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Mini Review

Structured Family-History Taking in Colorectal Cancer Prevention: Why Clinicians Need Training, Time, and Decision Support

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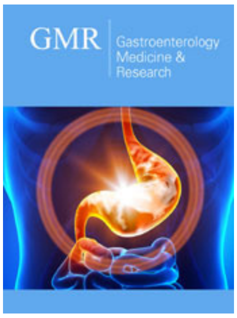

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Abstract

Family history remains one of the most accessible tools for preventive risk stratification, yet it is still underused, inconsistently documented, and often insufficiently interpreted in routine practice. This is especially relevant in colorectal cancer prevention, where family history can alter the recommended age of screening initiation, influence the preferred screening modality, and indicate the need for genetic counseling when hereditary cancer syndromes are suspected. Structured family-history taking should therefore be regarded not as a minor conversational task but as a core clinical competence. Colorectal cancer is a particularly suitable model condition because screening can prevent disease through the detection and removal of precursor lesions, and because missed familial risk may delay appropriate surveillance. The FARKOR program provides an important real-world example. In this Bavarian program for persons aged 25 to 50 years, simplified family history was documented in 25,847 individuals, 22.3% had a positive family history and among 1595 colonoscopies included in the main analysis, adenomas were detected in 17.6%, advanced adenomas in 5.9%, and carcinomas in 0.3%. At the same time, the program revealed inconsistencies between simplified and comprehensive family histories and difficulties in interpreting complex familial constellations. These findings support a broader conclusion: family-history taking must be structured, taught, and embedded in clinical workflow. Better training should focus on elicitation, interpretation, communication, and referral decisions. Strengthening this competence in colorectal cancer prevention may also improve preventive care in other chronic and hereditary conditions.

Keywords: Family history; Colorectal cancer; Screening; Prevention; Anamnesis; Hereditary risk; Primary care; Medical education

Abbreviations: CRC: Colorectal Cancer; CFH: Comprehensive Family History; SFH: Simplified Family History; iFOBT: Immunological Fecal Occult Blood Test

Introduction

Medicine increasingly emphasizes personalized prevention, yet one of the most practical tools for individualized risk assessment remains underused: family health history. Family history can help identify increased disease susceptibility, support earlier detection, and guide tailored prevention strategies. In colorectal cancer, this is particularly important because screening is not only diagnostic but preventive; colonoscopy can detect and remove precursor lesions before invasive cancer develops. Current major screening frameworks distinguish average-risk adults from persons with family-history-based or hereditary risk, meaning that clinicians who fail to ask the right questions may also fail to place patients on the right screening pathway [1-3]. Family history is not simply a proxy for genetics. It reflects the combined effects of inherited susceptibility, shared environment, lifestyle, and disease clustering within families [4]. It therefore remains a low-cost and immediately available source of clinically actionable information. The problem is not whether family history matters, but whether healthcare systems give clinicians the time, tools, and training required to collect and interpret it properly.

Why family-history taking matters clinically

A clinically useful family history must go beyond the question of whether "cancer runs in the family." It should specify which relatives were affected, whether they were first- or second-degree relatives, what cancer type occurred, the age at diagnosis, whether several relatives were affected on one side of the family, and whether repeated or multiple cancers occurred in the same person. In this sense, family-history taking is not general background inquiry; it is a structured form of risk stratification. For colorectal cancer, the clinical implications are immediate. Individuals with a family history of CRC are at higher risk than those without such a history, and risk increases according to the degree of relationship, the number of affected relatives, and younger age at diagnosis in the family. Family history can therefore influence whether screening should begin earlier, whether colonoscopy should be preferred, and whether genetic counseling should be considered.

Colorectal cancer as a model condition

Colorectal cancer is a compelling model for the broader importance of family-history taking. First, it is a common and clinically important disease. Second, it has a recognizable preclinical phase in which adenomas and advanced adenomas can be identified and removed. Third, screening decisions are already strongly structured in gastroenterology, making the consequences of risk misclassification particularly relevant. The ACG 2021 guideline discusses screening recommendations for both average-risk individuals and those with family history, and the CDC notes that a family history of colorectal cancer can affect which tests are used, when testing starts, and how often testing should occur. This means that inadequate family-history taking has practical consequences. Patients with familial risk may be misclassified as average-risk and enter screening too late. Others may not be referred for further hereditary cancer evaluation when the family pattern raises suspicion of Lynch syndrome, which the CDC describes as the most common cause of hereditary colorectal cancer. In preventive medicine, a missed family history is often a missed opportunity for timely action [5,6].

Lessons from the FARKOR program

The FARKOR program provides a particularly informative real-world example of both the value and the complexity of family-history-based colorectal-cancer prevention. Conducted in Bavaria from 2018 to 2021, FARKOR evaluated a risk-adapted early detection strategy for persons aged 25 to 50 years. The process included written consent, a simplified family history, an optional comprehensive family history, counseling for participatory decision-making, and then either iFOBT, colonoscopy, or no immediate screening. Importantly, the program was implemented in ambulatory practice rather than in an idealized research setting alone [7]. The clinical yield was meaningful. Simplified Family History (SFH) was documented in 25,847 persons, and 5,769 of them, corresponding to 22.3%, were classified as positive for CRC family history. Among 3,232 persons with a Comprehensive Family History (CFH), 63.6% participated in screening measures. Of the 1595 colonoscopies included in the main analysis, adenomas were found in 17.6%, advanced adenomas in 5.9%, and carcinomas in 0.3%. The study concluded that the lesion detection profile in this younger familial-risk group corresponded to that of persons aged 55 to 59 years in the established screening program. No serious complications were reported.

These findings support a strong preventive message: younger adults with relevant family history may have a clinically meaningful burden of detectable colorectal neoplasia and should not automatically be treated as average-risk simply because of age. In that sense, FARKOR supports the practical value of structured familial-risk assessment in gastroenterology and preventive care. At the same time, the most instructive lesson from FARKOR may be that family-history taking is not easy to perform well. Agreement between the simplified family history, the comprehensive family history, and family-tree information was only moderate for some criteria and weak for rarer, more complex constellations. The physicians were not always able to match interview results with formal family-history criteria and that further training would be beneficial, not only for risk assessment but also for identifying other diseases with genetic components [7]. The limited agreement of the SHD and CFH data arouses doubts about the robustness of the SFH results and therefore about their effectiveness as starting point of the screening process [7]. This observation directly supports the argument that family-history taking is a trainable professional competence rather than a routine informal question [8,9].

Why clinicians struggle in routine practice

The difficulties observed in FARKOR are consistent with a broader implementation problem. In daily practice, family-history taking competes with many other demands: symptom review, treatment decisions, documentation, and limited consultation time. Even motivated clinicians may collect only fragmentary information, especially when patient knowledge is incomplete or when no structured tool is available. The literature and public-health guidance both suggest that family history is useful, but usefulness alone does not guarantee routine use [4]. The challenge has two distinct dimensions. The first is elicitation: Knowing which questions to ask, whom to ask about, and how to gather the information efficiently. The second is interpretation: Understanding what the collected information means for screening, surveillance, or referral. Many clinicians can identify an obviously positive history, but uncertainty increases when family information is partial, ages at diagnosis are unclear, or multiple but less direct relatives are involved. In those situations, practice becomes inconsistent and preventive opportunities may be lost [3].

What training should teach

If family-history taking is to function as a genuine preventive instrument, training must move beyond the generic instruction to "ask about family history." At least four competencies are needed. First, clinicians need training in efficient elicitation. They should know which relatives are relevant, how to distinguish first-degree from second-degree relatives, how to ask about age at diagnosis, and how to document repeated cancers or clustering on one side of the family. The FARKOR instruments show that such questioning can be standardized. The simplified history asked about first- and second-degree relatives with colorectal cancer, diagnosis before age 60, at least two affected relatives, and repeated colorectal cancer in the same relative. The comprehensive history expanded this assessment to hereditary syndromes, family-tree structure, age at diagnosis, and second tumors associated with Lynch syndrome. Second, training must address interpretation. Clinicians need to recognize when a history suggests average familial risk, when it suggests increased non-syndromic familial risk, and when it should prompt consideration of hereditary syndromes and referral for genetic counseling. This does not require every practitioner to become a medical geneticist. It does require enough competence to identify when family history changes management. Third, training should include communication and shared decision-making. Family history is often emotionally charged and may involve uncertainty, incomplete knowledge, or anxiety about future disease. Clinicians must be able to explain increased risk without creating fatalism and to translate that explanation into practical next steps, such as colonoscopy, stool-based testing, or further counseling. In FARKOR, counseling and participatory decision-making were integral parts of the pathway, which is a useful model for practice. Fourth, training should improve documentation and workflow use. A family history that is collected but not entered in a structured and retrievable form has limited long-term value. Preventive benefit depends on whether the information remains visible, updateable, and actionable across consultations [10].

Organizing family-history assessment in practice

The clinical burden of family-history assessment can be reduced if the task is organized more realistically. One practical model would be a staged workflow: a brief patient-completed questionnaire before the visit, structured recording in the medical record, physician review of positive answers, and referral pathways for complex or syndromic cases. Family history should also be updated periodically, since new diagnoses in relatives may change a patient's risk profile over time. CDC resources explicitly support collecting and sharing family health history and provide tools intended to facilitate structured collection [11].

At the system level, the implication is straightforward. If family-history-based prevention is expected, then time, reimbursement, electronic support, and access to specialist referral must support it. Otherwise, family-history taking will remain an underperformed task that depends on individual motivation and memory rather than on a stable care process. The FARKOR experience illustrates exactly this tension: the approach is clinically promising and feasible, but implementation quality depends heavily on structure and training [7].

Implications beyond colorectal cancer

Although colorectal cancer is the clearest model for the present argument, the principle is broader. Family history matters in many hereditary and chronic conditions, including breast and ovarian cancer, cardiovascular disease, diabetes, and other disorders in which inherited susceptibility and shared family exposures influence disease risk. Thus, strengthening family-history competence in CRC prevention may also improve preventive medicine more generally [4].

Conclusion

Structured family-history taking should be recognized as a core clinical skill in preventive medicine. Colorectal cancer screening demonstrates why this matters: family history influences the timing and intensity of screening, prevention is possible through the detection and removal of precursor lesions, and missed familial risk may delay appropriate action. The FARKOR program shows that family-history-based risk stratification can identify clinically relevant lesions in younger adults, but it also shows that accurate collection and interpretation cannot simply be assumed. The central challenge is therefore educational and organizational. Clinicians need training, and practices need systems, to use family history well. Improving this competence in colorectal cancer prevention would provide a model for better prevention across a wider range of hereditary and chronic diseases.

Conflict of Interest Statement

The author declares no conflict of interest related to this manuscript.

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Ethics

The FARKOR Study was approved by the IRB of the Medical Faculty of the Ludwig-Maximilians University, Munich, Germany (Project 18-545).

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