

EDITORIAL

Integrating Diet Screening Into Routine Clinical Care: The Time Is Now

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Although lifestyle modification, particularly diet, is considered the cornerstone of cardiovascular disease prevention and treatment,¹ it is not routinely integrated into standard clinical care. One mechanism to address this deficit is to implement a validated diet screening tool that could enable clinicians to assess patients' dietary patterns, develop actionable short-term goals for improvement, and review progress longitudinally. This approach would facilitate the incorporation of evidence-based dietary counseling from non-registered dietitian clinicians and other members of the health care team into routine clinical care.²

See Article by Lara-Breitinger et al.

Although some individuals require gold standard intensive registered dietitian-led counseling, or “medical nutrition therapy,” from a prevention perspective, most individuals would benefit from routine healthy dietary advice integrated into primary care setting. Although many non-registered dietitian clinicians agree that discussing diet-related issues with their patients is important, barriers to implementing diet assessment into routine clinical care include insufficient time, knowledge, and training.³

In 2020, the American Heart Association issued a Scientific Statement that emphasized a critical need

to develop and validate a rapid diet screening tool that would be practical to implement in a clinical setting.² Underscored was the need to have a tool that was: (1) valid relative to a reference dietary assessment measure, (2) brief, (3) feasible to be administered by non-registered dietitian clinicians, (4) able to evaluate total diet quality,⁴ (5) embedded into the electronic medical record and combined with clinical decision support (ie, actionable, evidence-based dietary advice based on patient responses), and (6) associated with improvements in diet quality correlated risk factor measures.

In the current issue of the *Journal of the American Heart Association (JAHA)*, Lara-Breitinger et al⁵ reported on a validation study of the mini Eating Assessment Tool (EAT), a brief dietary questionnaire for use in clinical practice settings.² Assessed was both the original 19-item EAT and a condensed 9-item mini-EAT. Validation against a 156-item dietary assessment reference measure indicated good test-retest reliability. Scores were significantly associated with total diet quality, as measured by the Healthy Eating Index 2015. The EAT and mini-EAT tools have not yet been assessed to evaluate longitudinal changes in diet quality and diet-associated risk factors or integrate with clinical decision support. Because the mini-EAT was validated in a relatively homogeneous cohort of mostly college-educated women from one region of the United States, additional validation in diverse populations is needed.

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In general, there are some important next steps before the mini-EAT and other diet screener tools can be incorporated into routine clinical care. The clinical utility and patient understanding among historically underrepresented populations cannot be afterthoughts in the development and refinement of diet screening tools. Diet screeners must be developed and validated among adults across a spectrum of socioeconomic and cultural differences to determine whether culturally specific versions of diet screeners are necessary. Best practice alerts and inclusion of new screening questions into the electronic health record can be burdensome for clinicians.⁶ When evaluating which factors to emphasize in a clinical encounter, the US Preventive Services Task Force recommends⁷ using clinical judgment on the effectiveness of behavioral counseling.⁸ The “C” evidence rating for counseling people without cardiovascular disease risk factors may unintentionally condone prioritizing other interventions outside of diet counseling.^{9,10} For example, although diet counseling is associated with small, but significant, benefits in improving dietary intake and intermediate cardiovascular disease risk factors,⁸ among individuals at low risk, such counseling is likely to be underprioritized relative to other clinical interventions.

Given the myriad of levers it takes to modify clinical practice, the burden a rapid diet screener tool may place on clinicians must be at the forefront of the design and implementation. Optimizing when clinicians receive diet quality information during their clinical encounter and ensuring clinically actionable diet modification information is available are integral to successful implementation. Lessons learned from adopting routine depression screening and, more recently, the American Heart Association Scientific Statement on a learning health care system should be applied to integration of a rapid diet screener tool.^{11,12}

A distinct but related issue for overcoming barriers to diet quality screening is that both clinicians and patients must recognize its value for long-term chronic disease risk reduction, including both primary and secondary prevention. For example, in a study evaluating oncologists’ perceptions of a digital tool to improve cancer survivors’ cardiovascular health, clinicians deemed the tool important for their patients, but experienced workflow integration as a barrier for use.¹³ Low satisfaction or self-efficacy can reduce adoption of a validated diet screener tool in clinical care.^{14–16}

It is encouraging to see progress in the development and validation of rapid diet screener tools. However, with the emergence of this tool and others,¹⁷ further research is needed to assess implementation, including possible unintended consequences. For example, a diet screener tool may have research validity but not be adequately evaluated for the practical aspects of inclusion in the clinical setting. Testing clinical decision

support strategies will be important for developing tools that can help clinicians provide actionable dietary information and counter ubiquitous nutrition misinformation. If a clinical decision support strategy is time-consuming or complicated, it could reduce universal adoption and bias clinicians to counsel only highly motivated patients rather than consistently counseling all patients equitably. Integrating a diet screener with clinical decision support is a system-level change that requires tremendous time and financial resources and, once adopted, can be challenging to modify.¹⁸

Moving forward, development and universal adoption of a rapid diet screener tool in clinical care can help reinforce the importance of dietary modification intended to decrease cardiovascular risk and ultimately improve patient health outcomes.¹⁹ Addressing both the theoretical and practice-based criteria will facilitate successful integration into the electronic health record, and support clinical workflows and patient care. The link between diet and cardiovascular risk was recognized by the American Heart Association in the early 1960s.²⁰ The time has now come when routine assessment and modification of diet quality become a standard part of preventive health care.

ARTICLE INFORMATION

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Disclosures

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REFERENCES

- Lloyd-Jones DM, Allen NB, Anderson CAM, Black T, Brewer LC, Foraker RE, Grandner MA, Lavretsky H, Perak AM, Sharma G, et al. Life’s essential 8: updating and enhancing the American Heart Association’s construct of cardiovascular health: a presidential advisory from the American Heart Association. *Circulation*. 2022;146:e18–e43. doi: 10.1161/cir.0000000000001078
- Vadiveloo M, Lichtenstein AH, Anderson C, Aspry K, Foraker R, Griggs S, Hayman LL, Johnston E, Stone NJ, Thorndike AN. Rapid diet assessment screening tools for cardiovascular disease risk reduction across healthcare settings: a scientific statement from the American Heart Association. *Circ Cardiovasc Qual Outcomes*. 2020;13:e000094. doi: 10.1161/hcq.0000000000000094
- Aspry KE, Horn LV, Carson JAS, Wylie-Rosett J, Kushner RF, Lichtenstein AH, Devries S, Freeman AM, Crawford A, Kris-Etherton P. Medical nutrition education, training, and competencies to advance guideline-based diet counseling by physicians: a science advisory from the American Heart Association. *Circulation*. 2018;137:e821–e841. doi: 10.1161/CIR.0000000000000563
- Lichtenstein AH, Appel LJ, Vadiveloo M, Hu FB, Kris-Etherton PM, Rebholz CM, Sacks FM, Thorndike AN, Van Horn L, Wylie-Rosett J. 2021 dietary guidance to improve cardiovascular health: a scientific statement from the American Heart Association. *Circulation*. 2021;144:e472–e487. doi: 10.1161/cir.0000000000001031

5. Lara-Breitinger KM, Medina Inojosa JR, Li Z, Kunzova S, Lerman A, Kopecky SL, Lopez-Jimenez F. Validation of a brief dietary questionnaire for use in clinical practice: Mini-EAT (Eating Assessment Tool). *J Am Heart Assoc*. 2022;11:e025064. doi: [10.1161/JAHA.121.025064](https://doi.org/10.1161/JAHA.121.025064)
6. Chen H, Butler E, Guo Y, George T Jr, Modave F, Gurka M, Bian J. Facilitation or hindrance: physicians' perception on best practice alerts (BPA) usage in an electronic health record system. *Health Commun*. 2019;34:942–948. doi: [10.1080/10410236.2018.1443263](https://doi.org/10.1080/10410236.2018.1443263)
7. Mangione CM, Barry MJ, Nicholson WK, Cabana M, Coker TR, Davidson KW, Davis EM, Donahue KE, Jaén CR, Kubik M, et al. Behavioral counseling interventions to promote a healthy diet and physical activity for cardiovascular disease prevention in adults without cardiovascular disease risk factors: US preventive services task force recommendation statement. *JAMA*. 2022;328:367–374. doi: [10.1001/jama.2022.10951](https://doi.org/10.1001/jama.2022.10951)
8. Patnode CD, Redmond N, Iacocca MO, Henninger M. Behavioral counseling interventions to promote a healthy diet and physical activity for cardiovascular disease prevention in adults without known cardiovascular disease risk factors: updated evidence report and systematic review for the US preventive services task force. *JAMA*. 2022;328:375–388. doi: [10.1001/jama.2022.7408](https://doi.org/10.1001/jama.2022.7408)
9. O'Hearn M, Lauren BN, Wong JB, Kim DD, Mozaffarian D. Trends and disparities in cardiometabolic health among U.S. adults, 1999–2018. *J Am Coll Cardiol*. 2022;80:138–151. doi: [10.1016/j.jacc.2022.04.046](https://doi.org/10.1016/j.jacc.2022.04.046)
10. Mozaffarian D. Implications of the new recommendation on behavioral counseling interventions to promote healthy eating and physical activity. *JAMA*. 2022;328:334–335. doi: [10.1001/jama.2022.10801](https://doi.org/10.1001/jama.2022.10801)
11. Foraker RE, Benziger CP, DeBarmore BM, Cené CW, Loustalot F, Khan Y, Anderson CAM, Roger VL. Achieving optimal population cardiovascular health requires an interdisciplinary team and a learning healthcare system: a scientific statement from the American Heart Association. *Circulation*. 2021;143:e9–e18. doi: [10.1161/cir.0000000000000913](https://doi.org/10.1161/cir.0000000000000913)
12. Garcia ME, Hinton L, Neuhaus J, Feldman M, Livaudais-Toman J, Karliner LS. Equitability of depression screening after implementation of general adult screening in primary care. *JAMA Network Open*. 2022;5:e2227658. doi: [10.1001/jamanetworkopen.2022.27658](https://doi.org/10.1001/jamanetworkopen.2022.27658)
13. Kelley M, Foraker R, Lin E-JD, Kulkarni M, Lustberg M, Weaver KE. Oncologists' perceptions of a digital tool to improve cancer survivors' cardiovascular health. *ACI Open*. 2019;3:e78–e87. doi: [10.1055/s-0039-1696732](https://doi.org/10.1055/s-0039-1696732)
14. Wang Z, Norris SL, Bero L. The advantages and limitations of guideline adaptation frameworks. *Implement Sci*. 2018;13:72. doi: [10.1186/s13012-018-0763-4](https://doi.org/10.1186/s13012-018-0763-4)
15. Ebell MH, Shaughnessy AF, Slawson DC. Why are we so slow to adopt some evidence-based practices? *Am Fam Physician*. 2018;98:709–710.
16. Fischer F, Lange K, Klose K, Greiner W, Kraemer A. Barriers and strategies in guideline implementation—a scoping review. *Healthcare (Basel)*. 2016;4. doi: [10.3390/healthcare4030036](https://doi.org/10.3390/healthcare4030036)
17. Beasley J, Sardina P, Johnston E, Ganguzza L, Padikkala J, Bagheri A, Jones S, Gianos E. Integrating a diet quality screener into a cardiology practice: assessment of nutrition counseling, cardiometabolic risk factors and patient/provider satisfaction. *BMJ Nutr Prev Health*. 2020;3:24–30. doi: [10.1136/bmjnp-2019-000046](https://doi.org/10.1136/bmjnp-2019-000046)
18. Cantu-Jungles TM, McCormack LA, Slaven JE, Slebodnik M, Eicher-Miller HA. A meta-analysis to determine the impact of restaurant menu labeling on calories and nutrients (ordered or consumed) in U.S. Adults. *Nutrients*. 2017;9:1088. doi: [10.3390/nu9101088](https://doi.org/10.3390/nu9101088)
19. Proctor E, Silmere H, Raghavan R, Hovmand P, Aarons G, Bunger A, Griffey R, Hensley M. Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. *Adm Policy Ment Health*. 2011;38:65–76. doi: [10.1007/s10488-010-0319-7](https://doi.org/10.1007/s10488-010-0319-7)
20. Dietary fat and its relation to heart attacks and strokes. Report by the central Committee for Medical and Community Program of the American Heart Association. *JAMA*. 1961;175:389–391. doi: [10.1001/jama.1961.63040050001011](https://doi.org/10.1001/jama.1961.63040050001011)