2001 and for general practitioners (GPs) in 2002. [5] Medical appraisal is defined as a process of facilitated self-review supported by information gathered from the full scope of a doctor's work [6] and is not designed as an assessment of competence.
2002	**Medical Act** changed: Revalidation is now legally defined as "an evaluation of a medical practitioner`s fitness to practise." [7] **Second GMC pilot:** Evidence gathered by doctors would have allowed revalidation decision to be positively made 69% of time. [2]

2003	GMC employ management consultants SHM Productions Ltd (SHM): Found little agreement amongst doctors on what revalidation could achieve [2]
2005	**Shipman enquiry:** Dame Janet Smith: "In my view, revalidation could make a major contribution to the identification of incompetent and poorly performing doctors and thus to patient safety…present proposals for the revalidation of GPs do not provide an evaluation of fitness to practise and cannot achieve this important objective." Recommended summative knowledge test, video consultations, clinical audit, patient satisfaction questionnaires, and significant events. "Would it be possible for 'another Shipman' to be detected by clinical governance activities, as they might be expected to operate in the foreseeable future? I think that is a real possibility." "Almost impossible to assess benefits in terms of a cost benefit equation but recommended summative evaluation of each doctor`s fitness to practise". [2]
2010	**GMC Statement of Intent:** "The purpose of revalidation is to assure patients and the public, employers and other healthcare professionals that licensed doctors are up to date and fit to practise." [8]
2012	**Revalidation is introduced** Revalidation by the GMC begins and is based on a doctor's participation in five annual appraisals. The responsible officer (RO) makes a recommendation for revalidation using the appraisal output summaries. The appraiser is asked to confirm that no information has been presented for discussion in the appraisal that raises a concern about the doctor's fitness to practise. [8] "Appraisal is not the forum for the organisation to address specific clinical governance or performance issues." [8]
2017	**Pearson review** Recommended the GMC should "Identify a range of measures by which to track the impact of revalidation on patient care and safety over time" and health boards should "challenge their organisations as to how revalidation is helping to improve safety and increase assurance for patients". Purpose of revalidation is defined as "a safety and quality system aimed at assuring the public that doctors are up to date and fit to practise in the UK, whilst also reinforcing the professional standing of a doctor." [9]
2018	**Umbrella review of revalidation** Notes higher deferral rates in female, younger, and black and minority doctors. Found that some doctors identified negative associations of appraisal and "may not necessarily improve professional practice'. Noted no fall in fitness to practise referrals, and that "part of the challenge of evidencing this from our data is the lack of clarity over the purpose of revalidation" [10]
2019	**GMC appeal Medical Practitioners Tribunal decision on Dr Bawa Garba** Doctors` reflections (such as that in appraisal documents) are "potentially disclosable to courts, tribunals, and coroners" [11,12]

1. Archer J, Regan De Bere S, Nunn S, Clark J, Corrigan O. [Internet]. Plymouth.ac.uk. 2012 [cited 19 June 2020]. Available from: https://www.plymouth.ac.uk/uploads/production/document/path/1/1947/Stage-One-Report.pdf
2. The Shipman Inquiry - Fifth Report - CHAPTER TWENTY-SIX - Revalidation [Internet]. Webarchive.nationalarchives.gov.uk. [cited 15 June 2020]. Available from: https://webarchive.nationalarchives.gov.uk/20090808163837/http://www.the-shipman-inquiry.org.uk/5r_page.asp

3. Southgate L, Pringle M. Revalidation: Revalidation in the United Kingdom: general principles based on experience in general practice. BMJ. 1999;319(7218):1180-1183
4. Kmietowicz Z. GMC revalidation scheme passes first hurdle. BMJ. 2001;322(7297):1267-1267.
5. Medical Appraisal Policy Policy for the appraisal of licensed medical practitioners who have a prescribed connection to NHS England [Internet]. England.nhs.uk. 2015 [cited 15 June 2020]. Available from: https://www.england.nhs.uk/revalidation/wp-content/uploads/sites/10/2015/05/medical-appraisal-policy-0415.pdf
6. NHS England » Appraisal [Internet]. England.nhs.uk. [cited 15 June 2020]. Available from: https://www.england.nhs.uk/medical-revalidation/appraisers/
7. Medical Act 1983 [Internet]. Legislation.gov.uk. 1983 [cited 19 June 2020]. Available from: http://www.legislation.gov.uk/ukpga/1983/54/section/29A
8. Medical Appraisal Guide A guide to medical appraisal for revalidation in England [Internet]. England.nhs.uk. 2013 [cited 15 June 2020]. Available from: https://www.england.nhs.uk/revalidation/wp-content/uploads/sites/10/2014/02/rst-medical-app-guide-2013.pdf
9. Taking revalidation forward Sir Keith Pearson's review of medical revalidation. Improving the process of relicensing for doctors [Internet]. Gmc-uk.org. 2017 [cited 15 June 2020]. Available from: https://www.gmc-uk.org/-/media/documents/Taking_revalidation_forward___Improving_the_process_of_relicensing_for_doctors.pdf_68683704.pdf
10. Evaluating the regulatory impact of medical revalidation [Internet]. Gmc-uk.org. 2018 [cited 15 June 2020]. Available from: https://www.gmc-uk.org/-/media/documents/umbrella-report-final_pdf-74454378.pdf
11. Dyer C, Cohen D. How should doctors use e-portfolios in the wake of the Bawa-Garba case? BMJ. 2018; k572.
12. NHS England » ROAN information sheet 8: Confidentiality of reflections for appraisal [Internet]. England.nhs.uk. 2017 [cited 15 June 2020]. Available from: https://www.england.nhs.uk/medical-revalidation/ro/info-docs/roan-information-sheets/confidentiality-of-reflections-for-appraisal/