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Identifying Recommendations for Stopping or Scaling Back Unnecessary Routine Services in Primary Care

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IMPORTANCE Much of health care involves established, routine use of medical services for chronic conditions or prevention. Stopping these services when the evidence changes or if the benefits no longer outweigh the risks is essential. Yet, most guidelines focus on escalating care and provide few explicit recommendations to stop or scale back (ie, deintensify) treatment and testing.

OBJECTIVE To develop a systematic, transparent, and reproducible approach for identifying, specifying, and validating deintensification recommendations associated with routine adult primary care.

DESIGN, SETTING, AND PARTICIPANTS A focused review of existing guidelines and recommendations was completed to identify and prioritize potential deintensification indications. Then, 2 modified virtual Delphi expert panels examined the synthesized evidence, suggested ways that the candidate recommendations could be improved, and assessed the validity of the recommendations using the RAND/UCLA Appropriateness Method. Twenty-five physicians from Veterans Affairs and US academic institutions with knowledge in relevant clinical areas (eg, geriatrics, primary care, women's health, cardiology, and endocrinology) served as panel members.

MAIN OUTCOMES AND MEASURES Validity of the recommendations, defined as high-quality evidence that deintensification is likely to improve patient outcomes, evidence that intense testing and/or treatment could cause harm in some patients, absence of evidence on the benefit of continued or repeated intense treatment or testing, and evidence that deintensification is consistent with high-quality care.

RESULTS A total of 409 individual recommendations were identified representing 178 unique opportunities to stop or scale back routine services (eg, stopping population-based screening for vitamin D deficiency and decreasing concurrent use of opioids and benzodiazepines). Thirty-seven recommendations were prioritized and forwarded to the expert panels. Panelists reviewed the evidence and suggested modifications, resulting in 44 recommendations being rated. Overall, 37 recommendations (84%) were considered to be valid, as assessed by the RAND/UCLA Appropriateness Method.

CONCLUSIONS AND RELEVANCE In this study, a total of 178 unique opportunities to deintensify routine primary care services were identified, and 37 of these were validated as high-priority deintensification recommendations. To date, this is the first study to develop a model for identifying, specifying, and validating deintensification recommendations that can be implemented and tracked in clinical practice.

Invited Commentary

Supplemental content

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The increased attention to the overuse of health care services, bolstered by the Less is More series in the *Archives of Internal Medicine* (now *JAMA Internal Medicine*),[1] the National Physicians Alliance's Promoting Good Stewardship in Clinical Practice project,[2] the American College of Physician's High Value Care Initiative,[3] and the Choosing Wisely campaign,[4] has highlighted the need to avoid unnecessary 1-time diagnostic procedures or treatments at the beginning of discrete episodes of care (eg, avoiding imaging for low back pain). However, much of health care involves established, routine, or continuing use of medical services for chronic conditions or prevention. Stopping some of these services when the benefits no longer outweigh the risks (eg, owing to older age or worsening health) or when there is a change in the evidence that had previously supported ongoing treatment and monitoring presents a challenge for both clinicians and patients and is rarely done successfully even when evidence favors cessation.[5-10] Most guidelines continue to concentrate on escalation instead of on deintensification of treatments and tests.[11] When recommendations acknowledge the need to avoid certain medical services, they rarely clearly specify the eligible population for which a medical service is not indicated, including population exclusions or the time frame or focus of the specific deintensification action. This level of specification is required to make the recommendation actionable and measurable.

Several changes are needed to promote deintensification. First, when guidelines suggest that a service or treatment is not indicated, they should also state explicitly when to stop a current treatment and for whom. For instance, while older patients with diabetes may experience harm from diabetes overtreatment,[12,13] little explicit guidance exists about the specific level of glycemic control at which an asymptomatic, older patient should start having therapy, including medications, deintensified, and specific clinical factors that might make deintensification more or less appropriate. Second, recommendations about avoiding a medication in a particular patient population (eg, a recommendation to not prescribe lipid-lowering medications in individuals with a limited life expectancy) should also specify how to stop those medications for patients in that population who are presently receiving them. Third, while recommendations to intensify services are often definitive, promoting more therapy or tests, recommendations to deintensify services are often vague, suggesting that a service "may" not be indicated. The absence of clear, explicit, and precisely specified recommendations has made it difficult to implement deintensification and even more difficult to track gaps and progress in improving appropriate deintensification at the system level. There is a need to develop and implement a systematic process that translates current guidelines into actionable and measurable recommendations for deintensifying medical services. While Choosing Wisely, the American Geriatrics Society Beers criteria, and recommendations contained within disease-specific guidelines address avoiding certain medications, tests, or procedures, few recommendations specify when to stop or scale back services that have already started or fully identify the populations and actions required for successful and safe deintensification.[14,15]

Given the burdens and potential harms of continuing tests and treatments when they are no longer necessary or effective and the relative absence of explicit and well-specified deintensification recommendations in guidelines,[11] we developed a transparent and reproducible approach to use for identifying deintensification recommendations of routine services in adult ambulatory primary care. We sought to specify an efficient process that provided sufficient evidence so that a panel of experts could review, modify, and validate the resultant specifications. This evidence survey had to be rigorous enough so that physicians, other clinicians, patients, payers, and health systems trust and accept the results. It also had to be flexible enough to be regularly updated so that the recommendations would not become stale and could be used in ongoing organizational quality improvement and performance management monitoring. Our immediate goal was to generate actionable and measurable recommendations that both promote appropriate deintensification and can be used to track the deintensification of care at the system level for patients in a large health system, such as the US Veterans Health Administration (VHA).

Key Points

Question Can a systematic, transparent, and reproducible approach be developed to identify, specify, and validate deintensification recommendations associated with routine adult primary care?

Findings One hundred seventy-eight recommendations that represented unique opportunities to stop or scale back routine services were identified from a set of established guidelines, measures, and Choosing Wisely recommendations; of these, 37 recommendations were prioritized, specified, and assessed in 2 modified virtual Delphi expert panels. Panelists reviewed the evidence and suggested modifications, resulting in 44 recommendations being rated; overall, 37 recommendations were valid.

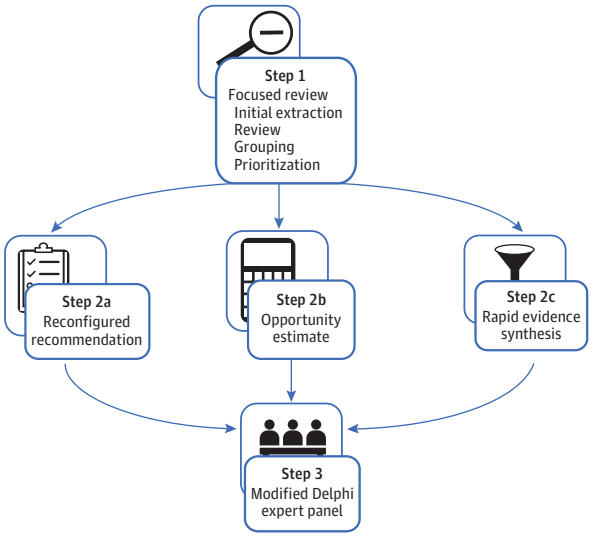
Meaning The approach outlined can be used as a model for identifying, specifying, and validating deintensification recommendations that can be implemented and tracked in clinical practice.

Methods

Our approach (**Figure 1**) consisted of 3 main steps. In step 1, we conducted a focused review of existing guidelines and recommendations to identify potential deintensification recommendations related to routine primary care and then prioritized the recommendations as potentially important targets of deintensification. To balance rigor and efficiency, we extracted information from published guidelines and focused primarily on those published between 2011 and 2016. The goal of this step was to produce a set of approximately 50 potentially high-priority recommendations. In step 2, we reconciled and reconfigured the resulting recommendations to generate actionable and measurable recommendations that explicitly defined and specified the deintensification action and the appropriate target population, estimated the number of patients potentially eligible for deintensification, and conducted rapid evidence syntheses when needed. The goal of this step was to generate measurable and actionable recommendations with supporting evidence that could be evaluated by an expert panel. In step 3, we convened a modified Delphi expert panel to review the synthesized evidence and assess the validity of the potential recommendations, using the RAND/UCLA Appropriateness Method.[16]

We defined deintensification as decreasing the intensity or frequency of medical interventions and services that are part of the ongoing management of a patient's therapy. Indications for deintensification encompass screening, testing, surveillance, and treatment (eg, medications and procedures). Ideal targets for deintensification are ones in which a potential for immediate or long-term harm (eg, from polypharmacy, toxic effects, procedure complications, and unnecessary further workup) exceeds potential benefits. A clinical service targeted for deintensification (eg, colorectal cancer screening in patients with life expectancies <10 years) may nonetheless be appropriate or necessary to perform in other populations (eg, healthy women aged 55 years). Our definition excluded recommendations that focus on management of acute conditions (eg, pneumonia), initial workup for a chronic condition (eg, new angina), pregnancy, preoperative care, behavioral/lifestyle changes, rehabilitation, or counseling. This study focused on the most common conditions and preventive care services encountered in the adult primary care setting, including cardiovascular and cerebrovascular disease, diabetes, depression, dementia, cancer screening, other screening/prevention, and inappropriate medication use (including opioids).

Figure 1. Overview of Methods to Identify, Specify, and Validate Deintensification Recommendations



Step 1: Conducting a Focused Review

To identify guidance or recommendations relevant to deintensification of routine, ambulatory primary care for adults in the identified clinical areas, we conducted a focused review of 16 major and commonly used clinical practice guidelines in the US and UK, the National Quality Forum's portfolio of endorsed performance measures, all US Preventive Services Task Force guidelines, and Choosing Wisely recommendations (eTable 1 and eMethods 1 in the Supplement). We abstracted recommendations potentially relevant to deintensification, which were found occasionally as explicit deintensification statements but more frequently as implicit statements that could be adapted toward deintensification (eTable 2 in the Supplement).

After recommendation abstraction, 2 clinically trained team members (E.A.K., J.B.S., T.J.C., L.M., S.D.S., and T.P.H.) reviewed each recommendation, including each Choosing Wisely recommendation, for its relevance to routine primary care and deintensification (**Figure 2**; eMethods 2 in the Supplement). Recommendations were excluded if both reviewers believed that the recommendation did not meet the inclusion criteria (eg, focused on specialty care, acute care, an initial workup) or did not meet the definition of deintensification. Because recommendations from different sources often had similar content, we grouped the remaining recommendations by intent and assigned the recommendation that more broadly covered the topic as the primary recommendation, with the remaining designated as supporting.

The recommendations were then prioritized: 2 physicians (E.A.K. and T.P.H.) individually rated the recommendations on importance, using a scale of 1 to 9. A designation of 9 suggested that the recommendation was a clear target for deintensification (ie, had a high likelihood of improving patient outcomes, had a high opportunity for improvement, and was feasible to measure). The top-rated 46 primary recommendations (diabetes- or cardiovascular disease–related recommendations with a rating ≥6.5 [n = 21] and all other recommendations with a rating ≥7.0 [n = 25]), together with a list of additional supporting recommendations on that topic and available evidence, were distributed to the advisory council members for further prioritization, using the same importance scale. The advisory council comprised leaders from health systems, research, and specialty societies familiar with the challenges of implementing practice recommendations. We retained 37 of the top-rated recommendations (rating ≥6) for consideration by the expert panels.

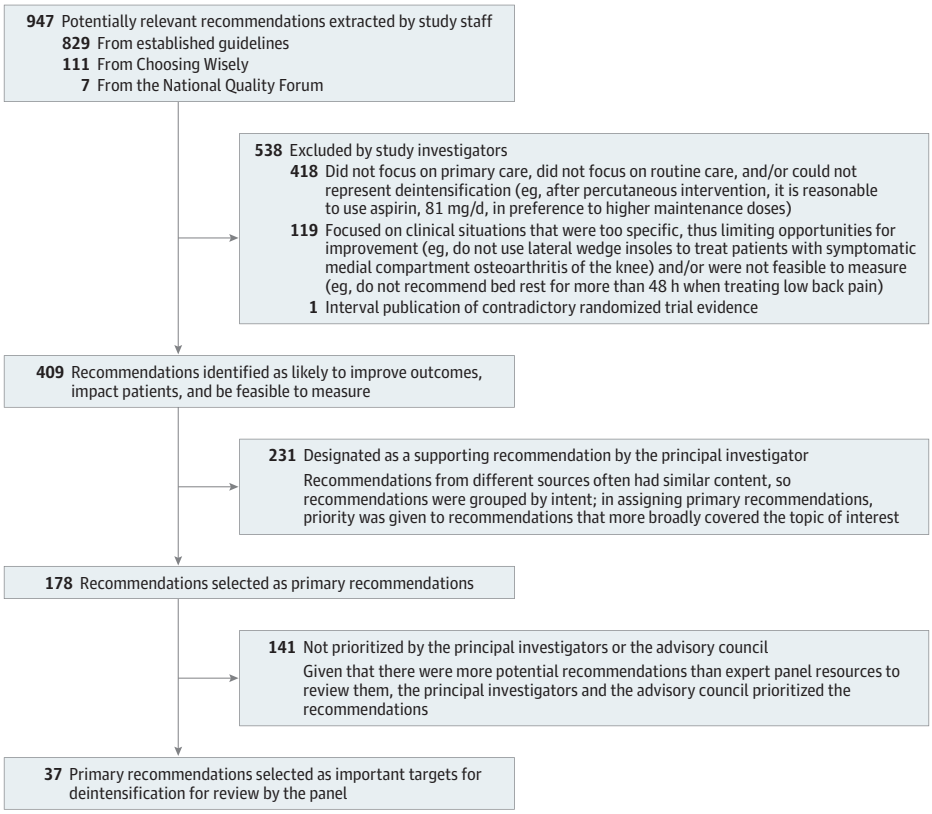
Step 2: Preparing Recommendations for Review

Step 2 was divided into 3 areas. In step 2a, we reconfigured each of the prioritized recommendations to generate those that were actionable and measurable by explicitly defining the specific deintensification action (numerator), the specific population of interest (denominator), and patients for whom deintensification might not be appropriate (exclusions). For example, the recommendation that clinicians should avoid prescribing opioid pain medications and benzodiazepines concurrently whenever possible was reconfigured into the following: Action: stop or decrease the dose of at least 1 of the 2 medications. Population: All patients aged 18 years and older who are on both opioids and benzodiazepines.

In step 2b, using clinical databases from the VHA, we prepared an opportunity estimate for each recommendation to approximate the number of patients potentially eligible for deintensification. For example, the estimate for concurrent use of opioids and benzodiazepines showed that 126 788 patients within the VHA were receiving an opioid and benzodiazepine concurrently in 2014-2015. We also included additional VHA and non-VHA estimates from the literature when available.

In step 2c, we collaborated with the Pacific Northwest Evidence-Based Practice Center to conduct a rapid evidence synthesis,[17] which is a streamlined approach for synthesizing evidence in a timely manner, that focused on benefits and harms of specified medical services and benefits and harms of deintensification and/or continuation, for each topic not already addressed by a recently published evidence review.[18-20] A total of 18 rapid evidence synthesis reports were completed (eTable 3, eMethods 3, and eMethods 4 in the Supplement).

Figure 2. Step 1: Focused Review Process and Results



Step 3: Convening an Expert Panel

We convened 2 virtual multidisciplinary panels of 25 physicians from Veterans Affairs and US academic institutions with knowledge in relevant clinical areas (eg, geriatrics, primary care, women's health, cardiology, and endocrinology) to assess the supporting evidence for each candidate deintensification recommendation, suggest ways the recommendations could be improved, and rate the final recommendations. Each expert panelist received a booklet (PDF and/or printed) that contained the following: goals of the project, rating criteria, actionable and measurable recommendations (with numerator, denominator, and exclusions defined), primary and supporting recommendations that motivated the actionable recommendations, opportunity estimates, and supporting evidence (eMethods 3 and 4 in the Supplement). The first panel focused on cardiovascular disease and diabetes and the second panel focused on cancer screening, medication use in older adults, and other forms of overuse. For each panel, we adapted the RAND/UCLA Appropriateness Method because it has been used to validate both recommendations and performance measures that focus on defining quality of care (**Figure 3**; eMethods 5 in the Supplement).[21-25]

We adapted the panel process to provide a more sustainable and efficient approach to rating recommendations. First, we conducted a session (meeting 1) before the initial rating round that introduced panelists to the concept of deintensification and the meeting process and encouraged them to provide feedback on the content and population specificity of the recommendations. We incorporated recommended revisions before the first round of ratings. Second, we used a hosted cloud-based collaboration tool (ThinkTank) that allows participants to provide written comments in real time and rate in real-time or asynchronously.[26] The write-in process during the meetings facilitated verbal discussion and allowed all panelists to express their opinions and reactions even when not speaking. Two study investigators experienced in running expert panels (E.A.K. and S.J.B.) facilitated both panels. A waiver of signed informed consent for expert panel participants was approved by the Ann Arbor VA Healthcare System Institutional Review Board.

Statistical Analysis

Ratings from ThinkTank were entered into a Microsoft Excel (Microsoft Corp) spreadsheet in duplicate and checked for discrepancies. Analyses were conducted using R, version 3.4.0 (R Foundation). Following conventional methods for analyzing data from the RAND/UCLA Appropriateness Method, the final rating was classified according to the panel's median score and level of agreement.[16] Appropriateness was then classified as follows:

1. Appropriate (eg, valid): panel median rating of 7 to 9, without disagreement,
2. Uncertain (eg, unclear opportunity for improvement): panel median rating of 4 to 6 or any median with disagreement, and
3. Inappropriate (eg, not feasible to implement): panel median rating of 1 to 3, without disagreement.

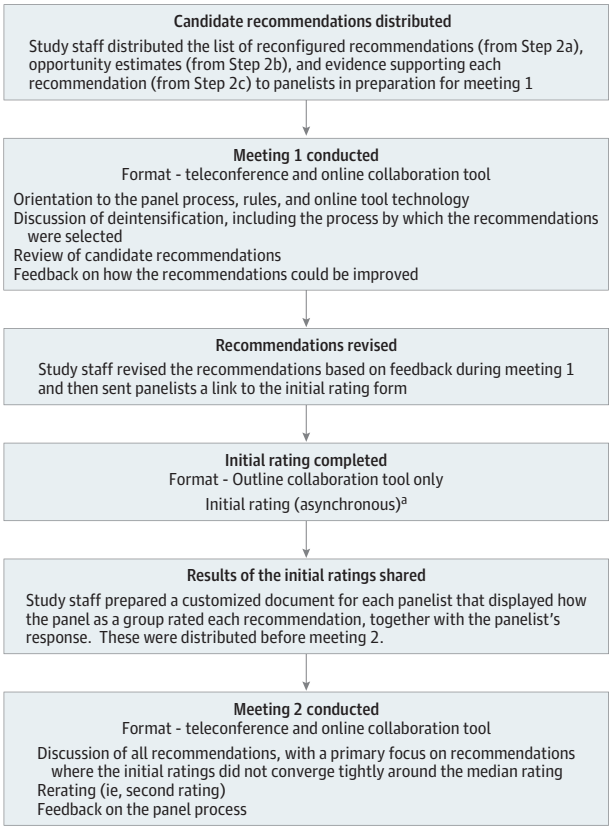
Results

The initial, high-level extraction from selected guidelines by study staff yielded 947 relevant potential recommendations (Figure 2). Following the review by study investigators (eg, for confirmation that the recommendation met the inclusion criteria), grouping of recommendations with similar content (eTable 4 in the Supplement), and prioritization of the remaining recommendations, 37 recommendations were taken forward to the expert panel for formal evaluation.

The panel meetings were conducted in May 2017 (cardiovascular disease and diabetes) and November 2017 (cancer screening and deintensification of medications) (eTable 5 in the Supplement). Initially, 15 recommendations were presented to panel 1 and 22 recommendations were presented to panel 2. For the purposes of interpretation, we grouped the deintensification recommendations from both panels by modality of care into the following 5 categories: (1) medication use in older adults, (2) medication use in all adults, (3) cancer screening, (4) other screening, and (5) all other modalities of care (**Table 1**).

Of the 37 recommendations configured and specified by study staff that were initially presented to the expert panel, the panelists recommended, after discussion, to drop 1 recommendation, make changes to 34 recommendations, and preserve 2 recommendations as originally presented (eTable 6 in the Supplement). The recommendation dropped was: Action: stop or decrease dose of antipsychotics; Population: patients older than 65 years; Population exclusions: patients with schizophrenia, bipolar disorder, major depression, or using antipsychotics (short term) as antiemetics during chemotherapy. (A similar recommendation with the population defined as patients aged >65 years with dementia was retained.) For 7 of the recommendations, the panel added 1 or more alternative or additional forms of the recommendation for future rating of the panel because at least some of the panelists believed that alternative wording had a stronger evidence base, had more clear applications, or better represented safe, patient-centered tapering (eTable 6 in the Supplement). Because of these additions, the total number of recommendations for rating increased from 37 to 44. The changes recommended were generally focused on making the recommendation more specific to prevent motivating a deintensification action when action was not indicated (**Table 2**; eTable 6 in the Supplement). These changes generally included making the action more focused or narrowing the population for which the deintensification action applied. For example, for the recommendation regarding use of antipsychotics in older patients with dementia, the panel changed the specification of the action (numerator) from "stop or decrease dose of antipsychotics" to "initiate a decrease in dose of the antipsychotic after 4 months of daily use or justify continued use at the same dose" (recommendation 20; eTable 6 in the Supplement). Similarly, for the recommendation on stopping use of benzodiazepines and other sedative-hypnotics in older adults, the panelists narrowed the eligible population from "patients older than 65" to "patients older than 65 on long-term benzodiazepines or other sedative-hypnotics for the treatment of insomnia" (recommendation 4; eTable 6 in the Supplement). Overall, before rating the recommendations, panelists more precisely specified the action in 30 of the 44 recommendations and the population in 33 of the 44 recommendations (Table 2).

Figure 3. Step 3: Expert Panel Process



[a] Criterion 1: validity (range, 1-9; 9 = high validity). 1. High-quality evidence exists that deintensification is likely to improve patient outcomes. 2. Evidence exists that intense testing/treatment could cause harm in some patients. 3. There is absence of evidence of benefit of continued/repeated intense treatment or testing. 4. Deintensification is consistent with high-quality care; clinicians who have higher rates of deintensification would be considered to be higher quality vs those with lower rates. Criterion 2: improvement opportunity (range, 1-9; 9 = high opportunity for improvement). 1. It is likely to affect a large number of patients or have a significant impact in a smaller number of patients. 2. The current rate of deintensification is low or likely to be low. Criterion 3: feasibility of implementation (range, 1-9; 9 = highly feasible). 1. Deintensification of this treatment/testing is under the control of the health professional or health organization.

Across all categories, the panels rated the validity of the resultant deintensification recommendations relatively highly. Overall, 37 of the 44 recommendations were rated as valid by a median rating of 7 or higher with sufficient agreement among the reviewers as defined by the RAND/UCLA Appropriateness Method. Notable exceptions that were not rated as valid included decrease hypertension medications in those with low blood pressure (recommendations 9-10), stop lipid-lowering medications in patients with limited life expectancy (recommendations 22-23), and stop prescribing glucose test strips in patients treated with metformin or diet alone (recommendation 44) (eTable 6 in the Supplement). In addition, 32 recommendations had an improvement opportunity rating of 7 or higher (likely to affect a large number of patients or substantially impact a smaller number of patients) and 36 recommendations had an implementation feasibility rating of 7 or higher (likely under the control of the health professional or health organization).

Table 1. Examples of Original Deintensification Recommendations, Final Specification of the Actionable Recommendation, and Validity Rating

Original recommendation	Final specification of the actionable recommendation[a]	Validity rating (median), 1-9
Medication (older adults)		
Avoid using medications other than metformin to achieve Hb_{A1c}<7.5% in most older adults; moderate control is generally better.	Action: stop or decrease dose of insulin, sulfonylureas, and/or thiazolidinediones within 3 months of a low Hb_{A1c} Population: older adults (age, ≥65 y) with an Hb_{A1c} level <7% at high risk for hypoglycemia (CKD stage 3 or greater, cognitive impairment, or dementia)	8
Medication (all adults)		
When opioids are started, clinicians should prescribe the lowest effective dosage. Clinicians should use caution when prescribing opioids at any dosage, should carefully reassess evidence of individual benefits and risks when increasing dosage to ≥50 MME/d, and should avoid increasing dosage to ≥90 MME/d or carefully justify a decision to titrate dosage to ≥90 MME/d.	Action: decrease the opioid dose or justify continuation of the current dose[b] Population: patients with chronic, noncancer pain who are on a long-term daily dose of ≥90 MME/d Excluded: patients receiving hospice or palliative care	7
Cancer screening		
Clinicians should encourage colorectal cancer screening (in persons aged 50-75 years) by 1 of 4 strategies: high-sensitivity FOBT or FIT (every year); sigmoidoscopy (every 5 years); combined high-sensitivity FOBT or FIT (every 3 years) plus sigmoidoscopy (every 5 years); or optical colonoscopy (every 10 years) in average-risk adults aged 50 to 75 years.	Action: do not screen more often than every 10 years with colonoscopy, every 5 years with sigmoidoscopy, or yearly with FOBT/FIT[b] Population: patients with average risk of colorectal cancer Excluded: patients whose prior colonoscopy was incomplete due to inadequate bowel preparation	8.5
Other screening		
The USPSTF recommends against screening with resting or exercise ECG for the prediction of CHD events in asymptomatic adults at low risk for CHD events. Clinicians should not screen for cardiac disease in asymptomatic, low-risk adults with resting or stress ECG, stress echocardiography, or stress myocardial perfusion imaging.	Action: stop annual (or more frequent) screening with stress ECG, stress echocardiography, or stress myocardial perfusion imaging[b] Population: asymptomatic adults at low risk for CHD events	8
All other		
Do not perform echocardiography as routine follow-up for mild, asymptomatic native valve disease in adults with no change in signs or symptoms.	Action: do not use echocardiography for screening more often than every 3 y[b] Population: adult patients with mild, asymptomatic native valve disease	7.5

Abbreviations: CHD, coronary heart disease; CKD, chronic kidney disease; ECG, electrocardiography; FIT, fecal immunochemical test; FOBT, fecal occult blood test; HbA_{1c}, hemoglobin A_{1c}.; MME, morphine milligram equivalents.

[a] The source of the original recommendation and any supporting recommendations, initial actionable recommendation as specified by the study team (ie, proposed action, population, and exclusions for review by the expert panel), summary of the changes made by the expert panel, and validity rating results are located in eTable 6 in the Supplement.

[b] This recommendation has exclusions and/or definitions, which are located in eTable 6 in the Supplement.

Table 2. Summary of Changes Made by the Expert Panel to the Actionable Deintensification Recommendations and Results of the Second Rating

	No.					
	Medications		Screening			
Candidate recommendations	Older adults	All adults	Cancer	Other	All other	Total
Initially presented to the expert panel	8	13	8	5	3	37
Received a second rating	10	14	10	5	5	44
Summary of changes made by the expert panel (of 44)						
More precisely specified the action in the recommendation	9	14	2	1	4	30
More precisely specified the population in the recommendation	8	8	9	3	5	33
Did not make any changes to the original recommendation	0	0	0	2	0	2
Second rating results (of 44); range for each criterion, 1-9						
Median validity ≥7	8	10	10	5	4	37
Median improvement opportunity ≥7	5	9	9	5	4	32
Median feasibility of implementation ≥7	6	11	10	5	4	36

Discussion

To our knowledge, this is the first study to develop a reproducible method to identify, validate, and precisely specify indications for deintensification of medical services. Starting from a set of 86 guidelines, Choosing Wisely recommendations, and National Quality Forum measures, we identified 409 recommendations, corresponding to 178 unique indications, that represented opportunities to stop or scale back routine services in primary care. After prioritization,

specification, and expert panel revisions, the expert panels rated 37 of 44 deintensification recommendations as valid and 32 as both valid and an important improvement opportunity. The initial prioritization of recommendations by the investigators and advisory council and the panelists' opportunity to discuss and improve the deintensification specifications developed by study staff may have facilitated the panelists rating a high proportion of the recommendations as valid. Nonetheless, panelists recommended more precise specification of the population or action for almost every recommendation presented to them. The most common change to the population was to narrow the eligible individuals or expand the number of exclusions. The most common change to the action was to more specifically designate the time frame, allow for documentation to justify continuing the service or treatment, and more specifically identify the treatment (eg, types of medications). In almost all cases, this process resulted in narrowing what was considered as deintensification.

In general, while panelists approved the concept of deintensification, they, like most clinicians, were hesitant to broaden indications for providing fewer services and expressed concern about stopping services that might be indicated. This caution may be at least in part a result of the underdeveloped evidence base for deintensification, leading to clinical uncertainty about safety, the use of performance measures that focus predominantly on increasing treatments and tests, as well as a desire to preserve clinical autonomy and patient preferences.[27] Thus, the recommendations from a process such as this may evolve as the evidence base grows and medical culture becomes more accepting that stopping or scaling back certain treatments and tests may translate to better care.[28]

This study was designed to develop a systematic process to identify deintensification recommendations and then to specify and validate recommendations that were considered high priority for the VHA. The study was not designed or resourced to enumerate and specify every possible deintensification recommendation; therefore, the expert panel only rated approximately one-quarter of identified topics. While it is more efficient to prioritize recommendations before the expert panel process, the prioritization process may have classified some recommendations as lower priority that would have been rated as valid by the expert panel if presented to them. Although we initially applied this process to 6 years' worth of guidelines, which yielded a large number of recommendations, if this approach were applied as a yearly or biannual update, there would be smaller proportions of new, highly valid candidate recommendations, and eventually recommendations would increasingly come from new incident evidence. Moreover, although we aimed specifically at deintensification, the approach we used could easily be applied to identify and validate a broader set of actionable and measurable recommendations as part of a comprehensive performance management system used by payers, health systems, or national groups.[29]

Recommendations for deintensification are needed both to promote safe medical practice and to balance the myriad recommendations and incentives currently in place to decrease underuse. The goal of such a system would be to assess opportunities to optimize processes of care and develop system-level implementation approaches on an ongoing basis that help to ensure that patients are provided needed care, but not care that is unnecessary or may harm them. Using validated and precisely specified recommendations, particularly if incorporated into electronic health records, would provide actionable information for quality improvement efforts. However, given that the recommendations cannot anticipate every exigency and any one clinician will have a small number of patients with unique deintensification opportunities, we would reject the use of these recommendations for evaluating practice at the clinician level.[30,31]

Strengths and Limitations

Strengths of this study include the innovative focus on deintensification and the systematic approach to identifying, prioritizing, specifying, and rating recommendations. Similarly, our use of a virtual expert panel communicating with the benefit of collaborative software support allowed us to efficiently incorporate the input of experts from around the country without travel costs. This virtual approach allowed us to recruit top experts in the fields for our panels, including from general internal medicine, geriatric medicine, and other internal medicine subspecialties. We were not successful, however, in recruiting family medicine physicians.

The study had limitations. First, although panel members recognized that assessing the need to stop screening based on 10- to 15-year life expectancy would be more clinical meaningful than using the proxy of older age, they were also aware that there were no validated tools available for easily assessing medium-term life expectancy from electronic health record data.[32] Thus, for screening recommendations, the panel often revised recommendations to include both older age, which can be easily measured, as well as life expectancy, anticipating that validated tools will be available in the future. Second, we did not have patient representation on the panels, and the recommendations did not focus on the process of patient decision-making. In our study, several recommendations considered valid by the expert panels were subsequently presented to patients as part of a user-centered design workshop.[33] Patients worked together in 2 preliminary workshops and with clinicians in a later workshop to develop creative strategies for implementing deintensification recommendations in practice. In the future, it may be possible to incorporate patients in virtual panels with appropriate prepanel preparation, thus incorporating patient perspective directly.[22]

Conclusions

Despite the success of the Choosing Wisely campaign in motivating recommendations and discussions to decrease low-value care, the medical profession is only beginning to test successful approaches for implementing its recommendations.[34,35] The important focus of deintensification has had fewer recommendations[11] and even fewer implementation approaches. Our work described herein builds on previous guidelines and lists of recommendations by making explicit when and for whom ongoing medical services should be stopped or scaled back. To our knowledge, the approach used in our study is the first to systematically identify, specify, and validate actionable and measurable recommendations for deintensification in routine adult primary care. This approach can also be used by guideline developers to more precisely frame their recommendations. Although specifying deintensification recommendations may be an important first step, recommendations alone will not motivate change.[36] The next steps should include assessing how often we fail

to deintensify when indicated, tracking intended and unintended outcomes of deintensification efforts, developing patient-centered and policy solutions for deintensification, and testing and evaluating theory-based approaches for change.

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Drafting of the manuscript: Kerr, Klamerus, Goodrich, Hofer.
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