Ten simple rules for developing a research mentorship program: The experience of the postgraduate mentorship program at the Kenya Medical Training College

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Abstract

Introduction: The development and implementation of research mentorship programs are pivotal for cultivating future scholars and advancing academic research. This case description explores the application of ten essential rules within the postgraduate mentorship program at the Kenya Medical Training College (KMTC). The program was designed with clear objectives and selection criteria to ensure that both mentors and mentees were well-matched and prepared for their roles.

Program description: Specific goals for the program were established and implemented through structured communication strategies. Daily check-ins via WhatsApp and weekly meetings facilitated consistent interaction between mentors and mentees, while professional and supportive language was used to create a respectful and constructive environment. Ground rules were set to manage expectations and ensure productive engagements. A centralized online platform was utilized to streamline information sharing, improving accessibility to resources and enhancing collaboration. The feedback on the program's effectiveness was gathered through key performance indicators, including participation rates, engagement levels, and satisfaction surveys. The insights revealed that regular communication and personalized support were crucial for building strong mentor-mentee relationships. Based on these findings, the program was refined to include tailored training sessions and improved feedback mechanisms, which led to better academic performance and career outcomes for participants.

Conclusion: In conclusion, this case description underscores the importance of applying structured rules and continuous evaluation in developing research mentorship programs. The practical guidelines derived from the KMTC experience offer valuable insights for similar initiatives, emphasizing the need for clear objectives, effective communication, and ongoing refinement to achieve successful mentorship outcomes.

Key words: research, mentorship, postgraduate

Introduction

An effective research mentorship program plays a crucial role in nurturing future health professionals, as highlighted by Kaba (2023). It strengthens research capacity by providing mentees with a platform to seek advice, build confidence, and form mentor-mentee relationships that align with their professional goals, as demonstrated by Ferguson (2023). Lee (2019) further supports that mentorship aids in various aspects of research, from topic identification to project execution and publishing.

At KMTC, a postgraduate mentorship program was established to assist staff engaged in research, supporting the institution's mission. Chelimo et al. (2023) explained that the program connects mentees with experienced KMTC mentors who guide them through the research process. The 15-week group mentorship is followed by ongoing individualized support. Speer (2021) noted the scarcity of literature on such programs, KMTC experience can be used to scale up mentorship initiatives. Ten key rules have been developed, focusing on setting clear objectives, selecting dedicated mentors, fostering an inclusive environment, and encouraging collaboration. These rules help institutions build sustainable, effective mentorship programs that enhance research skills and contribute to healthcare improvements.

The program

The description of the program is shown in the *Table 1*.

Table 1: PICOT of the mentorship program

Population	Faculty and other staff of the college, who are undertaking postgraduate research
Intervention	15-week online group mentorship program, which includes: 1. Group discussions on a dedicated WhatsApp group 2. Materials shared through the WhatsApp group (published papers, presentations, notes, links to resources and webinars) 3. Weekly one-hour group meetings via Zoom teleconferencing, facilitated by designated mentors 4. Optional, additional one to one meeting with a mentor
Comparator	None
Outcome	**Primary outcomes** 1. Improved turn-around time for completion of research projects and/or graduation from post-graduate studies (measured at 12 months) 2. Improved confidence in conducting or supervising research (measured at the end of the mentorship program) **Secondary outcomes** 1. Participant (self-Case Descriptioned) progression in the expected steps in the research project (measured at the end of the program) 2. Stalled research projects (at the commencement of the mentorship program) are completed within 12 months 3. Participants who are already undertaking research graduate within within the expected timelines of their courses (measured at 12 months) 4. Increased number of research outputs (e.g. publications) - measured at 12 months 5. Increased readiness (self Case Descriptioned intent) to undertake additional research work (measured at the end of the program)
Timeline	31st January, 2024 – 5th June, 2024 (15 weeks) about 3 weeks were skipped owing to public holidays and other exigencies

Through this program, three hundred and thirty-eight mentee were mentored. In this paper we give a description of the application of the ten simple rules for establishing a mentorship program, using the conceptual framework as pointed out by Treasure et al.(2022)
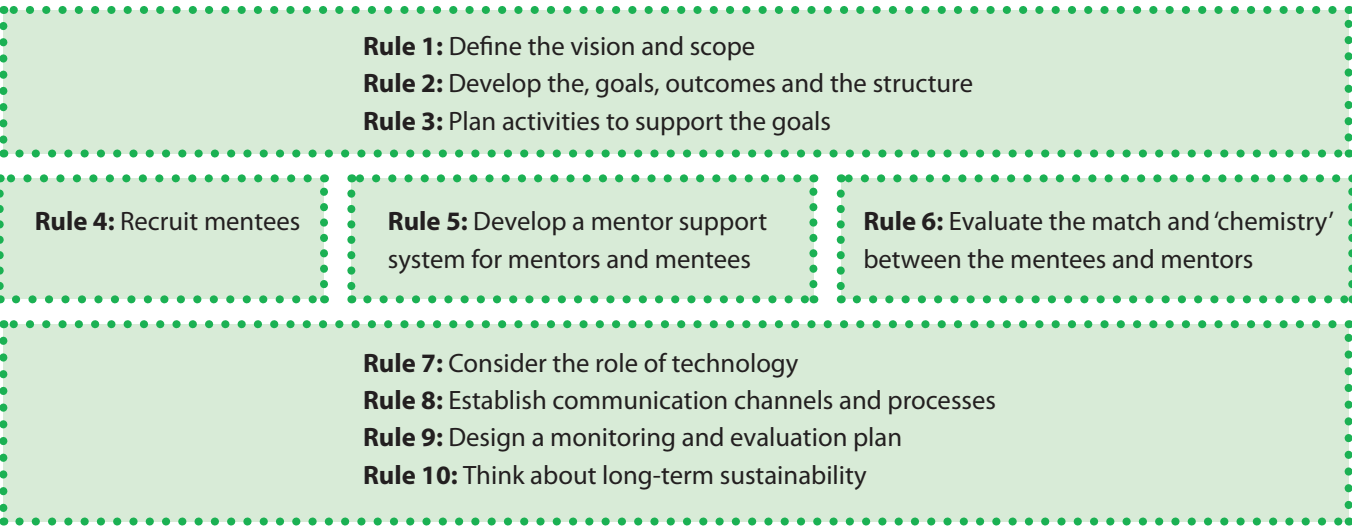
Rule 1: Define the vision and scope
Rule 2: Develop the, goals, outcomes and the structure
Rule 3: Plan activities to support the goals

Rule 4: Recruit mentees

Rule 5: Develop a mentor support system for mentors and mentees

Rule 6: Evaluate the match and 'chemistry' between the mentees and mentors

Rule 7: Consider the role of technology
Rule 8: Establish communication channels and processes
Rule 9: Design a monitoring and evaluation plan
Rule 10: Think about long-term sustainability

Figure 1: Conceptual framework adapted from Treasure et al., (2022)

Rule 1: Define the vision and scope

Treasure et al. (2022) emphasized defining the program's purpose, participants, content, timeline, and delivery methods early in the design phase. The Kenya Medical Training College recognized delays in postgraduate program completion among staff, hindering promotion and succession planning. This mentorship program was developed to address research project progression bottlenecks. Conversations among the design team and institutional documents, including the KMTC strategic plan and mentorship policy, guided the program's creation (KMTC, 2023-2028-Strategic Plan). Targeting staff experiencing these delays, active researchers especially those with PhD were chosen as mentors. The 15-week online program featured weekly teleconferences and WhatsApp engagement, with context considered in program design and outcome measurement.

Rule 2: Develop the goals, outcomes and the structure

This program was implemented using existing structures at KMTC, without creating new formal frameworks. All participants, including coordinators, mentors, and facilitators, were college staff who volunteered based on their research experience. The core team committed about four hours weekly, despite having competing tasks, and no attrition occurred, likely due to the strong institutional support and participants' high interest in research and mentorship. The core team was diverse in terms of professional background, age, gender, and ethnicity, addressing research inequities in areas like authorship and leadership within research institutions.

Rule 3: Plan activities to support the goals

In today's evolving academic landscape, research excellence is crucial for educational institutions. Kenya Medical Training College (KMTC) developed a postgraduate mentorship program, led by PhD holders, to nurture research skills among its staff. Principle three, "plan activities that support the program goal," was central to the program's success. Key activities included weekly mentor-mentee meetings for feedback and guidance, workshops and webinars to teach essential research skills, and access to resources like research databases and institutional facilities. These activities empowered mentees to enhance their research capabilities and align with emerging trends in their field.

Rule 4: Recruit mentees

Recruiting mentees with a focus on success was vital to the KMTC mentorship program. Mentees were selected based on their dedication to advancing their careers and eagerness to learn. Several methods were used, including identifying potential mentees through institutional communication channels and inviting them to participate voluntarily. An open invitation was shared across KMTC's WhatsApp groups, and 338 members joined. Clear expectations were set for mentees, outlining their responsibilities, such as attending meetings and engaging actively. The program provided ongoing support through access to resources, workshops, and networking opportunities, ensuring a successful mentorship journey.

Rule 5: Develop a support system for mentees and mentors

The KMTC mentorship program engaged seven volunteer mentors through their established network, which provided ongoing support throughout the initiative. These mentors, motivated by the program's alignment with their network's objectives, shared resources and collaborated during sessions, with each having a lead mentor supported by others for clarification and real-life examples. Mentor interest and motivation were crucial predictors of effective mentoring, sustained by the network's involvement. Each mentor possessed a doctorate and was an active researcher, ensuring a diverse mix of expertise and high-quality guidance for the mentees in relevant fields.

Rule 6: Evaluate the match and 'chemistry' between the mentees and mentors

The mentorship program began with preliminary sessions to assess mentee needs and foster group cohesiveness. A Google survey gathered information on mentees' expectations, challenges, and support needs, highlighting diverse requirements in areas like research questions, literature reviews, and manuscript writing. Using these insights, a mentorship schedule was created, featuring group sessions on topics such as research methods and academic writing, promoting peer learning and community building. Mentors were also available for individual sessions upon request. These collaborative group sessions effectively addressed common challenges, encouraging active participation and enriching the learning experience for all participants.

Rule 7: Consider the role of technology

The KMTC mentorship program effectively integrated various technological tools to enhance communication and resource sharing. WhatsApp facilitated instant communication and collaboration, while Zoom allowed for interactive virtual meetings and workshops, with recordings available for mentees to review at their own pace. Google Forms collected participant data, and a dedicated Google Drive folder organized program material for easy access. These accessible tools fostered a user-friendly environment for mentorship, encouraging collaboration among participants across different devices. The program's success highlights the importance of utilizing accessible technology in mentorship initiatives, which can benefit other programs.

Rule 8: Establish communication channels and processes
WhatsApp platform for instant messaging, enabling mentors and mentees to communicate efficiently and promptly. Coordinators enhanced mentor-mentee relationships through consistent communication, with daily WhatsApp check-ins and weekly meetings over fifteen weeks, combining virtual and face-to-face interactions. They used clear, professional, and supportive language, emphasizing active listening and empathy. Ground rules were established at the outset, including timely responses, confidentiality, mutual respect, and constructive feedback, creating a safe and productive environment. Information sharing was streamlined via a centralized online platform, making documents, resources, and updates accessible to all participants. By maintaining open communication, setting clear guidelines, and facilitating knowledge exchange, coordinators significantly improved mentor-mentee relationships, leading to a more effective and cohesive program.

Rule 9: Design a monitoring and evaluation plan
The program coordinators conducted ongoing monitoring to evaluate the mentorship program's effectiveness, using daily WhatsApp check-ins and weekly meetings over fifteen weeks. They tracked participation, engagement, satisfaction, and skill development metrics. The findings revealed that regular communication enhanced mentor-mentee engagement and satisfaction, emphasizing the importance of active listening and empathy in relationships. Additionally, areas for improvement were identified, leading to recommendations for personalized training sessions, better resource accessibility, and structured feedback mechanisms. These adjustments aim to enhance the program's effectiveness, ultimately improving completion rates and outcomes for both mentors and mentees.

Rule 10: Think about funding and long-term sustainability
Think about long-term sustainability.
The Kenya Medical Training College has established a mentorship policy to support its annual postgraduate mentorship program, running for 15 weeks. The program fosters ongoing discussions about mentee progress and incorporates doctorate graduates as future mentors. This initiative aims to cultivate a positive research culture within the institution and primarily operates online, minimizing funding requirements. However, it presents significant opportunity costs for participants. Future enhancements, including in-person workshops and publications, may necessitate financial investment. Regular evaluations showcasing positive outcomes will be crucial in demonstrating impact and attracting additional funding.

Conclusion
Effective mentorship is not a transactional activity but a transformative experience attracts a lot of interest in the scholarly and research community. Research mentorship at institutional level is needed, feasible and can leverage the unique context and resources available at the institution. The success of our mentorship program lies in the dedication of our mentors, mentees and coordinators, and the collaborative spirit of our institution. Other institutions may benefit from our experience by applying the ten simple rules that we have provided.

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