

# Gaps and Solutions in Bone Health:

## *A Global Framework for Improvement*

Toolkit of key messages for local dissemination

# INTRODUCTION

- The 2016 thematic report *Gaps and Solutions in Bone Health: A Global Framework for Improvement* provides a global overview of the state of osteoporosis care for individuals at high-risk of suffering fragility fractures. Ten 'gaps' are presented together with associated solutions, providing a new Global Framework for tackling the impending catastrophic burden placed on the world's population and economy.
- The report is available in multiple languages, in both electronic and print formats. We hope this will be a valuable resource for government representatives, healthcare professionals, policy makers and media – highlighting the unmet need to take action for prevention.
- We encourage you to use this informative resource locally not only for World Osteoporosis Day, but all year round. You can tailor to best meet your needs, and adapt the statistics in accordance with your own country profile as part of your long term national advocacy efforts.



# THE GLOBAL BURDEN OF OSTEOPOROSIS



# A HIGHLY PREVALENT DISEASE



- Osteoporosis cause bones to become weak and fragile, so that they break easily
- Globally, one third of women and one fifth of men over the age of 50 will suffer an osteoporotic fracture
- There are more than 8.9 million fractures annually
- 1 fracture occurs every 3 seconds
- Osteoporosis accounts for more days in hospital than other diseases including breast cancer, myocardial infarction, and diabetes

# THE DEBILITATING BURDEN

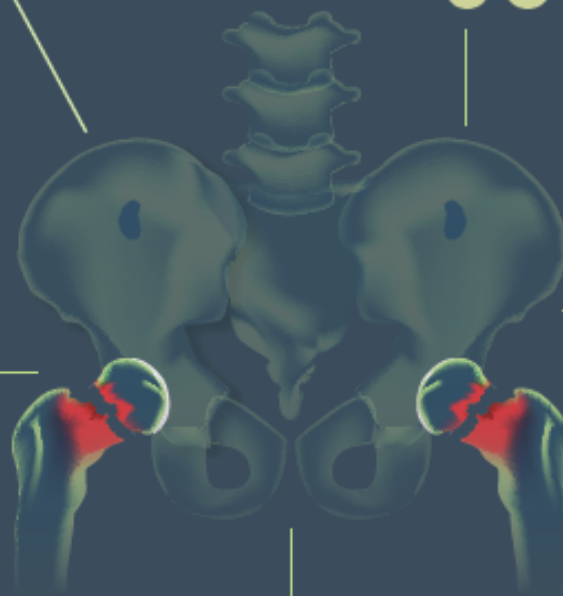
## Hip fracture

LOSS OF FUNCTION AND INDEPENDENCE AMONG SURVIVORS

**40%** **UNABLE** TO WALK  
INDEPENDENTLY

**60%** **REQUIRE**  
ASSISTANCE  
A YEAR LATER

**33%**  
**DEPENDENT**  
OR IN A NURSING  
HOME IN THE YEAR  
FOLLOWING  
A HIP FRACTURE



**Mortality**  
**UP TO 20-24%**  
IN THE FIRST YEAR  
AFTER A HIP FRACTURE

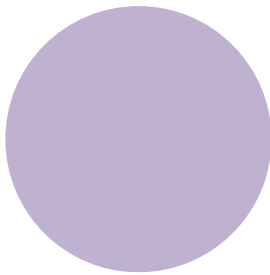
**50%** **OF PEOPLE WITH ONE**  
**OSTEOPOROTIC FRACTURE WILL HAVE ANOTHER**



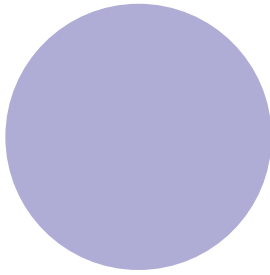
# Gap 1: Secondary Fracture Prevention



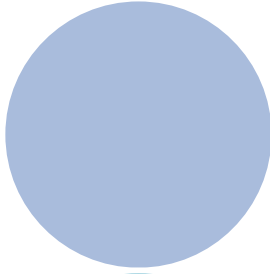
# GAP 1: SECONDARY FRACTURE PREVENTION



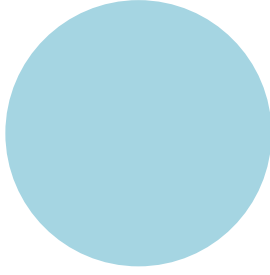
~50% of people with one osteoporotic fracture will suffer another, with risk rising with each new fracture;



Fewer than half of people who survive a hip fracture will walk unaided again; mortality after 5 years is about 20% in excess of that expected; between 10-20% will become residents of care homes in the year following a hip fracture;



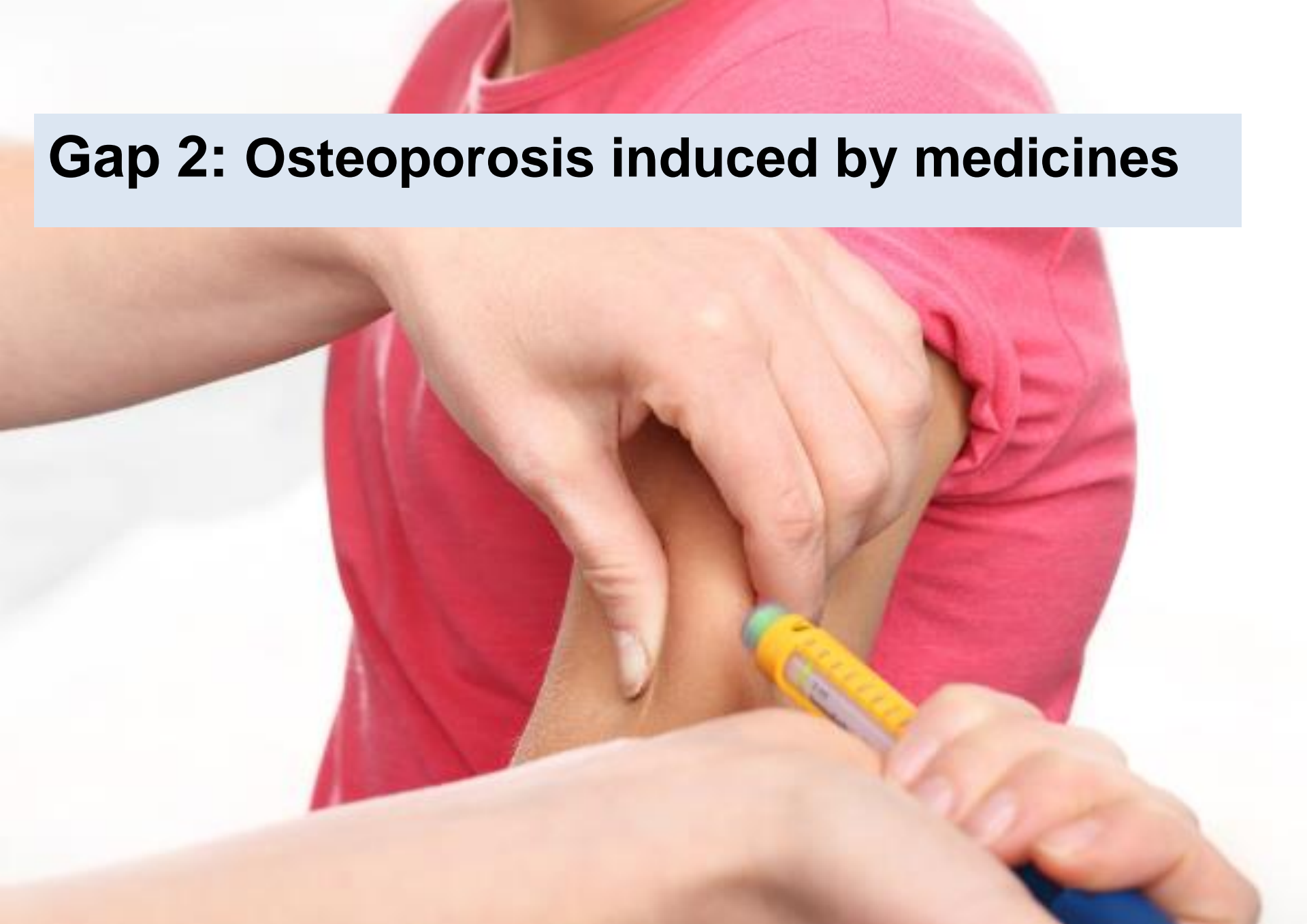
Highly effective treatments reduce fracture risk, but are not routinely offered to fragility fracture sufferers;



Fracture Liaison Services (FLS) and Orthogeriatric Service models of care have been developed however, implementation must be expanded globally.

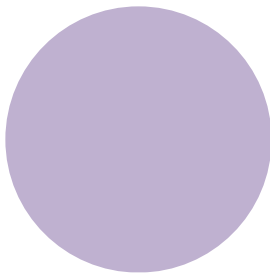
Capture the Fracture<sup>®</sup> is a programme to promote FLS implementation and best-practice which is gaining momentum.

## Gap 2: Osteoporosis induced by medicines





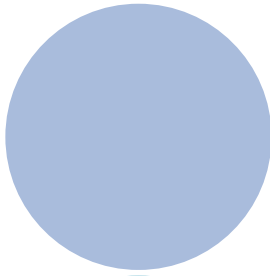
# GAP 2: OSTEOPOROSIS INDUCED BY MEDICINES



Three of the more commonly used agents significantly affecting bone health are **glucocorticoids** (GC), **androgen deprivation therapy** (ADT) and **aromatase inhibitors** (AIs) have been associated with decreases in bone mineral density and/or increased fracture incidence



GC-induced osteoporosis is the leading cause of secondary osteoporosis. Despite guidelines, the majority of studies (>80%) identified that less than 40% of chronic oral GC users underwent BMD testing or osteoporosis treatment;



~50% of men diagnosed with prostate cancer will receive ADT after diagnosis. Local studies have shown that the rates of BMD testing and/or osteoporosis treatment in ADT treatment men varied from 9-59%, with an average of less than one-quarter of ADT treated men receiving appropriate care;

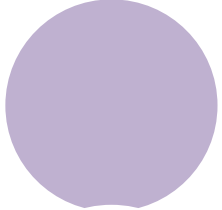


A comparison of fracture rates between breast cancer survivors and women with no history of breast cancer showed 15% increased risk for all fractures among women who had survived breast cancer.

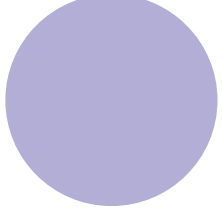
## Gap 3: Diseases associated with osteoporosis



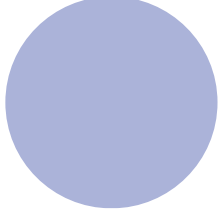
# GAP 3: DISEASES ASSOCIATED WITH OSTEOPOROSIS



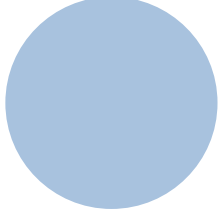
Six of the more common disorders impacting bone health are chronic obstructive pulmonary disease (COPD), diseases of malabsorption, rheumatoid arthritis (RA), primary or secondary hypogonadism, dementia and diabetes.



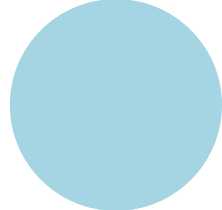
The incidence of fractures reported in a large study of celiac sufferers is elevated compared to non-sufferers, with increases of 90% and almost 80% for hip and wrist fractures, respectively.



A study has shown that compared to a control group, RA sufferers' risk of hip fracture and vertebral fracture is increased 2-fold and 2.4 fold, respectively. However, numerous international studies have reported sub-optimal assessment and/or treatment of osteoporosis in RA sufferers.



Although persons with dementia suffer more falls, more fractures and higher post-fracture mortality than those without dementia, they are under-assessed for falls risk factors and are less likely to receive treatment for osteoporosis.

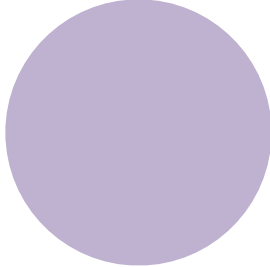


People with type 2 diabetes have increased fracture risk: up to three times greater than that of non-diabetics for hip and other non-vertebral fractures. Given the number of individuals affected, guidelines for the management of osteoporosis in type 2 diabetes must be drafted and implemented as soon as possible.

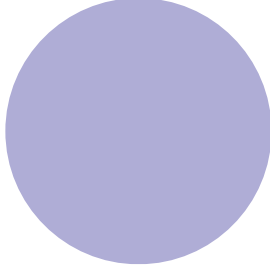
## Gap 4: Primary fracture prevention for individuals at high risk of fracture



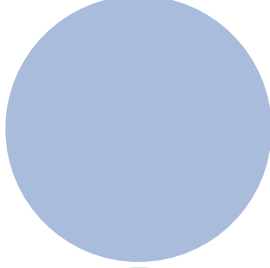
# GAP 4: PRIMARY FRACTURE PREVENTION FOR INDIVIDUALS AT HIGH RISK OF FRACTURE



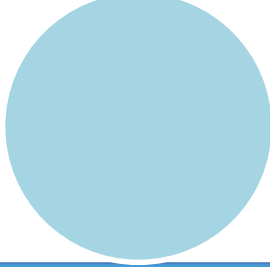
Secondary prevention is the most important mechanism to directly improve patient care and reduce fracture related healthcare costs but the ultimate goal is the prevention of the first fracture.



Major studies have reported significant reductions in health-related quality of life among individuals who have suffered fragility fractures at all skeletal sites. A robust clinical case exists for primary prevention of all major osteoporosis fractures (hip, clinical vertebral, wrist or proximal humerus).



Pragmatic approaches to first fracture prevention include case-finding of individuals at risk of osteoporosis and fractures based on the medicines they take (Gap 2) or due to diseases associated with osteoporosis (Gap 3), as well as the systematic application of tools such as FRAX® to calculate absolute fracture risk in individuals.



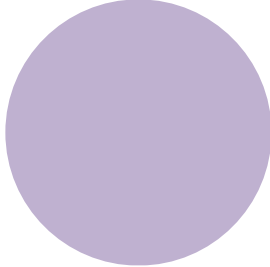
Several health systems have implemented systematic approaches to primary fracture prevention targeted at high risk individuals in parallel to secondary prevention. More healthy systems need to follow these examples.





## **Gap 5: The importance of staying on treatment**

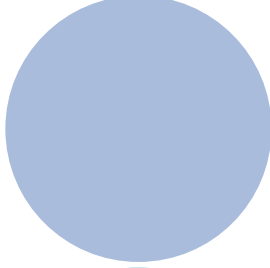
# GAP 5: THE IMPORTANCE OF STAYING ON TREATMENT



In routine clinical practice, both persistence and compliance with osteoporosis treatment are sub-optimal. Approximately half of patients on osteoporosis treatment do not follow their prescribed treatment regimen and/or discontinue treatment within a year.



It is estimated that improved adherence in the USA would reduce fracture rates by 25%, equating to ca. 300,000 fewer fractures per year and generating savings of US\$3 billion.



Interventions which may improve adherence include: simplification of dosing regimens, electronic prescriptions in combination with verbal counselling, patient decision aids, and patient education.

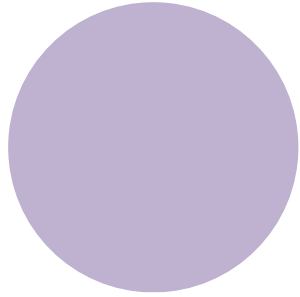


FLS improve adherence: Among patients managed by an FLS after fracture, between 74% and 88% remained on treatment at 12 months, and between 64% and 75% at 24 months.

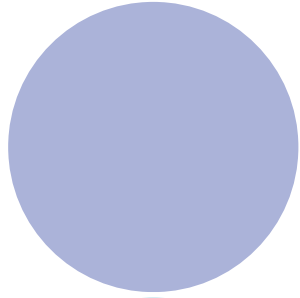


## **Gap 6: Public awareness of osteoporosis and fracture risk**

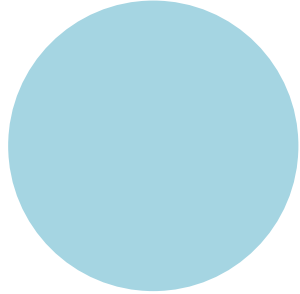
# GAP 6: PUBLIC AWARENESS OF OSTEOPOROSIS AND FRACTURE RISK



International studies have shown that osteoporosis is perceived as a benign consequence of ageing; patients are reluctant to take medication, and self-perception of risk is poor.

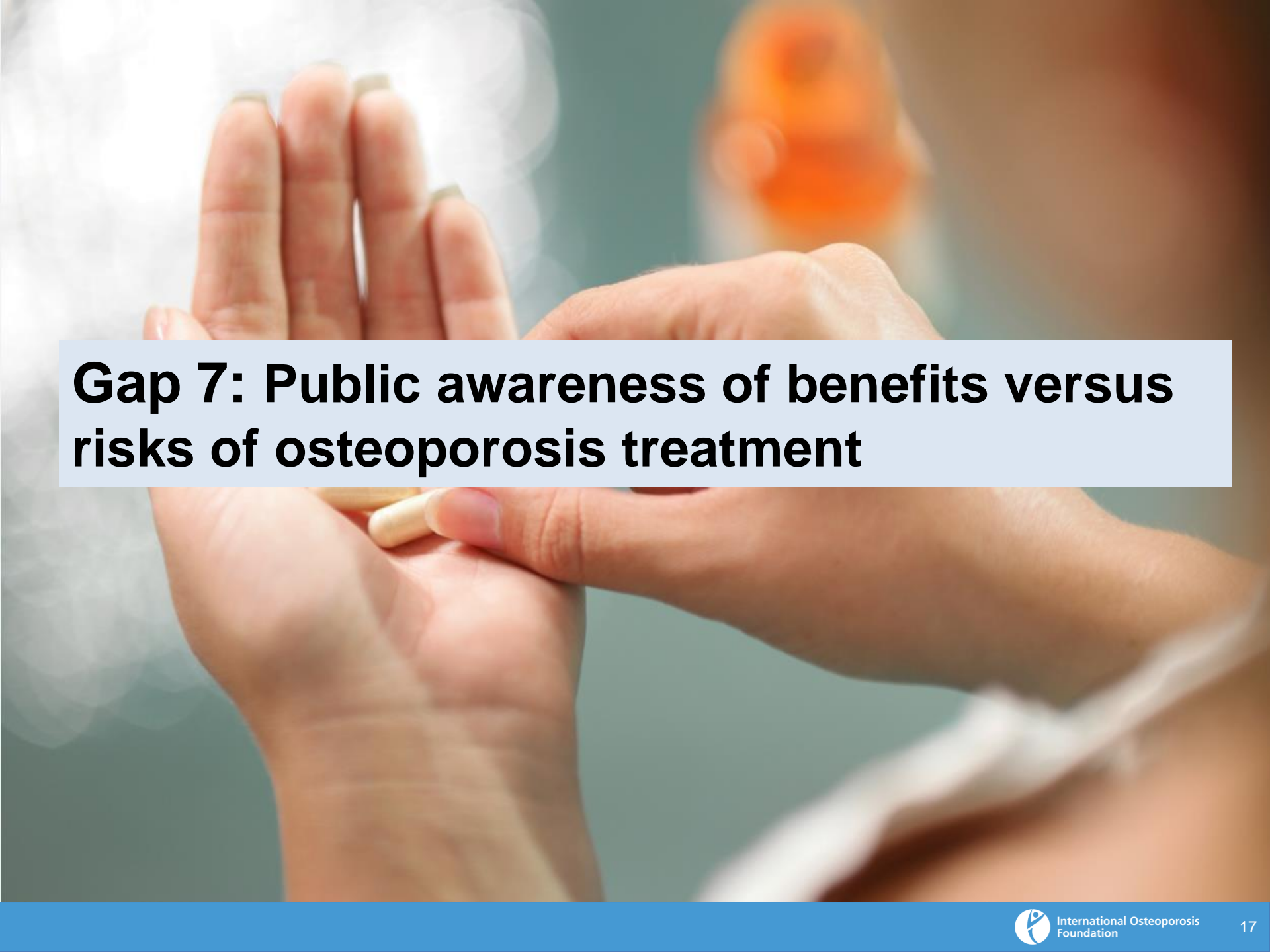


Efforts to improve communication need to provide clear, evidence-based messages.



An initial focus of any awareness campaign should be to drive awareness that a first fracture leads to second and subsequent fractures, with a potentially devastating impact on health and quality of life.

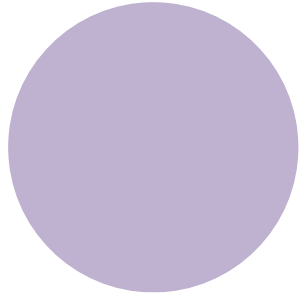




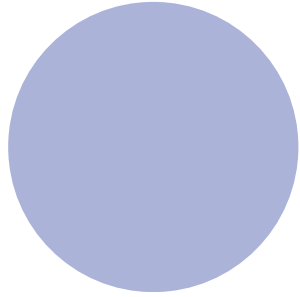
## **Gap 7: Public awareness of benefits versus risks of osteoporosis treatment**



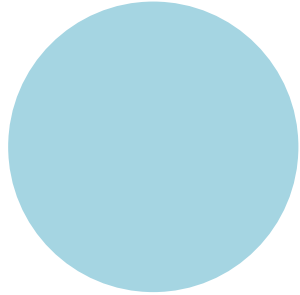
# GAP 7: PUBLIC AWARENESS OF BENEFITS VERSUS RISKS OF OSTEOPOROSIS TREATMENT



In the last decade use of osteoporosis treatments among individuals at high risk of fracture has been significantly impacted by reports relating to rare side effects.



The risk-benefit calculation for treatment of osteoporosis among individuals who are at high risk of suffering fragility fractures, including life changing and life threatening hip fractures, significantly favours treatment. Nevertheless there has been a failure to counter adverse coverage of rare side effects of osteoporosis treatments across all media platforms.



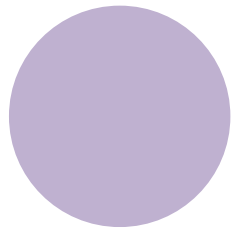
Efforts to improve communication are needed: clinicians and patients must objectively discuss and evaluate the risk benefit calculation for the patient's individual circumstances when making collaborative treatment decisions.

## Gap 8: Access and reimbursement for osteoporosis assessment and treatment

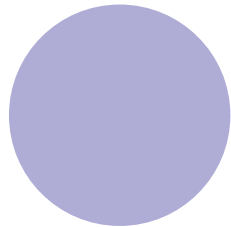


# GAP 8: ACCESS AND REIMBURSEMENT FOR OSTEOPOROSIS ASSESSMENT AND TREATMENT

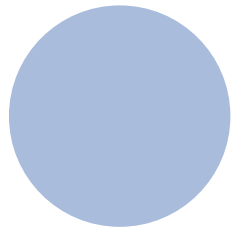
*Different regions and countries face different challenges, as shown in the various IOF regional audits published since 2009. Common issues include:*



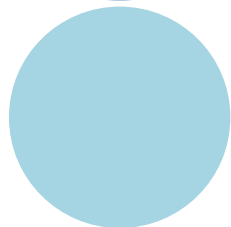
partial reimbursement, or restrictive criteria for reimbursement, of diagnostic testing and drug treatment.



inadequate provision of diagnostic testing, including lack of services in rural areas in some parts of the world;



the majority of the population in some countries where reimbursement is not offered cannot afford to pay for testing or treatment, even if available;



in some countries or regions within a country, not all osteoporosis drugs are reimbursed, effectively limiting treatment options for individuals in need.

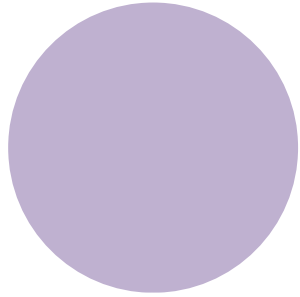
# Gap 9: Prioritization of fragility fracture prevention in national policy



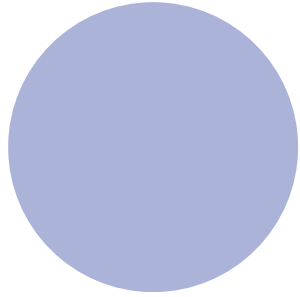


# GAP 9: PRIORITIZATION OF FRAGILITY

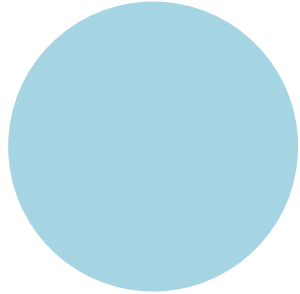
## FRACTURE PREVENTION IN NATIONAL POLICY



In contrast with other common chronic diseases, osteoporosis has not attracted a comparable level of attention from health providers and governments.



Osteoporosis and fracture prevention is not seen as a priority health issue in the great majority of countries in the world.



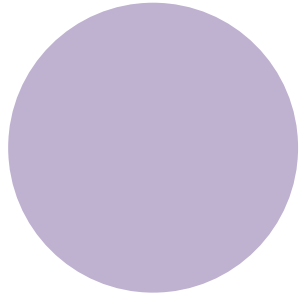
The IOF-EPFIA Audit 2013 found that the majority of EU member states (18/27) did not recognize osteoporosis or musculoskeletal diseases as a national health priority (NHP). Of those countries which did, the focus was either on nutrition (6), falls prevention (4), or exercise (4) – only 2 focused on the implementation of fracture liaison services.



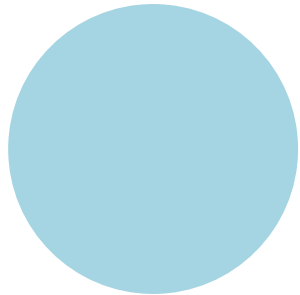
## Gap 10: The burden of osteoporosis in the developing world



# GAP 10: THE BURDEN OF OSTEOPOROSIS IN THE DEVELOPING WORLD



Only 8 of the 14 countries included in the 2012 IOF Latin American Regional Audit, and only 6 of the 17 countries included in the 2011 IOF Middle East and Africa Regional Audit, had published hip fracture incidence data. These are just examples of how, in many areas of the world, epidemiological data is needed at the national level to accurately quantify osteoporosis and fracture prevalence to help inform policy development.

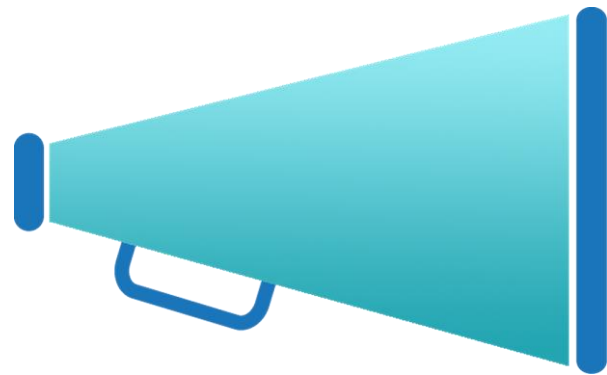


The need for increased research in Asia-Pacific, Latin America and the Middle East is of special urgency given that projections indicate that the burden of fragility fractures will shift to the developing world over the next four decades.

# CALL TO ACTION!



# THE TIME FOR OPTIMAL MANAGEMENT OF BONE HEALTH IS NOW!



- The ten care gaps and solutions described provide a new Global Framework for tackling the impending catastrophic burden that will be placed on the world's population and economy by fragility fractures.
- At the national level policymakers, healthcare professionals' organisations and national osteoporosis societies can use this framework to identify local gaps in the provision of best practice for the populations that they serve.
- Where currently absent, development of national strategies to close these gaps can be informed by the numerous international examples of clinical guidelines and quality improvement initiatives



Thank you for  
**YOUR COMMITMENT**  
to the IOF vision

