



Tips to Support the Recruitment, Retention, and Progression of Clinical Academics

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Abstract

Training to become a clinical academic is a long and arduous process with many obstacles. Many potential candidates fall by the wayside both during and following completion of the combined clinical and academic training pathway with negative implications for clinical and translational research and teaching. Findings from a recent national multi-funder study, alongside clinical academic experiences and current literature, have led to the creation of this 12-tip paper. The tips are targeted at supervisors and employers of clinical academics, aiming to improve recruitment, experiences, retention, and progression through the career path.

Keywords Clinical academics · Mentorship · Qualitative · Medical education · Gender · Careers

Introduction

A clinical academic (CA) is a clinician who is professionally trained, registered, and typically actively practising, whilst at the same time employed to conduct research and/or teaching. Other countries may use different terms for clinicians who conduct research alongside their clinical role, such as physician-scientist; however, this paper will stick to the term CA. Within this paper, when we speak of the CA career pathway, we refer to the programmes of support offered to individuals to gain research experience as part of their clinical training.

The CA career pathway, despite being a difficult path to navigate, is a rewarding one. Although being a CA and having CAs on academic faculty and clinical staff is perceived to be prestigious, the CA career trajectory itself is often described using the metaphor of a ‘leaky pipeline’. Maintaining a CA career is difficult, and many people (water) are lost along the career trajectory (pipeline).

CAs are lost from the pipeline due to a plethora of reasons, including burnout from having to serve two often unsympathetic masters [1, 2], the lure of a purely clinical

career, and financial reasons. For example, the success rate for postdoctoral fellowships in the UK is currently only around 10% [3]. It is likely that many potential candidates, especially in the absence of robust and effective mentoring and support, may not even apply for such funding, given the unfavourable odds of success. Within medicine and dentistry, there are also inequalities for certain groups following a CA career. For example, women and Black Asian Minority Ethnic (BAME) individuals are the least likely to progress [4]. The well-documented decline in the clinical academic workforce is likely to continue if strategies to support clinical academics are not identified and urgently implemented [5].

Following research and first-hand experience in the fields of workforce development, gender inequality, and widening access, the authors were prompted to develop the following 12 tips. Alongside the existing literature, this paper draws on findings from primary qualitative data collected in a multi-phasic study (this being only one element from a large multi-funder research study evaluating barriers and enablers to clinical academic training in the UK [2]). The tips have largely originated from the narratives from in excess of 130 CA participants, utilising semi-structured interviews and audio and written diary entries.

Despite the primary research taking place within the UK, these findings intend to inform the way in which the CA career path is managed across many other countries. The same lack of support and barriers found in this research

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have been highlighted for a long time in countries such as America [6]. It is clear that the same need is there, with the hope that we can develop initiatives to support the careers and retention of CAs [7].

The 12 tips are intended to provide guidance for employers and those who are in positions to support CAs along their career pathway, for instance, academic institutions and clinical workplaces (e.g. educational and research supervisors). Relevant stakeholders have been highlighted where appropriate for specific tips. Tips are presented in a chronological order for the journey of a CA through the career pipeline.

Tip 1: Define a ‘Clinical Academic’ and Raise Awareness of their Value and Responsibilities

The first issue many aspiring or current CAs face is a lack of identity and awareness of the field. Clinical academia is ill-defined and misunderstood [2]. In order to recruit and retain CAs, their remit, role, and skills should be more clearly defined, publicised, appreciated, and promoted. This problem is exacerbated by the lack of formalised routes available to CAs [2]. CAs are often considered to be solely practising doctors, yet individuals can come from wide-ranging academic and practitioner backgrounds. Such diversity is potentially advantageous and provides an adaptive workforce. Yet many disciplines have relatively few CAs, for example physiotherapy, and therefore the evidence base reflects this and suffers as a result.

Many CAs often feel less valued and inferior in comparison to their clinical non-academic colleagues because of the poorly defined boundaries of clinical academia. Despite undertaking excellent research and providing high-quality care and inspirational teaching, many CAs report feeling insecure, anxious, and simply not ‘good enough’ [2]. Even for those at the pinnacle of their career, ‘imposter syndrome’ appears to hold back progression [8] and impacts on their feelings of self-worth and image. This anxiety is likely to be exacerbated by the never-ending need for CAs to achieve by publishing and winning prestigious grants [2].

A lack of understanding concerning the role and responsibilities of CAs also has implications on a practical level. For example, when clinical shift allocations and hidden associated work (such as ward rounds and clinical administration) are timetabled, that then impacts on planned academic working hours. This lack of clarity about CA identity may also give rise to an unwarranted perception that CAs are not pulling their weight in either the clinical or academic environment with resultant hostility from non-CA colleagues.

To address this issue, CA mentors and supervisors, as well as clinical and academic organisations, must ensure CA identity is better promoted, considered, and celebrated. This might be achieved through workshops, presentations,

events, networks, or more online approaches. It is important to remember that in all their work arenas CAs are role models and can act to promote clinical academia and influence awareness.

Tip 2: Providing Early Exposure to Research and Inspiring Role Models, Especially During Undergraduate Training, is Crucial for Supplying the CA Pipeline

Data has shown that the major motivation to drive the selection and pursuit of a career in clinical academia stems from early exposure to research and inspiring role models [2]. In the UK, this has tended to be achieved through opportunities to undertake an independent study component or formal intercalation during professional degree programmes [2, 9]. Bachelor’s and master’s degrees and even PhDs are offered and valued by students. Feedback suggests that the sense of enjoyment over time seems to be the major driver to pursue opportunities associated within clinical academia.

Owing to the additional financial burden, this strategy may not be achievable for all of those interested without funding. This in itself must be addressed to reduce inequalities in access and ensure diversity in both the workforce and research. Whilst relatively common in undergraduate medicine, intercalating seems to be less common in dentistry and unheard of in other allied health professions. Intercalation, whilst costly, is potentially inspirational and affords grassroots exposure to research environments, which would not normally be experienced during undergraduate study or early years of professional careers [2]. Institutions must promote and support intercalation where possible, providing incentives to potential CAs.

Tip 3: Employers Must Work Cooperatively to Ensure CAs are Able to Fulfil Both Roles to their Maximum

An analogy of ‘riding two horses’ was used by participants to describe the challenge of being in two environments simultaneously and being frequently pulled in opposite directions. The real risk is that clinical work demands overwhelm the perceived less urgent academic work which suffers as a result. Some of the challenges related specifically to competing demands and priorities; conflicting work schedules; sub-optimal contracts (including pensions, annual leave, and benefits); unrealistic workload expectations and allocations; duplication of effort; tacit messaging (including observing burnout and fatigue in CA colleagues); and consequential identity crises and mental health issues.

Academic and clinical employers need to fully understand the additional demands associated with the CA role and must be sympathetic to both workloads. A resulting duplication of effort with respect to replicated activities in the clinical and academic environments is repeatedly quoted as a barrier. For many, there is a lack of clear processes within their roles, particularly concerning appraisal and revalidation. A streamlined process now needs to be sought. Perhaps line manager and administrative staff training and the way in which work schedules are drawn up can be amended to ensure this happens. Increased well-being support and system changes must take place.

Tip 4: Healthcare Providers and Academic Institutions Must Work Together to Create a Supportive Culture

Working within a supportive culture, in both clinical and academic settings, is imperative. Academically, there are many expectations, roles, and tasks required of CAs for which explicit training is often neglected. Creation of a supportive culture and environment includes adequate training provision. This includes training relating to writing and costing grants, as well as project management. Resources need to be available to support all stages of the trajectory, for example leadership training for more senior CAs. A sense of community is important when nurturing a positive research culture; peer researchers provide support for scholarly endeavours as well as the life events that run alongside careers such as having children.

Institutional culture is often entrenched in individuals, making it hard to change. Much literature reports culture as a barrier to and cause of attrition in CA careers. Recent data have shown that in some institutions, one of the most frequently cited aspects of the CA culture is that it is predominantly older, white, middle-class male dominated [2]. Participants reported a distinction between academic and clinical culture. The academic culture was generally described as ‘ruthless’, ‘aggressive’, and being very isolated when compared to a more supportive clinical culture.

CA trainees need to achieve the necessary clinical competencies and complete clinical training, equivalent to that of their non-academic trainee colleagues. Support from understanding clinical trainers and educational supervisors is also imperative. CAs, particularly in craft specialities like oral surgery, frequently report not attaining as much clinical experience as non-CA colleagues because of the demands of their parallel academic training and effectively reduced clinical exposure [2]. This might account for the already referred to self-imposed negative identity of some CAs. Opportunities to increase the duration of training for academic trainees could address this concern.

Tip 5: Healthcare Providers Must Ensure CAs are Given Protected Time to Conduct Research and Duplication of Effort is Minimised

Striking an appropriate balance between the academic and clinic components of the CA role is challenging. Getting it wrong leads to burnout and ineffective clinicians and researchers. Respecting the need for and providing protected time for research is essential. It enables CAs to devote appropriate energy to academic activity. Active support and understanding from deaneries, training programme directors (TPDs), and rota coordinators is needed to ensure that CAs are able to spend the required time away from clinical work in order to facilitate their academic activities. Greater awareness of the aforementioned competing demands of CA roles will enable time to be appropriately apportioned.

CAs often struggle with duplication of effort in relation to appraisal and mandatory training processes. Depending on the clinical field, getting programmed protected time can be variable. Annual Review of Competency Progression (ARCP) panels, educational supervisors, TPDs, and individuals must be alert to the possibility that they are undertaking too much clinical work or that clinical care is encroaching on their academic time. This eventuality can occur very easily since CAs relish their chosen clinical discipline and are embedded with a sense of duty of care. Well-designed rotas and timetables are essential.

Tip 6: Employers Should Endeavour to Ensure that Effective and Representative Mentors and Role Models are Identified and in Place

Whilst the onset of CA careers can be opportunistic [2], many CAs report being inspired by mentors and role models. Such figures are potentially useful to encourage and support CAs. The transitions between the different stages of clinical academia can also be difficult to navigate. Support and guidance from a mentor can help to ease the process, build confidence, and facilitate movement along the trajectory [10]. Mentorship has long been advocated for within health professions education [11] and clinical academia [12–15]. Similarly, literature supports the positive impact of role modelling on professional identity formation and clinical academics’ experiences [16, 17]. A recent paper by Gibson stated that allied health professions are manifestly underrepresented in the National Institute for Health Research (NIHR) Integrated Clinical Academic (ICA) fellowship schemes in nursing, midwifery, and the allied health professions (NMAHPs) [18]. Underrepresentation in such schemes further exacerbates the absence of positive role modelling and exposure to clinical academia within the sector.

Emerging literature details how individuals with protected characteristics noted the importance of having role models and mentorship [2]. Finn et al. reported the need for broader role models, particularly representation from minorities, as CAs described the powerful impact this had on them [2]. Support from role models and mentors is also considered essential by international medical graduates [19]. It is particularly helpful if they too have faced similar challenges and are able to guide them through the process, for example how they navigated the CA pathway themselves. For most female academics, being mentored by other females and having female role models around them is important, particularly in male-dominated specialities [2]. Those who hold senior positions can help to facilitate CA careers by instilling confidence through sharing reflections on their own academic career path. However, this was less helpful for individuals who saw that women who held senior positions often chose their career over starting a family [2]. Therefore, diversity in role models (and the multiple valid choices that people can make) should be advocated for.

Care must be taken to ensure useful mentoring is available and not forced upon individuals. The most effective mentor relationships are often those which are opportunistic and involve informal meetings that have developed organically over time [19, 20]. However, more research must be undertaken to explore the most effective way to implement mentoring of CAs [2]. Although trainees themselves advocate for the use of mentoring, the evidence in the literature is not universally supportive [2].

Tip 7: Institutions Must Put Mechanisms in Place to Ensure CAs with Caring Responsibilities are Able to Manage their Workload

Feelings of isolation, lack of appreciation from full-time clinical colleagues, and overwork have been particularly prominent during the current COVID-19 pandemic when redeployment, home-schooling, and isolation have magnified existing problems. Finn et al. found that many CAs reported struggling to juggle their work and family lives [2]. CAs who have young children and caregiving responsibilities often have to undertake academic work around the schedules of their children or those they are caring for. This may mean working at night when they have less distractions from their children or caring responsibilities. CAs who care for family members who are unwell or have special needs often find it difficult to manage hospital appointments and activities as well as their academic work. In clinical and academic settings, individuals who are not visibly present may be assumed to be not working as they are out of sight, also known as face-time bias [21]. In reality, research activity may occur outside of the workplace. In the pre-COVID era, female CAs in particular reported difficulties associated with

attending and presenting at conferences because of the need to juggle complex domestic arrangements, arrange and pay for childcare, and be away from their children for a long period of time. As a result of these ‘traditional gender roles’, many women have reported wanting to give up research [2, 4, 14, 22–24].

Expectations need to be managed and mechanisms must be put in place for workload monitoring, particularly supporting those with additional caring responsibilities. Interventions may include extra leave for childcare, extra financing, child attendance at conferences, allowances for lower outputs during times of care, less demand and expectation of deliverables, colleague support networks, and mental health and relaxation activities.

Tip 8: Employers Must Explore and Effectively Address any Discrimination Related to Protected Characteristics

A detrimental culture of discriminatory behaviours and attitudes has been reported within clinical academia and health-care organisations [2]. Whilst this appears to be variable and location dependent, it has clearly resulted in talented individuals being lost from the CA career pathway.

Precise causes of discrimination are difficult to delineate owing to the intersectional identities of participants. Gender bias has been found to be a major cause in driving women out of science careers [14, 25]. Finn et al. further found that women were subjected to biases, particularly in relation to their reproductive decision-making [2]. The ‘maternal wall bias’ [26], whereby women are discriminated against due to their maternal status, was frequently reported within the study by Finn et al. [2]. Female CAs noted that other academics had preconceived ideas about their personal ability (or inability) to become CAs. Women noted that they were made to feel that they have to choose whether to become a CA or have a family. Many women felt their children had been detrimental to their careers as they were not afforded the same opportunities as men and assumptions about their ambitions were made due to their maternal status, reinforcing a patriarchal culture. Disappointingly, some women also felt that they are often held back by senior women who had been trailblazers—the attitude of ‘I suffered so why should you have it easy’ was prevalent. Younger female CAs planning to start their families and build a career were often questioned about their suitability and ability to have a career within CA.

Gay men also reported being subject to homophobic behaviour and discrimination that was so severe it impacted upon their choice of speciality. These behaviours need to be addressed and stopped. It is the duty of both funders and employers to change the culture of clinical academia and ensure these behaviours are erased.

Other reported issues of discrimination relate to ethnicity, geographical backgrounds, class, and accents [2]. Ethnic diversity is evidently lacking in some institutions. Funders should ensure equality diversity and inclusion statements are on their applications and ensure fairness is promoted during selection and at interview. This would also help to combat the perception that certain groups of individuals are more likely to be unsuccessful. Funders and deaneries could also help to combat negativity and support diversity by showcasing the diversity of their current CAs and push for further diversity at the recruitment stage. This paper highlights the importance of role models and mentors but is especially crucial to support issues of gender bias and to improve the uptake of a CA career by BAME clinicians.

Tip 9: Institutions Must Challenge Myths Generated as Part of the Hidden Curriculum

The hidden curriculum refers to the tacit, implied, unwritten, unofficial, and often unintended behaviours, lessons, values, and perspectives that people learn during their training [27]. The impact of implied or tacit messaging should not be underestimated especially when considering the recruitment and retention of CAs. Many myths currently exist within clinical academia, and for many, this has been detrimental to their career. For example, there is a perception that CA careers can only be successful if the CA follows a traditional pathway and ‘fits the mould’ without deviating from this pathway. A lack of value for research in certain areas is also perceived, particularly paediatrics, medical and dental education, and dental primary care.

Other major misconceptions include that CAs must work all hours of the day and night and be prepared to relocate to distant or peripheral locations during their training. More fallacies pertain to the number of publications expected of prospective applicants and deliberate bias on the part of funders with regard to where funding is geographically and institutionally awarded and whom it is awarded to. In addition, the hidden curriculum and tacit messaging may result in negative stereotyping relating to CAs’ work [2].

In comparison with academic medicine, a relative lack of a dental research culture needs to be addressed. In comparison to medicine, the situation is complicated by the potential financial attractions associated with dental primary care. Nevertheless, there was a reported perception that dental research opportunities are lacking and are less likely to receive funding compared to medicine. This may account for the lack of dental CA applicants. Going forward, it is important that there is a concerted effort to raise awareness that dental CAs are valued just as much as their medical peers and showcase the high-quality research that has and is currently being funded. More dental research must be encouraged.

In the recent study by Finn et al. [2], myths were corroborated by funders, policy makers, and senior academics. Myths and the

hidden curriculum must now be addressed through explicitly raising awareness about this false information. This can be done by placing videos and myth-busting sections on websites.

Tip 10: Institutions Must Promote Networking and Academic Socialisation

Seasoned CAs have advocated for networking and academic socialisation to overcome feelings of isolation and help combat exhaustion. Clearly, this has echoes of Lave and Wenger’s [28] communities of practice and makes sound educational sense as it facilitates knowledge transfer. Surrounding oneself with like-minded, motivated individuals is advantageous and is key to success. Support networks need to be developed locally, nationally, and internationally within the research community. For many CAs, this means that they feel readily supported, can speak to anyone about their work for guidance, and can make new links and collaborations that can enable advancements in the healthcare world. Having a key support network also impacts on motivation and aspirations for future research careers. Institutions should promote this socialisation through organising formal events or providing informal time and space for CAs to interact together.

Tip 11: Research Funding Must be Made More Available for CAs Along the Career Pathway

Financial solutions are needed in order to support, enable, and mediate the economic impacts that CAs face when taking time to develop their academic careers. When funding is not forthcoming, CAs report using personal resources, for example to undertake an MSc, MD, or PhD. Many may leave clinical academia altogether and return to clinical practice if no funding is available [10, 20].

Suggested interventions include bridge funding between the levels of CA roles, supporting out-of-training needs, and protecting time to work up applications for future roles, particularly post-PhD to lecturer [2]. There seems to be an apparent lack of funding at this particular level across funders. Childcare requirements often impact on CA training and can lead to mothers returning to focused and flexible clinical training. Additional financial support through this period could help the CA to continue training. Longer-term outcomes (i.e. future large grants, leadership) need to be prioritised rather than more short-term outputs (e.g. papers, small grants).

Tip 12: Employers and Line Managers Need to Take a More Flexible Approach to Individual Needs

There are concerns that employers (including funders) do not seem prepared to take individual circumstances into consideration, particularly career breaks due to maternity or

sickness leave. Given the complexity of the CA's role involving clinical care, research, and teaching (alongside having multiple employers), when life events impact on individual CAs, it is important that a flexible and facilitatory approach is taken by employers. However, this support seems to be lacking for many. Individuals have also reported that career breaks have negatively impacted upon their CVs and overall career success [2]. This should not be the case and needs to be explored further. For many, academic activity is further divided into research and teaching. Yet there seems to be a general lack of recognition of and support for the pivotal role of CAs in teaching and assessment [2]. Dedicated HR and admin support could help to support this complex process and manage much-needed flexibility.

Some specialities can also lack a CA structure completely, at the opposite end of the spectrum, or are very inflexible. Neither is helpful to the individual CA and more support must be offered. The multiple employers must now work together to ensure CAs are retained.

Conclusion

For a long time, we have sought to understand why CA attrition is so high; it is now clear why. These 12 tips offer insights into how to facilitate access to and support for a CA career. The tips seek to provide information for managers, supervisors, and organisations around the need to further support and ensure diversity in the workforce. One of the key messages is that both universities and healthcare organisations have to work together to nurture and support their CAs to both improve their training experiences and increase retention.

Ensuring that CAs are well supported during the initiation, maintenance, and advancement of their careers is fundamental to advancing clinical research, developing healthcare education, and providing effective, high-quality patient care. There are many 'inequalities of opportunity' in the field that need to be urgently addressed. Significant amounts of money, time, and emotional energy are invested to ensure they have the appropriate training. As such, there are many disadvantages for both the individual and society if they are unable to pursue their clinical academic career any further due to the barriers described in our study and the wider literature.

As illustrated, there are many challenges facing CAs, potentially contributing to the 'leaky pipeline' within clinical academia. Providing the right advice and support for CAs along the way is crucial. Whilst there is no single solution or quick fix, these 12 tips outline a way to promote a culture of support for CAs and suggest engagement with proposed interventions such as mentoring. Much of what has been discussed within this paper represents a need for change. We must start doing things differently.

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Declarations

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