



STRATEGIC ROADMAP TO PREVENT SECONDARY FRACTURES

Draft Framework for Discussion

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SUMMARY OF ELEMENTS OF STRATEGIC ROADMAP

- 1. Strengthen working relationships with patient advocacy organizations and primary care clinician groups.**
 - a. Building further trust with these stakeholder groups will be essential to have the required support to successfully implement all other elements of the strategic roadmap.*
 - b. A key near-term deliverable would be an updated Call to Action, developed in partnership with willing groups, and outlining key elements of this strategic roadmap*
 - c. Once a new Call to Action is developed, we will identify those groups and individuals who are willing to continue to participate in a voluntary coalition to implement the selected activities*
- 2. Clarify target population for focus of efforts over next two to three years.**
 - a. We recommend that this should be patients at or over the age of 50 years with a hip fracture or vertebral fracture that comes to clinical attention (defined below). This choice is well supported by existing data on fractures, risk level, clinical consensus*
 - b. Other high-risk patient populations would be the focus of a later phase of this work, or be addressed by other programs and initiatives*
 - c. Because of public concerns about the potential harms of drug treatment, it will be important to provide accurate information on these risks (atypical femur fractures, ONJ) as well as strategies now used to reduce these risks*
- 3. Decide on specific measurable goals to achieve with the target population, and define efficient mechanisms to track progress toward these goals.**
- 4. Collect and analyze lessons learned from selected past programs and initiatives**
 - a. Drawing on published reports, expert input, etc. – determine what has worked well, what has not worked and most likely explanations for success or lack thereof*
 - b. Be very cautious about repeating modest variations of programs that have failed*
- 5. Evaluate and prioritize activities designed to achieve the goals defined above**
 - a. Agree on a core set (5-7) of meaningful process and outcome measures to evaluate quality of care in the target patient population*
 - b. Meet with CMS to explore potential mechanisms to pay for case management programs and/or apply value-based payment incentives to care of these patients*
 - c. Review existing clinical guidelines from primary care and specialty organizations to determine whether the high priority target population and proposed interventions are consistent with them.*
 - d. Work with patient and primary care partners to support broad circulation of the updated “Call to Action” (mentioned in #1 above) to their respective members / constituents*

- e. Develop and circulate educational material to primary care clinicians highlighting clinical recommendations that are aligned with project goals*
- f. Work with other health professional organizations (OT, PT, rehab med, physician assistants, nurse practitioners, etc.) to develop ways to educate members about drug therapy and case management approaches*
- 6. Consider partnerships with integrated delivery systems to develop system-specific programs targeted to prevent second fractures**
 - a. Ideally focus on those with, for example, low rates of drug treatment and case management use, or other measures consistent with those identified in Recommendation 3*
 - b. May allow for refinement of target population, interventions, collection of process and outcomes data*
- 7. Align separate PR / media activities (such as NBHA, NIAMS, others) with core elements of this strategic roadmap**

INTRODUCTION

People at or over the age of 50 years who have suffered a hip or vertebral fracture that comes to clinical attention are at extremely high risk of another fracture, yet a majority of them do not receive recommended treatments following their fracture. As a result, this group remains at high risk of second fractures despite the availability of interventions that are known to reduce this risk. Several large delivery systems in the US have made substantial progress toward improved care, and many people in this group are treated appropriately in the UK and other countries because of focused efforts to change practice.

This situation is analogous to the inadequate care provided to patients who were hospitalized for a heart attack prior to the year 2000, many of whom were discharged from the hospital without being offered treatment with beta-blockers, aspirin, and cholesterol lowering drugs – all of which were known to reduce the chance of another heart attack. Focused attention to this problem over several years resulted in more than 90% of these people receiving these treatments.

We believe that the many organizations working on issues around osteoporosis and bone health can find common ground to agree on a pathway for focused attention to reduce the number of avoidable second fractures. The American Society for Bone and Mineral Research (ASBMR) is committed to working with a coalition of experts and stakeholders to achieve this goal. The following draft strategic roadmap draws heavily upon discussions during an ASBMR-supported multi-stakeholder meeting held in Crystal City, Virginia on July 19, 2017. This meeting was organized and convened by the Center for Medical Technology Policy (CMTP), an independent non-profit dedicated to evidence-based policy. Through a process of analysis and deliberation, we have identified a series of activities intended to reduce the incidence of second fractures, through the collaboration of ASBMR with other organizations and individuals. This draft was prepared by CMTP reflecting its analysis to date and presenting draft recommendations to ASBMR for discussion and review.

This strategic roadmap is being provided now as a draft for stakeholder comment and further refinement. ASBMR will continue to work with all willing partners, including patient and consumer groups, primary care clinicians, and other interested experts and stakeholders, to reach consensus on specific activities that are most likely to decrease the number of preventable second fractures. While this roadmap is applicable to a treatment gap that exists globally, many of the recommended actions are designed for implementation in the US. The proposed actions are intended to complement other efforts to improve bone health.

ELEMENTS OF STRATEGIC ROADMAP

1. STRENGTHEN WORKING RELATIONSHIPS WITH PATIENT ADVOCACY ORGANIZATIONS AND PRIMARY CARE CLINICIAN GROUPS

- a. Building further trust with these stakeholder groups will be essential to have the required support to successfully implement all other elements of the strategic roadmap.*
- b. A key near-term deliverable would be an updated Call to Action, developed in partnership with willing groups, and outlining key elements of this strategic roadmap*
- c. Once a new Call to Action is developed, we will identify those groups and individuals who are willing to continue to participate in a voluntary coalition to implement the selected activities*

In any public health initiative, the patients whose care is at issue and the clinicians who guide patient care are key partners. The active involvement of these groups in developing and implementing this initiative will increase the likelihood of success. Their ambivalence or skepticism toward an initiative will form a significant barrier. Given the recent history of osteoporosis treatment, which has been in part characterized by skepticism towards the motivations and recommendations of experts, care will need to be taken to build collaborative, respectful, and trust-based partnerships. **To this end, decision-making and actions associated with each of the strategic steps described below should entail partnership with patient and primary care clinician groups. Partners should include patients and patient advocates, consumer groups, occupational therapists, physical therapists, rehabilitation therapists, nurse practitioners, physician assistants, family practitioners, general internists, orthopedic surgeons, and others.**

A first step in this partnership is the development of an updated Call to Action crafted with substantive participation of these groups. As described in more detail below, this should include input on the initiative’s target population, goals, and measures of progress. A range of evidence-based treatment options should be considered; however the updated Call to Action should clearly articulate that the target population has osteoporosis. This is not to imply that these will be the only stakeholders or collaborators who may participate. However, these groups have been historically under-represented in prior efforts and should be a focus of engagement to ensure their priorities and values are clearly reflected, and to build constructive relationships for implementing it successfully.

As the Call to Action is developed and completed, a coalition of interested volunteers will be identified who are willing to serve as “champions” to help implement the strategic plan. These patient and primary care volunteers would be asked to speak and educate on the initiative, provide input on compelling messaging for the communities they represent, and provide insight on the best ways to reach patients and primary care clinicians to effect change. They could also help to broaden the network of patients and primary care clinicians; for example, an occupational therapist may be able to leverage contacts in a national professional organization to identify colleagues in localities across the nation willing to disseminate information.

In addition to patient and primary care group volunteers, and the participation of other stakeholders, it would clearly be beneficial to identify other parallel and allied initiatives and look for ways to collaborate and leverage available resources. In considering these opportunities for partnering, care should be taken to consider the sources of funding associated with related projects. For some stakeholders, industry funding is perceived as suspect. For these observers, some health care providers are seen as “captured” by industry, or viewed as putting their own financial interests ahead of those of their patients. **While it may be difficult to achieve, to avoid these pejorative perceptions, this initiative would ideally be supported by funding sources other than life science companies, while ensuring that the expertise from this sector is maintained.** Care should also be taken to limit close association with parallel initiatives that do receive industry support. This approach should help to build trust-based relationships with patient and primary care practice groups.

2. CLARIFY TARGET POPULATION FOR FOCUS OF EFFORTS OVER NEXT TWO TO THREE YEARS

- a. We recommend that this should be patients at or over the age of 50 years with a hip fracture or vertebral fracture that comes to clinical attention (defined below). This choice is well supported by existing data on fractures, risk level, clinical consensus***

- b. Other high-risk patient populations would be the focus of a later phase of this work, or be addressed by other programs and initiatives*
- c. Because of public concerns about the potential harms of drug treatment, it will be important to provide accurate information on these risks (atypical femur fractures, ONJ) as well as strategies now used to reduce these risks*

We believe that the likelihood of achieving significant changes in care will be maximized if the population targeted for intervention is narrowly defined. Existing clinical guidelines for fracture prevention are varied and sometimes contradictory, particularly in areas where evidence is limited. Agreement on a well-defined patient population for which evidence is strongest will make it easier to reach consensus on the steps necessary to improve care for these patients. By increasing the probability of achieving broad stakeholder support, this approach also will increase available resources (the more stakeholders involved and supporting the project, the more the potential resources that can be secured, provided, or leveraged). The history of prior initiatives also argues for a focused approach. Broadly framed efforts are more likely to be viewed warily by some stakeholders and may provoke controversy that may slow progress in both patient and clinician groups for which immediate action is needed.

The population to target for intervention should be at substantially increased risk of fracture, potential interventions should have been shown to be effective at reducing that risk, and a significant treatment gap should be easily demonstrable. Ideally, for purposes of implementation, the criteria used to identify the target population should be simple and precisely defined. The more complicated the criteria, the more difficult implementation will be. The target population preferably would also be readily identifiable in the sense that resources expended on case finding activities should be minimized.

“Patients ≥ 50 years old who have suffered a hip fracture or a vertebral fracture that comes to clinical attention” is a population that meets these criteria and for which we believe a multi-stakeholder consensus could be achieved. The term “vertebral fracture that comes to clinical attention” is intended to refer both to (a) fractures that are symptomatic and cause patients to seek health services, and (b) fractures that are incidentally detected (e.g., on imaging studies conducted for a different indication) and therefore come to the attention of a clinician. The population is simply defined and traditional “case finding” is not necessary because people are already identified and in the process of obtaining care. Although there was some support among summit participants for a population of the same age with simply “a hip or vertebral fracture,” we believe that not clearly identifying which vertebral fractures are included will lead to confusion and controversy, as well as to disputes over the strength of the evidentiary foundation.

While it appeared that a consensus among stakeholders at the summit in support of this population was nearly reached, it will be necessary to collect the published peer-reviewed studies and other evidence that supports it. For example, women above the age of 50 who have a history of fracture have been shown to be at greater than five times the risk for having another fracture during the first year following the index fracture.¹ Effective interventions are available: for example, several systematic reviews have concluded that bisphosphonates reduce the risk of vertebral fractures in numerous populations as well as the risk of hip and non-vertebral fractures in patients who have already experienced a fracture.^{4–9} Other effective pharmacologic therapies, including anabolic drugs, are also available. In addition, the Centers for Disease Control and Prevention have assembled a compendium of interventions that have been shown to reduce falls in older adults² Finally, a variety of studies have shown that people with hip and vertebral fractures are not receiving appropriate treatments.

As part of the collection of supporting evidence, comparative data for other potential populations at increased risk should also be compiled. Having this information at hand will help address any issues raised by proponents of focusing on broader populations. Also, because concern about possible adverse events associated with pharmacological treatment has been a substantial barrier, appropriate information about relative risks of treatment versus non-treatment should be assembled, along with material demonstrating how the risks of adverse events (especially atypical femoral fractures and osteonecrosis of the jaw) have been reduced through actions such as recognition of prodromal symptoms, monitoring, changing dosages, and limiting duration of use.

In defining the target population and implementing the proposed activities, it will be critical to avoid giving the impression that fracture prevention is *not* needed for other populations. Several stakeholders at the July summit expressed concerns about the possibility of causing misunderstanding about what the importance of the target population is and inadvertently compromising other fracture prevention efforts. Once we have seen progress with the activities focused on the highest risk patients, it should be possible to expand the program to additional people at high risk of fracture. A network of involved stakeholders will have been established, primary care providers and specialists will have increased trust in one another, and people at risk of fracture will have increased confidence in their primary care practitioners. These factors will provide a solid foundation for future efforts.

3. DECIDE ON SPECIFIC MEASURABLE GOALS TO ACHIEVE WITH THE TARGET POPULATION, AND DEFINE EFFICIENT MECHANISMS TO TRACK PROGRESS TOWARD THESE GOALS

Aiming for a specific goal can help motivate stakeholders; they can measure the progress being made and see a defined endpoint. **We believe that carefully choosing specific measurable goals will ultimately prove critical to the success of the work to come. Once specific goals have been articulated, potential actions should be prioritized in light of their potential for achieving those goals.** If a proposed action would not make achieving a goal more likely, then it should receive lower priority or simply be abandoned. The activities developed as part of recommendation #5 should be shaped and directed by the objectives that are defined here.

In deciding on which goals to establish, implied messages need to be considered. For example, many stakeholders maintain (and the available evidence supports the proposition) that too few people with a history of fracture are using drugs that could reduce their risk of future fracture. Setting a goal of increasing the rate of drug use could give the impression to skeptics that this initiative is ultimately about “pushing drugs,” with all the negative connotations that term brings forth. Similarly, even though diet and exercise are part of the treatment after a heart attack, patients must be placed on medications. Thus, even though the goal would be scientifically appropriate for treating patients after a fracture, this metric would need to be considered in this historical context. **For purposes of discussion, we offer for consideration the goal of increasing drug therapy in patients with a prior fracture (patients who meet the narrowly defined population described above) from the current rate of 20% to a rate of 50% by the end of the year 2020.** This goal would be pursued in tandem with efforts to ensure that primary care clinicians are familiar with current knowledge on how to minimize the risk of serious adverse events.

Both process and outcome goals should be contemplated. Many existing quality measures look to whether procedures are followed and certain actions are taken. An aspiration to increase the number of patients followed up through case management-type programs (e.g., fracture liaison services [FLS],

“Own the Bone”) would be a meaningful process goal. **Again, for purposes of discussion, we propose the goal of increasing the number of patients referred for FLS by 25% from the current baseline by the end of 2020.**

Increasing the percentage of the target population that undergoes a documented fracture risk assessment, or that has a documented risk management plan are others. The ultimate purpose of this initiative is to decrease the number of fractures – thus, a goal of decreasing the fracture rate by a specified percentage below the expected and/or historical rate would be an outcome goal to consider.¹⁰ **We are not yet able to suggest a target reduction for the fracture rate, but encourage those who review this document to offer suggestions to be included in the next draft.**

While assembling the evidentiary foundation for recommendation #2 and the lessons learned for recommendation #4, it would be useful to track the measures that are reported in the literature. **For example, a study in the UK examining the clinical effectiveness of nurse-led and orthogeriatric-led fracture liaison services assessed both the resulting fracture rates and mortality rates,¹¹ suggesting the possibility of choosing a mortality as a goal. Feedback on this suggestion is also requested.**

Whether to choose a specific objective depends in part on the ability to determine that an objective is being achieved at a reasonable cost. If this is not the case, perhaps other targets would be better choices. As part of the review of lessons learned, look for existing resources that could be adapted, expanded, or used as models. One key aspect of the “Own the Bone®” program, for example, is a web-based registry in which clinicians can enter a few key pieces of data that can be used to track program success. Another relevant factor is the setting in which the measurement is taken: some data are easier to collect in closed or integrated health systems. Ideally, a simple audit tool that could be used in any country could be developed.

4. COLLECT AND ANALYZE LESSONS LEARNED FROM SELECTED PAST PROGRAMS AND INITIATIVES

- a. Drawing on published reports, expert input, etc. – determine what has worked well, what has not worked and most likely explanations for success or lack thereof*
- b. Be very cautious about repeating modest variations of programs that have failed*

The ASBMR Task Force Report on Secondary Fracture Prevention summarized in 2012 the evidence in the literature for and against specific interventions aimed at preventing secondary fractures.¹² While the Task Force also referenced numerous national and international programs and initiatives, there has been much greater implementation of FLS worldwide since that report that should be studied for the content and effectiveness of these programs. An update would therefore be useful.

In addition, to efficiently use available resources, it is important to avoid both “reinventing the wheel” for effective initiatives and failing to learn from history regarding less successful programs. Some of the larger fracture prevention projects focusing on bone health that may be worth examining include:

- International Osteoporosis Foundation’s “Capture the Fracture”¹³
- National Bone Health Alliance’s “2 Million 2 Many,”¹⁴ “Secondary Fracture Prevention Initiative,”¹⁴ and “20/20 Vision”¹⁴
- American Society for Bone and Mineral Research’s “Call to Action”¹⁵

- American Orthopaedic Association's "Own the Bone®"¹⁶
- Bone and Joint Decade's "Fragility Fracture Network"¹⁷

Similarly, several programs dedicated to reducing the risk of falling have been developed or are in the process of implementation, including:

- Center for Disease Control and Prevention's "Stopping Elderly Accidents, Deaths, and Injuries" ("STEADI")¹⁸
- AARP's and United Healthcare's "Fall Prevention Challenge"¹⁹
- National Council on Aging's "Stay Active and Independent for Life" ("SAIL")²⁰
- Pennsylvania Department of Aging's "Healthy Steps for Older Adults"²¹ / Healthy Steps in Motion"²²

Not only will examining selected programs on bone health and fall prevention provide valuable information to help determine the content of this initiative, but it can also help identify resources or programs that potentially could be utilized to support this effort. The AOA's "Own the Bone®" program, for example, incorporates a web-based registry for de-identified patient data, including fracture history, medication use, bone mineral density testing results, and other relevant information. This registry could serve as a model for other quality improvement or data collection efforts or perhaps could itself be expanded and used more broadly to help measure changes in care and outcomes.

Other public health programs in different disease areas can also provide important lessons. For example, the American Heart Association's Get With The Guidelines ("GWTG") project was a hospital-based quality improvement initiative to reduce death and disability due to cardiovascular disease and stroke by focusing on compliance with secondary prevention clinical guidelines before discharging patients who had survived a myocardial infarction.²³ Elements of the initiative included a Web-based system requiring about 90 seconds of data entry that also provided specific recommendations on how to comply with the guidelines and generated a letter to the patient's primary care practitioner that documented the discharge orders.²³ The published literature on GWTG includes articles on program implementation,²⁴ outcomes,²⁵ and registry development,^{26,27} among other topics. Because many of the identified barriers to secondary fracture prevention are similar to the barriers that GWTG was designed to address,²⁴ one would reasonably expect to obtain relevant information by reviewing specific aspects of the initiative. In fact, the AOA's Own the Bone® program was modeled on GWTG and was developed with the guidance of the American Heart Association.²⁸

Another area not directly related to preventing fractures that may be fruitful to explore would be programs to engage and activate primary care providers. Most of the literature in this area appears to be focused on quality improvement. The issues are complex, however, and relevant insights may be difficult to identify. The effectiveness of financial incentives for changing practitioner behaviors, for example, appears to be a matter of some dispute with some reviewers concluding that the importance of financial incentives is often overemphasized²⁹ and others focusing solely on strategies to make incentives work better.³⁰ It may prove most productive to focus this area of research on reliable reviews from trustworthy sources. The Agency for Healthcare Research and Quality, for instance, recently summarized strategies for engaging primary care practices in quality improvement initiatives,³¹ and the National Academy for State Health Policy has provided an overview of states' efforts to engage primary care providers in pediatric oral care services.³²

Reviewing selected public health campaigns focused on other aspects of bone health and fracture prevention, such as improving peak bone mass early in people's lives, may also help provide insights into peoples' attitudes and beliefs. Programs such as "Milk Matters," a calcium educational campaign developed by the National Institute of Child Health and Human Development,³³ and "Best Bones Forever!," a bone health campaign from the Office of Women's Health at HHS,^{34,35} for example, stressed the importance of calcium and vitamin D intake and exercise in girls and young women to build peak bone mass. While those campaigns, targeted primarily at mothers and daughters, did not address issues relating to adult osteoporosis, they might help explain why large numbers of women believe that osteoporosis can be adequately managed by just diet and exercise.

5. EVALUATE AND PRIORITIZE ACTIVITIES DESIGNED TO ACHIEVE THE GOALS DEFINED ABOVE

- a. Agree on a core set (5-7) of meaningful process and outcome measures to evaluate quality of care in the target patient population*

Tracking the progress of the activities conducted as part of this initiative will be supported and guided by the selection of a "core set" of quality measures that are explicitly linked to the target population, interventions and goals selected for the initiative. We suggest the following approach to identifying measures to be included in the core set.

The first step is to survey the landscape by gathering together currently-existing quality measures and information about who is using them. For example, the National Quality Forum ("NQF") endorses seven measures relating to care of people with osteoporosis, a few of which pertain specifically to secondary fracture prevention ([Communication with the physician or other clinician managing on-going care post fracture for men and women aged 50 years and older](#) [Osteoporosis Management in Women Who Had a Fracture](#)).³⁶ Interestingly, in 2013 the NQF retired a measure relating to use of pharmacological treatment for osteoporosis;³⁶ exploring the rationale for that decision may provide helpful insights. The Healthcare Effectiveness Data and Information Set ("HEDIS"), maintained by the National Committee for Quality Assurance and used by the Centers for Medicare and Medicaid Services ("CMS") to assess certain Medicare Advantage plans, contains two measures for osteoporosis care, one of which relates to secondary fracture prevention.³⁷

CMS's Merit-based Incentive Payment System ("MIPS") also includes a number of quality measures relating to osteoporosis, although their specific use is not mandated -- physicians choose which quality measures they want to utilize.³⁸ Similarly, the Joint Commission has recommended evidence-based performance measures published in the monograph, "Improving and Measuring Osteoporosis Management"³⁹ and finalized three performance measures for hospitals.⁴⁰ Finally, one of the most comprehensive sources of information about quality measures is the Agency for Healthcare Research and Quality's National Quality Measures Clearinghouse ("NQMC"), which has the mission "to provide an accessible mechanism for obtaining detailed information on quality measures, and to further their dissemination, implementation, and use in order to inform health care decisions."⁴¹ The survey should include these sources at a minimum.

Key stakeholders with experience using quality measures should also be consulted. The AOA's "Own the Bone[®]" program, for example, includes a set of ten process measures. The NOF and NBHA have developed a Quality Improvement Registry that has been approved by CMS as a Qualified Clinical Data Registry and that contains 43 quality measures.⁴² Experience from these programs and others such as

IOF's "Capture the Fracture" program, can provide insight into the usefulness of existing measures, applicability to the goals articulated in the Call to Action, and guidance on identifying additional measures that may be useful, if needed.

b. Meet with CMS to explore potential mechanisms to pay for case management programs and/or apply value-based payment incentives to care of these patients

At the July 19th multi-stakeholder summit, it was noted that several mechanisms presently exist through which Medicare might reimburse secondary fracture prevention services. Other mechanisms could potentially be used as well, although sufficient evidence would need to be available to support their utilization. One specific example involves how a fracture liaison service coordinator might be paid for under Medicare. The upfront financial costs of hiring dedicated personnel and instituting an FLS program are known barriers to FLS implementation and some academic institutions have been unable to financially sustain these programs.⁴³ Developing a possible pathway to fund FLS coordinators could make a substantial difference in whether and how quickly institutions might adopt case management models for secondary fracture prevention.

Entering into a dialogue with appropriate CMS personnel regarding potential payment mechanisms and supporting evidence is worth pursuing. One first step in that process might be to hold an initial discussion with leaders of the Center for Clinical Standards and Quality ("CCSQ") (e.g., Kate Goodrich and Shari Ling) and the Center for Medicare and Medicaid Innovation ("CMMI") to discuss the concept and identify mechanism available to CMS. Stakeholders could then develop and elaborate on a proposal to submit to CMS that could provide a basis for discussions on potential ways of moving forward. This undertaking will require substantial planning and effort, yet because of the magnitude of the possible impact, many stakeholders support this activity and we believe it should be pursued.

c. Review existing clinical guidelines from primary care and specialty organizations to determine whether the high priority target population and proposed interventions are consistent with them.

One of the issues most consistently identified by stakeholders as problematic is the existence of multiple relevant clinical guidelines, written from different perspectives and advising different actions. These inconsistencies result in primary care provider confusion and inertia. Given their patients' competing clinical problems and their own time pressures, it should not be surprising that front-line providers may not prioritize fracture prevention, bolstered by the perception that "no-one knows the right thing to do." The variations are most striking in areas of clinical decision-making where the evidence is not clear, but also reflect the differences between approaches taken by primary care providers and by various specialists. However, one advantage of targeting a patient population for which the evidence of high fracture risk and effective therapies is so strong is that discrepancies between relevant guidelines are less likely to exist. While harmonizing existent guidelines in all areas would probably be impossible to achieve, reaching consensus on management of patients at highest risk is a feasible goal.

Any inconsistencies between the existing clinical guidelines for the identified target population should be examined and considered carefully to determine whether the target population, interventions and outcomes need to be further refined.

We suggest that the next step after developing a statement or recommendation *de novo* would be to circulate it to the various professional guidelines-promulgating organizations for their comments.

Patient and primary care stakeholders would be involved with developing and revising the recommendation. After being revised as necessary to address any comments, the recommendation could be disseminated through nationally prominent publications such as UpToDate and other resources that are widely used and trusted by primary care clinicians.

d. Work with patient and primary care partners to support broad circulation of the updated “Call to Action” (mentioned in #1 above) to their respective members / constituents

Although knowledge in and of itself is usually insufficient to lead to change, providing it is a necessary first step.²⁴ Consistent with Recommendation 1 above, partnering organizations should take an active role in disseminating information to their membership. Each organization involved with this effort likely has developed its own communication style that it finds to be effective in reaching its members, whether through paper journals, websites, email updates, social media, or other mechanisms. These organizations are in the best position to circulate the updated “Call to Action” as well as to highlight the parts that are particularly relevant to their members.

The primary care setting is a vital link in assuring patients who have already had a fracture receive appropriate care, hence is a focus for communication in this plan. However, a recognized challenge is that the surgeons, hospitals, and rehabilitation centers where patients receive treatment for initial fractures may never relate the patients’ experience with them back to the primary care setting. Messaging to primary care clinicians could include a reminder to ask patients who are 50+ years of age if they have had any falls or received any care for hip or vertebral fractures. Patients who have had a previous fracture that is now mended may believe that this is a closed chapter, so may not consider it important information to disclose. Direct messaging to patients could include a reminder to “tell your doctor” if you have been treated for a hip or vertebral fracture. In this way, patients may become more aware of the importance of this disclosure for future care.

e. Develop and circulate educational material to primary care clinicians highlighting clinical recommendations that are aligned with project goals

With the revised Call to Action and a consensus among participating groups on a high-risk population for which evidence-based recommendations can be made, one or more articles should be prepared for publication in UpToDate and/or other trusted publications. This online publication is an essential resource for clinicians looking to remain current with the latest thinking on best practices for patient care. Articles should include information on the specific population targeted and recommended alternatives for care, which could include drug treatment, falls prevention, nutrition and exercise recommendations, information on fracture liaison services, etc. With respect to drug therapy, articles should clearly provide updated information on possible adverse events and current knowledge on best practices to minimize the risk of these events. These articles should be prepared in collaboration with participating partners on the initiative. Professional groups such as the American College of Physicians, and the American Academy of Family Physicians are well positioned to circulate this information to their membership in a targeted and relevant way.

Materials should also be prepared specifically focused on communicating that men and women over 50 years of age who have had a hip or vertebral fracture (as defined above) are at high risk of suffering another one. These risk communication materials can be tailored for physician assistants, nurse practitioners and office staff who sometimes spend more time with patients than do physicians. As

noted above, risk communication materials could also be designed for patients (“tell your doctor”) and provided as reading material or posters in waiting areas or examination rooms.

While the focus of this document is on engaging primary care clinicians to fill what has been an important communication gap, communications of this initiative should also be designed for orthopedists and other care providers who are often among the first to see a patient after a fracture. Communication should remind these clinicians to inform their patients regarding secondary fracture risks and advise them to consult their primary care physician.

f. Work with other health professional organizations (OT, PT, rehab med, physician assistants, nurse practitioners, etc.) to develop ways to educate members about drug therapy and case management approaches

As noted above, a range of health care professionals may interact with the patient over the course of a care episode, and many of these individuals may spend more time with the patient and have more opportunity for discussion than the physician. For these reasons, responsibility for identifying at-risk patients, assessing their needs, and assuring they receive appropriate care cannot solely fall to the primary care physician. These other front-line health professionals such as occupational therapists, physical therapists, rehabilitation center specialists, physician assistants, nurse practitioners, etc. should be actively engaged in the initiative to educate their members on identifying at-risk patients (as defined by the Call to Action), assessing whether the patient is receiving appropriate care, and providing guidance to patients who may not have been provided adequate information on risk and treatment options. As noted in Recommendation 1, these groups should be engaged as partners in preparing and disseminating the updated Call to Action, and representatives of these groups should be willing to help disseminate relevant and targeted information to their membership to assure high-risk patients are not slipping through the cracks of the system.

6. CONSIDER PARTNERSHIPS WITH INTEGRATED DELIVERY SYSTEMS TO DEVELOP SYSTEM-SPECIFIC PROGRAMS TARGETED TO PREVENT SECOND FRACTURES

- a. Ideally focus on those with, for example, low rates of drug treatment and case management use, or other measures consistent with those identified in Recommendation 3***
- b. May allow for refinement of target population, interventions, collection of process and outcomes data***

Integrated delivery systems (IDS) are health systems in which primary care and specialty services are integrated within the same administrative network under the ownership of a single parent company. These systems provide a continuum of care for patients who are members in system health plans. These organizations offer centralized policies for care, centralized data collection systems, and incentives aligned with tracking process measures and outcomes for more effective and cost-efficient care. **These characteristics make them potentially ideal grounds for pilot programs to prevent secondary fractures in the high-risk target population identified.**

Thought will need to be given to criteria for the health systems which might best serve as partners in this effort. Seeking partnerships with the largest IDS may provide an opportunity for reaching a large target population for secondary fracture prevention. However, if these large health systems already have in place effective programs to treat patients at high risk of second fractures, then there is little

need for intervention at the system level. Hence, it would be useful to have access to information on system policies, programs, and performance metrics. Some of this information may be publicly available, as providers and public and private health plans increasingly publish performance data. CMS's Hospital Compare website publishes quality performance data on hospitals in the Medicare program.¹ CMS also reports quality data for the Medicare program on nursing homes, Medicare Advantage plans, and home health agencies. While these metrics are not specifically designed to track patients at high risk for fractures, some metrics may provide useful information on hospitals, nursing homes and other facilities that are part of candidate integrated health systems. For example, one quality measure in CMS's Nursing Home Compare database is "Percentage of long-stay residents experiencing one or more falls with major injury."² It may also be useful to look for IHSs lacking a fracture liaison service, as these systems are likely to be less focused on effective post-fracture care and prevention.

Integrated health systems that have geographically stable patient populations (relatively speaking) would also be desirable as partners because these systems will have well aligned incentives to prevent long-term adverse outcomes and an ability to track patient outcomes over longer periods. The Medicare population in integrated health systems should be expected to be particularly stable in this sense. IHSs participating as partners in the program would need to be willing to implement new quality performance measures consistent with the goals of this program, the initiation of which may incur some administrative cost. If successful, however, this should be more than offset through preventing second fractures in high-risk patients.

7. ALIGN SEPARATE PR / MEDIA ACTIVITIES (SUCH AS NBHA, NIAMS, OTHERS) WITH CORE ELEMENTS OF THIS STRATEGIC ROADMAP

As noted, many groups have parallel or related programs for bone health, fracture prevention, falls prevention, building osteoporosis awareness, etc. Conflicting or inconsistent messaging from different groups around these themes can only contribute to a continuing sense for patients and providers that "nobody knows what to do" and "it's all too complicated." **For this reason, to the extent that messaging for these programs aligns with central elements of the revised Call to Action, effort should be made to align the messages presented by these groups.** Consideration should be given not only to messaging of U.S.-based programs and initiatives, but also international efforts by groups such as the International Osteoporosis Foundation (IOF) and the World Congress of Osteoporosis.

That said, the earlier caution (from Recommendation 1) still stands that some of the groups having parallel or related initiatives receive funding from industry sources and may be perceived by some stakeholders as "captured" by industry interests. Care should be taken that aligning messaging in ways intended to avoid confusion is not seen as alliance.

PRIORITIZING ACTIVITIES

While this roadmap begins with what may be the most critical element of collaboration to achieve success – relationship-building with patient and primary care professional groups (Recommendation 1) – extending invitations to these groups for partnership on an updated Call to Action should be

¹ <https://www.medicare.gov/hospitalcompare/search.html>

² <https://www.medicare.gov/NursingHomeCompare/About/nhcinformation.html>

concurrent with efforts to review the lessons learned from other relevant initiatives (Recommendation 4), since applicable lessons should be taken on board and built into the design of this initiative before significant work on implementation is begun. Then, the work of updating the Call to Action with these partners will entail establishing consensus on the target population (Recommendation 2) and on the specific goals and measures that will be used to assess progress (Recommendation 3). Once the Call to Action has been developed, patient and primary care volunteers or “champions” would help with communication, messaging, education, and other key activities through their organizations and beyond (Recommendations 1 and 5). Planning for this messaging, as well as for media announcements and attempts to align messaging with existing related initiatives (Recommendation 7) would take place as part of a comprehensive communications plan that should be developed as the updated Call to Action approaches completion. At that time, discussions could begin with prospective integrated health systems for potential process improvement programs and an initial meeting could be planned for discussion of mechanisms and evidence for coverage of case management programs.

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APPENDIX A

FRACTURE PREVENTION STAKEHOLDER SUMMIT

Participant List

July 19, 2017 | Crystal City, VA

Robert (Bob) Adler, MD

Virginia Commonwealth University, School of Medicine, Department of Internal Medicine

Sonia Bahroo, PA-C

The George Washington University Medical Faculty Associates, Division of Endocrinology

Douglas Bauer, MD

University of California, San Francisco

Neil Binkley, MD

University of Wisconsin, School of Medicine and Public Health

Susan (Sue) J. Blalock, PhD, MPH

University of North Carolina, School of Pharmacy

Caila Brander

National Women's Health Network

Susan Bukata, MD

University of California Los Angeles Medical Center, Santa Monica, Department of Orthopaedic Surgery

Wm. Ray Bullman, MAM

National Council on Patient Information and Education (NCPPIE)

Kathleen (Kathy) Cameron, MPH

National Council on Aging, Center for Healthy Aging

Jane Cauley, DrPH

University of Pittsburgh, Department of Epidemiology

Faye H. Chen, PhD

National Institutes of Health, Division of Musculoskeletal Diseases

Kathleen Cody, MBA

American Bone Health

Prof. Juliet Compston, MD

University of Cambridge, Bone Medicine

Prof. Cyrus Cooper, MBBS, DM, FRCP, FFPH, FMedSci

University of Southampton, Rheumatology
University of Oxford, Epidemiology

Felicia Cosman, MD

Columbia University Medical Center;
Editor-in-Chief Osteoporosis International

Bess F. Dawson-Hughes, MD

Tufts Medical Center, Bone Metabolism Laboratory

Bridget DeSimone, BA

Burness

Thomas Eagen

National Council on Aging

Ann Elderkin, PA

American Society for Bone and Mineral Research

Kristin Ensrud, MD, MPH

University of Minnesota, School of Public Health

Steven (Steve) Farmer, MD, PhD

Center for Medicare & Medicaid Innovation



Douglas (Doug) Fesler

American Society for Bone and Mineral Research

Lorraine (Lorie) A. Fitzpatrick, MD

Radius Health, Inc.

Jeremy Furniss, OTD, OTR/L, BCG, CDP

American Occupational Therapy Association

Claire Gill, BA

National Osteoporosis Foundation

James (Jim) Gill, MD, MPH

Delaware Valley Outcomes Research

Catherin (Kate) W. Gillespie, PhD, MPH

AARP Public Policy Institute, Health Team

Deborah (Debby) Gold, PhD

Duke University, Department of Psychiatry and Behavioral Sciences, Sociology, and Psychology and Neurosciences

Deborah H. Good, MSW

Patient Perspective Panel

Andreas Grauer, MD

Amgen, Global Development Therapeutic Area Head Bone and Nephrology

Núria Guañabens, MD, PhD

University of Barcelona, Department of Rheumatology

Rachel M. F. Heilmann, PharmD, BCPS

Kaiser Permanente Colorado, Endocrinology

Marc Hochberg, MD, MPH

U.S. Bone and Joint Initiative

Lyndon Joseph, PhD

National Institutes of Health, Division of Geriatrics and Clinical Gerontology

Claudia M. Kaufman

QuistMD-Flexibility-Sports-Rehabilitation

Theresa Kehoe, MD

Food and Drug Administration, Division of Bone, Reproductive and Urologic Products (DBRUP)

Sundeep Khosla, MD

Mayo Clinic

Douglas (Doug) P. Kiel, MD, MPH

Harvard Medical School, Institute for Aging Research

Michelle Kimbrough, MA, MHLC

Eli Lilly, Health Care Advocacy and Professional Relations

Elizabeth (Beth) Kitchin, PhD, RD

University of Alabama-Birmingham

Alison Kocanda

UCB, Inc., Health Innovation

Henry (Hank) M. Kronenberg, MD

Harvard Medical School, Endocrine Unit; Massachusetts General Hospital, Endocrine Society

Benjamin Leder, MD

Massachusetts General Hospital

David Lee, MPA

Amgen, Global Marketing Program, Amplify Osteoporosis

Carleen Lindsey, PT, MScAH, GCS, CEEAA

American Physical Therapy Association, Academy of Geriatric PT

Shari M. Ling, MD

Centers for Medicare and Medicaid Services

Joan McGowan, PhD

National Institutes of Health, Division of Musculoskeletal Diseases

Joanne Miglis, RN

Brigham and Women's Hospital

Suzanne Morin, MD, MSc

McGill University, Department of Medicine,
Osteoporosis Canada

Jeanne Murphy, PhD, CNM

Patient Centered Outcomes Research Institute,
Science, Healthcare Delivery, and Disparities
Research

Mary K. Oates, MD

Pacific Central Coast Health Centers

Tom Olenginski, MD, FACP

Geisinger Health System

Nancy Ostrove, PhD

EXPRES LLC, Retired, Food and Drug
Administration

Cynthia (Cindy) Pearson

National Women's Health Network

Amy Porter

National Osteoporosis Foundation

Clifford (Cliff) Rosen, MD

Maine Medical Center Research Institute

Salvatore (Sal) Ruggiero, MD, DDM

The New York Center for Oral and Maxillofacial
Surgery

Kenneth Saag, MD, MSc

University of Alabama-Birmingham, Division of
Clinical Immunology Rheumatology

Elizabeth Shane, MD

New York Presbyterian/Columbia University

Carol Siebert, OTD, OTR/L, FAOTA

American Occupational Therapy Association

Nancy Shute, MSL

National Public Radio

Daniel (Dan) Solomon, MD, MPH

Brigham and Women's Hospital, Department of
Medicine; Harvard Medical School, Department
of Medicine

Howard L. Tracer, MD

Agency for Healthcare Research and Quality,
Center for Evidence and Practice Improvement
(CEPI)

Karen Vujevich, CRNP

University of Pittsburgh Medical Center

Sarah Wells-Kocsis, MBA

Society for Women's Health Research, Public
Policy

C. Grace Whiting, JD

National Alliance for Caregiving

Kathryn (Kathy) Williams, EdD

Kaiser Permanente Southern California

Kevin Wilson, PhD

Hologic, Skeletal Health

Debbie Zeldow, MBA

National Bone Health Alliance

Center for Medical Technology Policy

Robert Conley, MD, JD, MPH

Sean Tunis, MD, MSc

Donna Messner, PhD

Jennifer Al Naber, MS, MSPH

Elizabeth Clearfield, MHS

Julie Simmons, CMP

Janelle King