

Know Your Bones Community Risk Report Third Edition 2023



Garvan Institute  
of Medical Research

HEALTHY **BONES**  
AUSTRALIA

A JOINT INITIATIVE FOR FRACTURE PREVENTION

# Forewords



**Professor Peter Ebeling AO**  
Chair Healthy Bones Australia

Healthy Bones Australia remains committed to improving bone health nationally. *Know Your Bones* provides Australians with an online tool to check bone health. Over 100,000 adults have completed the self-assessment.

This third edition *Community Risk Report* is evidence we need to take action to protect bone health in the community. We know this is achievable and can deliver far reaching benefits – a better quality of life for those diagnosed with osteoporosis and significant cost savings for our healthcare system.

I encourage policy makers, health professionals and the community to remain focussed on preventing fractures and building healthier bones.



**Greg Lyubomirsky**  
CEO Healthy Bones Australia

The general awareness of osteoporosis and need for testing is increasing in the community, however the challenges remain in addressing high risk populations, specifically with minimal trauma fractures.

The treatment rates remain dangerously low for this group of consumers. Our goal is to improve diagnosis and push for early intervention to reduce the impact of preventable fractures.



**Associate Professor Peter Wong**  
Medical Director Healthy Bones Australia

In Australia we are fortunate to have effective diagnostic and treatment options available to manage osteoporosis. General practitioners work at the forefront of osteoporosis care and we encourage doctors to utilise these tools to capture at-risk patients and manage osteoporosis.

There is a clear opportunity to improve diagnosis, reduce fracture numbers and protect bone health in the community.



**Elaine Cotter**  
Consumer Advocate and Member of the Healthy Bones Australia National Consumer Advisory Committee

My message is a loud warning. Check for risk factors and talk to your doctor. Osteoporosis is serious and fractures are painful. I have lived with this disease for many years and a late diagnosis made my life much more complicated and lead to many fractures. We all need to focus on prevention. Tell your family, tell your friends! An easy first step is to visit Know Your Bones and complete the self-assessment.

# Know Your Bones

## About Know Your Bones

*Know Your Bones* is an online consumer self-assessment based on Australian research. The program was developed by Healthy Bones Australia and the Garvan Institute of Medical Research in response to the growing prevalence of osteoporosis and related fractures.

The self-assessment is an awareness and prevention program. It helps the community review risk factors for poor bone health. The tool provides personalised recommendations which can be discussed with a general practitioner as required.

## About this Report

This third edition *Know Your Bones* Community Risk Report<sup>1</sup> represents de-identified data which has been self-reported via the online self-assessment questionnaire. *Know Your Bones* asks consumers a series of evidence-based questions under four key areas:

- Medical history including age, weight, previous fracture, previous falls, gender
- Medical conditions which can impact bone health
- Lifestyle risk factors
- Medication/supplement use

This report is based on 104,373 completions (as at 20 September 2023). This report is available on the Healthy Bones Australia website ([www.healthybonesaustralia.org.au/about-us/publications-reports/](http://www.healthybonesaustralia.org.au/about-us/publications-reports/)).

## Snapshot of Bone Health in Australia

- Over 183,000 fractures annually<sup>2</sup>
- Cost of fractures estimated to be \$2.59 billion annually accounting for 67% of the overall cost of the disease \$3.84 billion (2022)<sup>2</sup>
- Hip fracture remains the most costly type of fracture however fractures at other sites are more common (spine, wrist, arm and leg)<sup>2</sup>
- Nearly half of people who experienced a hip fracture had a previous fracture<sup>3</sup>

*Know Your Bones* forms part of a renewed focus on bone health in the community and a national program for prevention and early diagnosis of osteoporosis.

## Know Your Bones Benefits

- ✓ **Preventative health initiative**
- ✓ **Accessible across Australia, including rural and remote communities**
- ✓ **Focus on consumers to identify individual risk**
- ✓ **Data outcomes reported to highlight gaps in care and areas for action**
- ✓ **A successful translational research project based on Australian research**

<sup>1</sup>Available at [www.healthybonesaustralia.org.au/about-us/publications-reports](http://www.healthybonesaustralia.org.au/about-us/publications-reports)

<sup>2</sup>Watts JJ, Abimanyi-Ochom J, Sanders KM. Osteoporosis costing all Australians A new burden of disease analysis – 2012 to 2022. *Osteoporosis Australia* 2013

<sup>3</sup>Australian and New Zealand Hip Fracture Registry Annual Report 2017. <https://anzhfr.org/wp-content/uploads/2017/08/ANZHFR-Annual-Report-2017.pdf>

# Summary – Key Findings

## Know Your Bones Community Engagement

- Self-assessment completions 104,373
- Completions represent 30% of visits to website
- Majority 82% of self-assessment usage in adults 50 years+

Female	83%	Male	17%
under 50 years	14%	under 50 years	4%
50-69 years	53%	50-69 years	8%
70 years+	16%	70 years+	5%

## Fracture Status and Bone Density Testing Status

- Number of assessments completed that reported a minimal trauma fracture 18%
- Based on total number of minimal trauma fractures reported, half occurred in adults aged 50-69 years
- Number of assessments completed that reported a minimal trauma fracture and reported status of bone mineral density (BMD) testing:
  - Reported 'yes' for BMD testing 52%
  - Reported 'no' for BMD testing 40%
  - Reported 'don't know' for BMD testing 8%
- Number of assessments completed that reported a minimal trauma fracture and reported medication status:
  - On medication 13%
  - Not on medication 87%
- Main reported minimal trauma fracture sites:
  - Majority 86% of fractures reported at following sites: Foot, wrist, ankle, forearm, ribs, spine, lower leg

## Clinical Risk Factors\*

- Number of assessments completed and clinical risk factors reported:
  - Reported 'yes' to a clinical risk factor 36%
  - Reported 'no' to a clinical risk factor 64%
- Based on those reporting a clinical risk factor only 52% reported having a bone mineral density (BMD) test
- Based on those reporting 'yes' to a clinical risk factor the majority 70% had a single clinical risk factor and 30% had 2 (or more) clinical risk factors
- Number of assessments completed and total lifestyle risk factors reported:
  - The majority 99% reported having a lifestyle risk factor

## Older Adults

- People over 70 years Bone Mineral Density (BMD) testing status:
  - Reported 'yes' for BMD testing 60%
  - Reported 'no' for BMD testing 29%
  - Reported 'don't know' for BMD testing 11%
- People over 70 years with a Minimal Trauma Fracture (MTF) by treatment status:
  - Reported 'on medication' 22%
  - Reported 'not on medication' 78%
- People over 70 years with a Clinical Risk Factor:
  - Reported '1+ clinical risk factors' 49%, of which
  - Reported 'yes' for BMD testing 64%

## Younger Adults

Notably 18% of completions were adults under 50 years. Research indicates bone health in younger adults can be impacted by specific risk factors such as early menopause, low testosterone, coeliac disease, anorexia nervosa, breast cancer treatment and cortico-steroid use. It is important to protect bone health in these groups.

### Areas for focus

- Half of reported fractures occurred in adults 50-69 years.
- Clinical risk factors present in over 35% of assessments. One third of these assessments had 2 or more clinical risk factors.
- Almost one fifth (18%) of assessments reporting a minimal trauma fracture. Fracture sites common throughout the skeleton.

### Gaps in care

- ✗ Bone status is not routinely investigated. Only half of individuals reporting a clinical risk factor reported having a bone density test.
- ✗ Treatment rates are low. Only 13% of individuals reporting a fracture reported being on osteoporosis medication. Treatment rates are higher for fractures of the spine and hip.
- ✗ Lifestyle factors need improving to support bone health. Includes boosting adequate calcium, vitamin D, exercise and reducing tobacco/alcohol use.

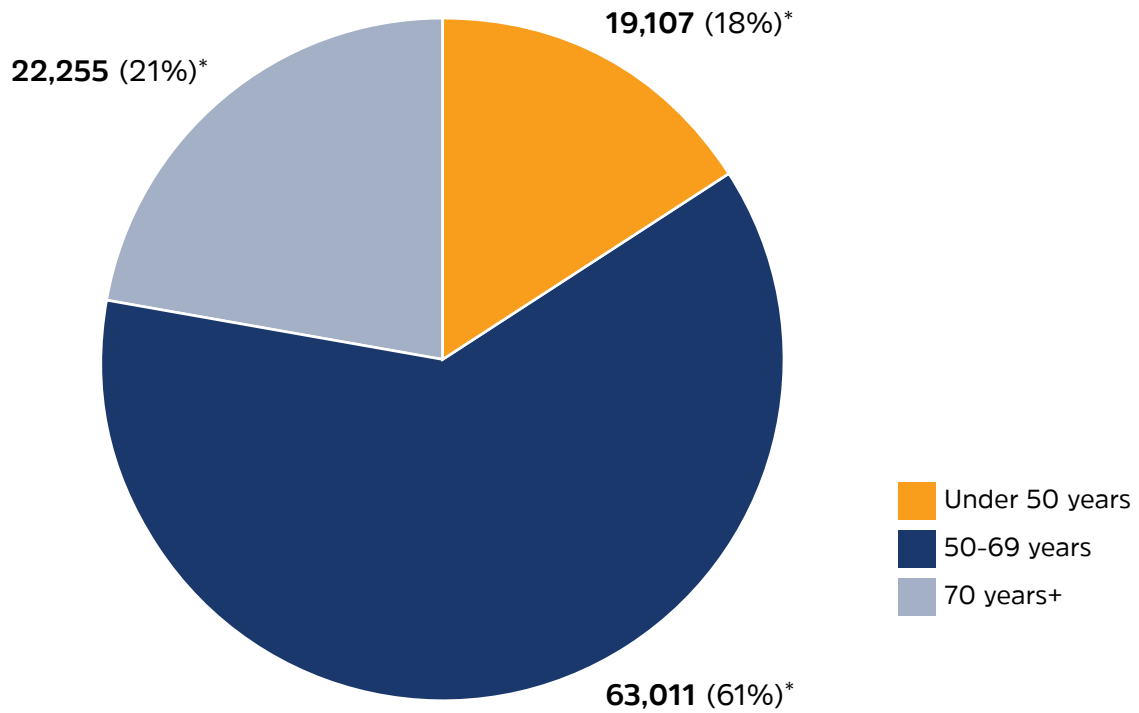
### Action Opportunities

- ✓ Investigation of identified risk factors utilising bone density testing.
- ✓ Early diagnosis and appropriate treatment to reduce fracture risk.
- ✓ Broader community engagement with Know Your Bones tool to increase awareness and prevention.

\*Risk factors: Clinical risk includes: Daily oral use glucocorticoids, early menopause/low testosterone, loss of height, coeliac disease, overactive parathyroid, overactive thyroid, rheumatoid arthritis, chronic liver or kidney disease, treatment for breast cancer or prostate cancer. Lifestyle risk includes: smoking, alcohol intake, lack of adequate calcium/vitamin D/exercise.

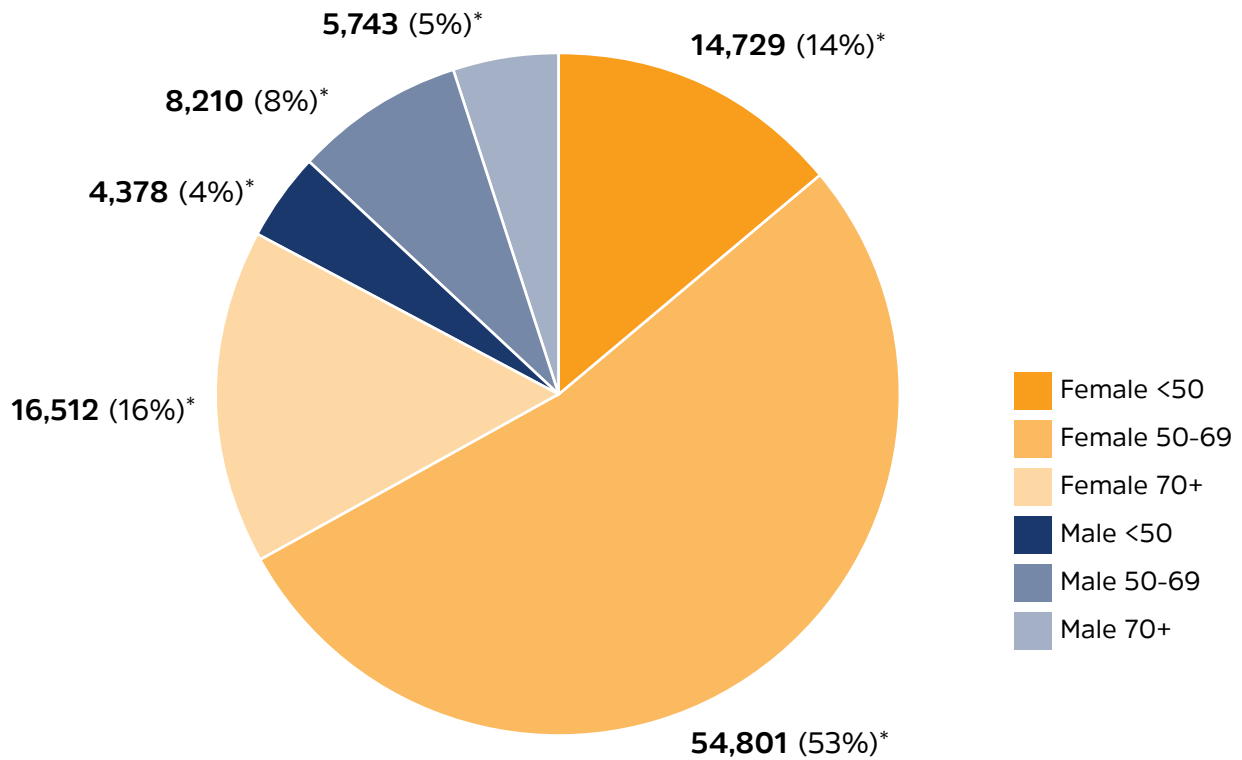
### Number of Assessments by Age

(Total no: 104,373)



### Number of Assessments by Gender and Age

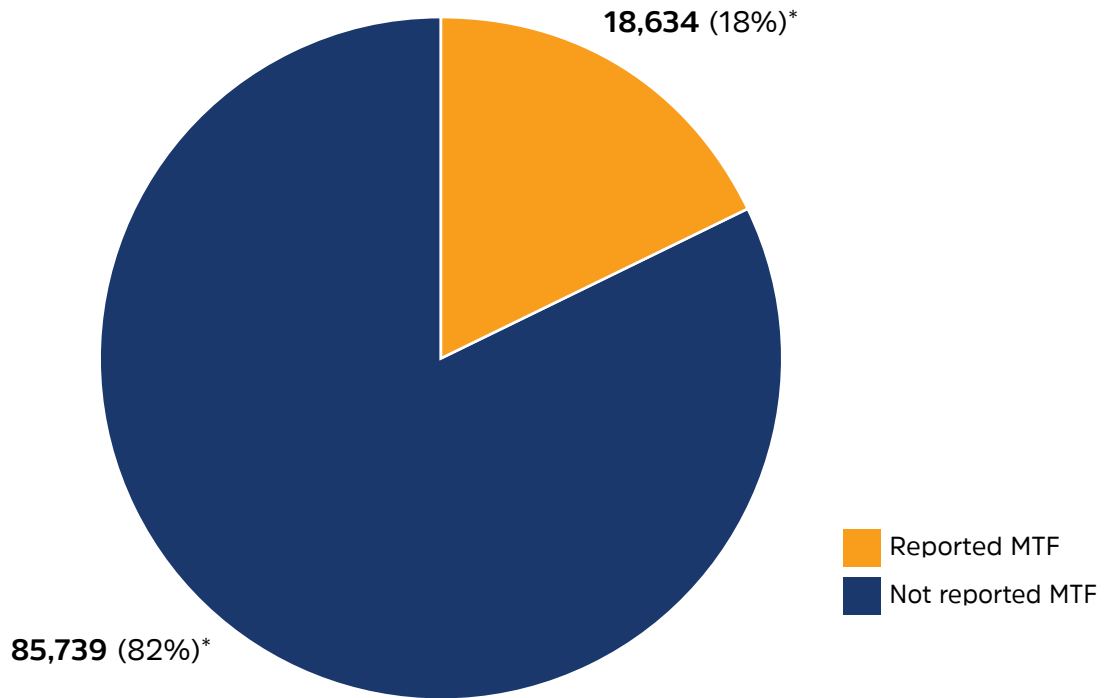
(Total no: 104,373)



\*Percentages are rounded

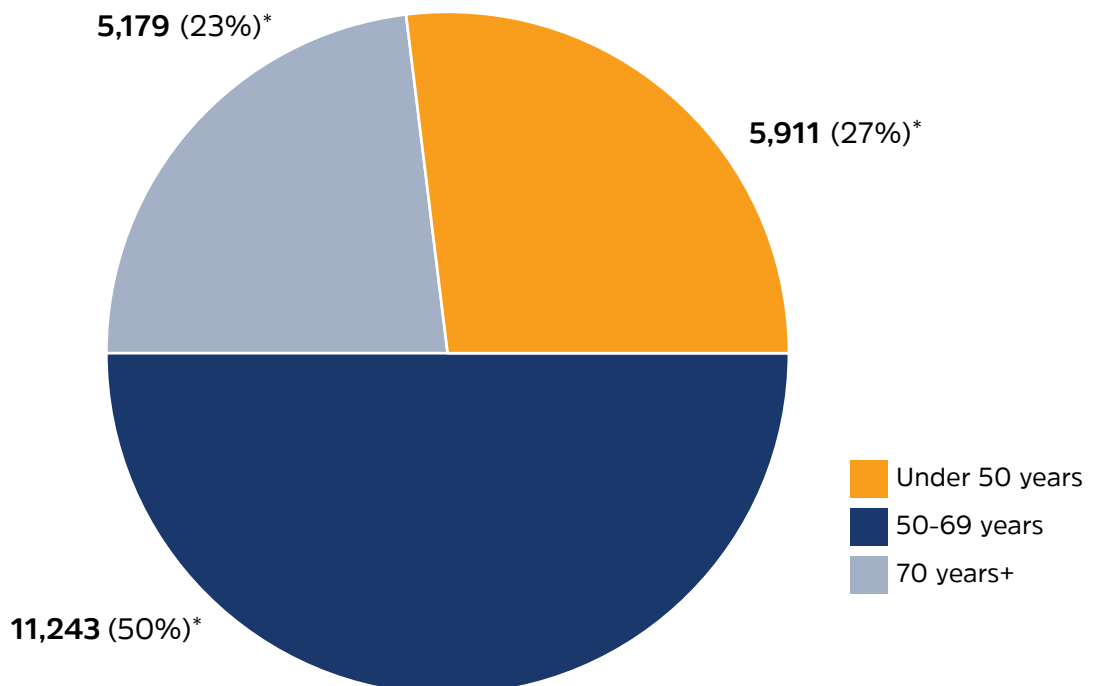
## Number of Assessments and Minimal Trauma Fracture (MTF) Status

(Total no: 104,373)



## Total Number of reported Minimal Trauma Fractures (MTFs) by Age

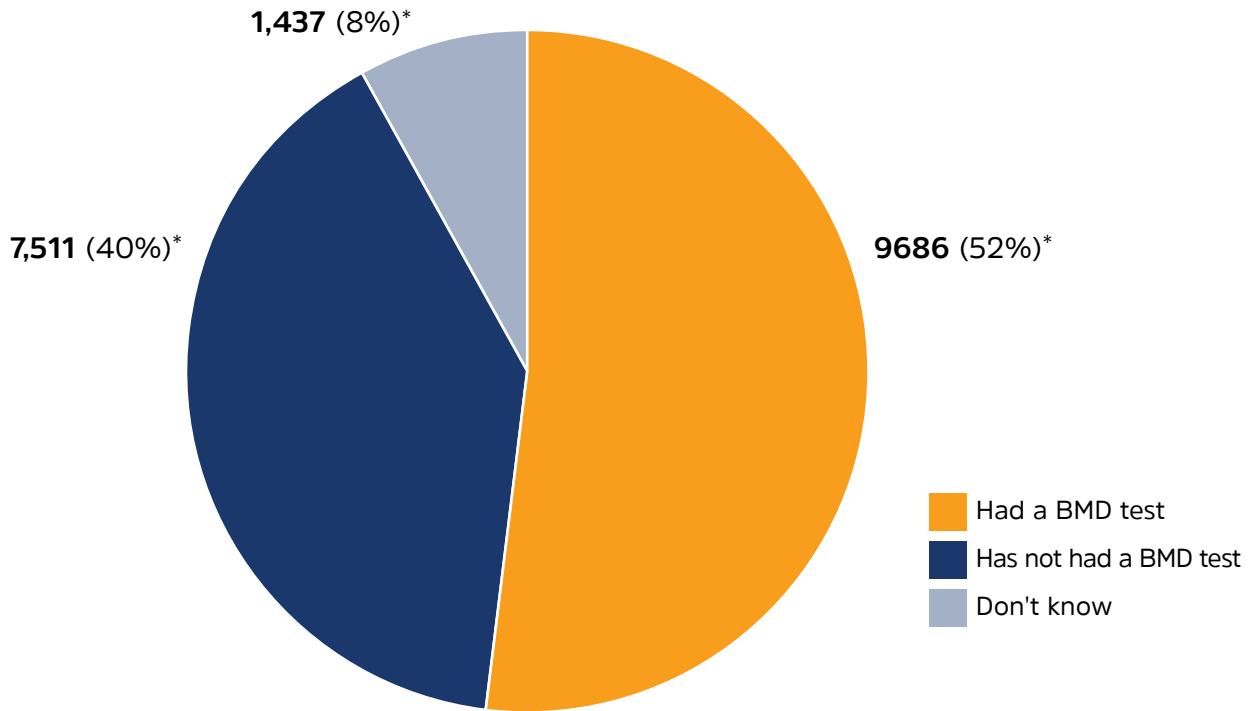
(Total no: 22,333)



\*Percentages are rounded

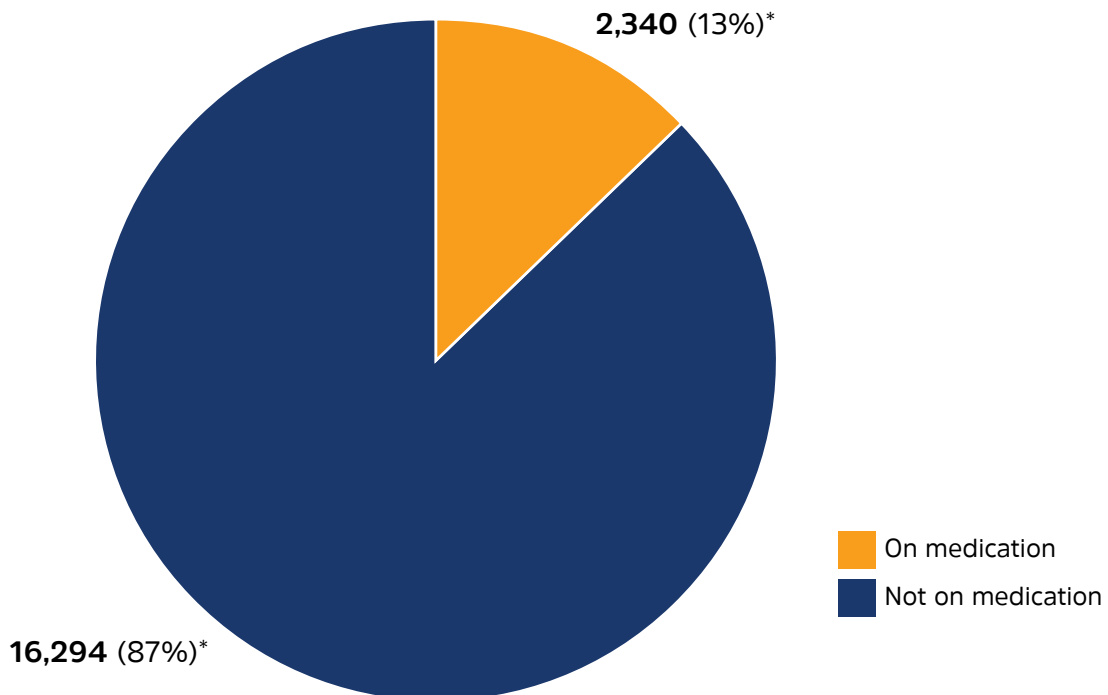
### Number of Assessments that reported a Minimal Trauma Fracture (MTF) by Bone Mineral Density (BMD) Test Status

(Total no: 18,634)



### Number of Assessments that reported a Minimal Trauma Fracture (MTF) by Status of Treatment

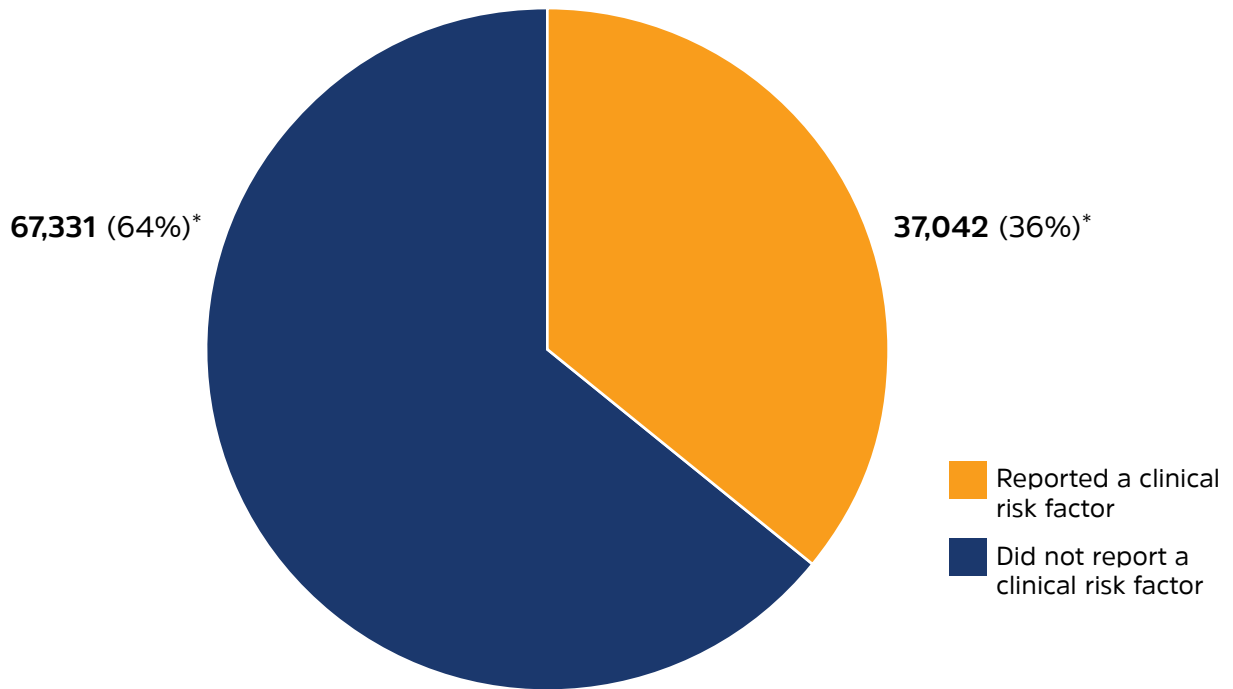
(Total no: 18,634)



\*Percentages are rounded

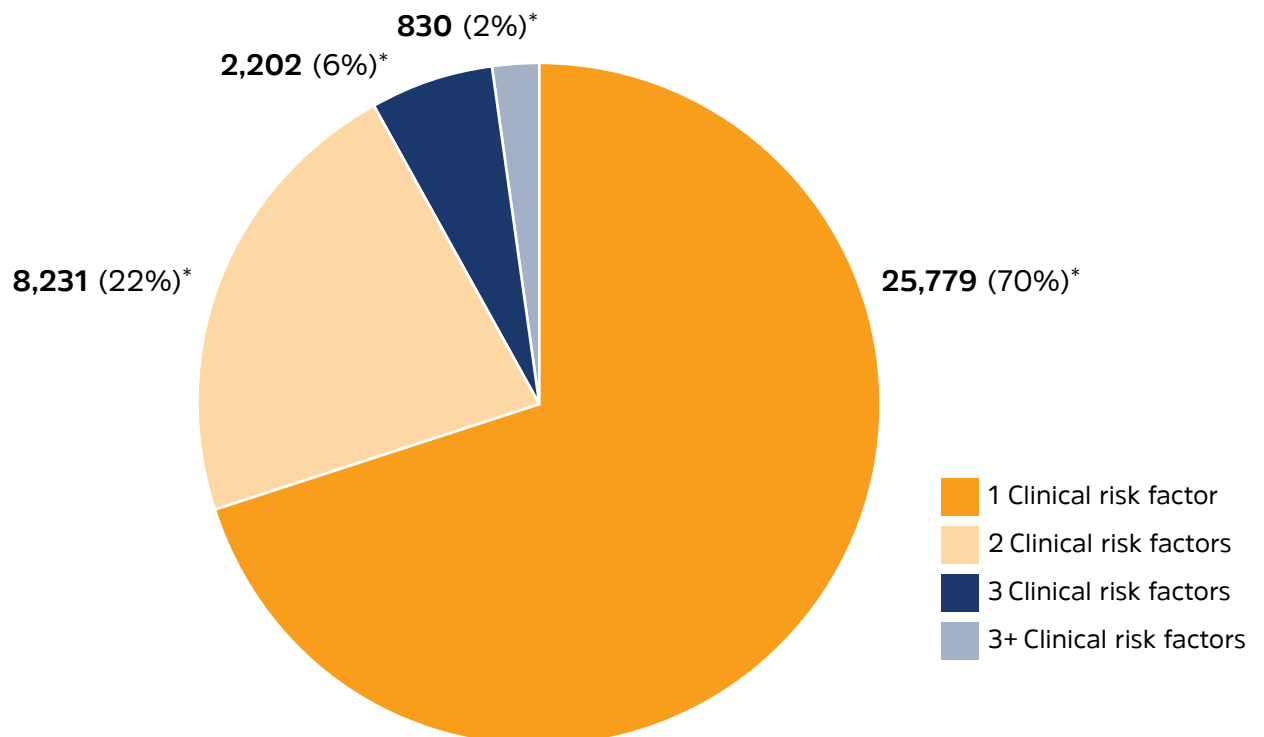
## Number of Assessments by Total Clinical Risk Factors<sup>†</sup> Reported

(Total no: 104,373)



## Number of Assessments Reporting 1 or More Clinical Risk Factors<sup>†</sup>

(Total no: 37,042)



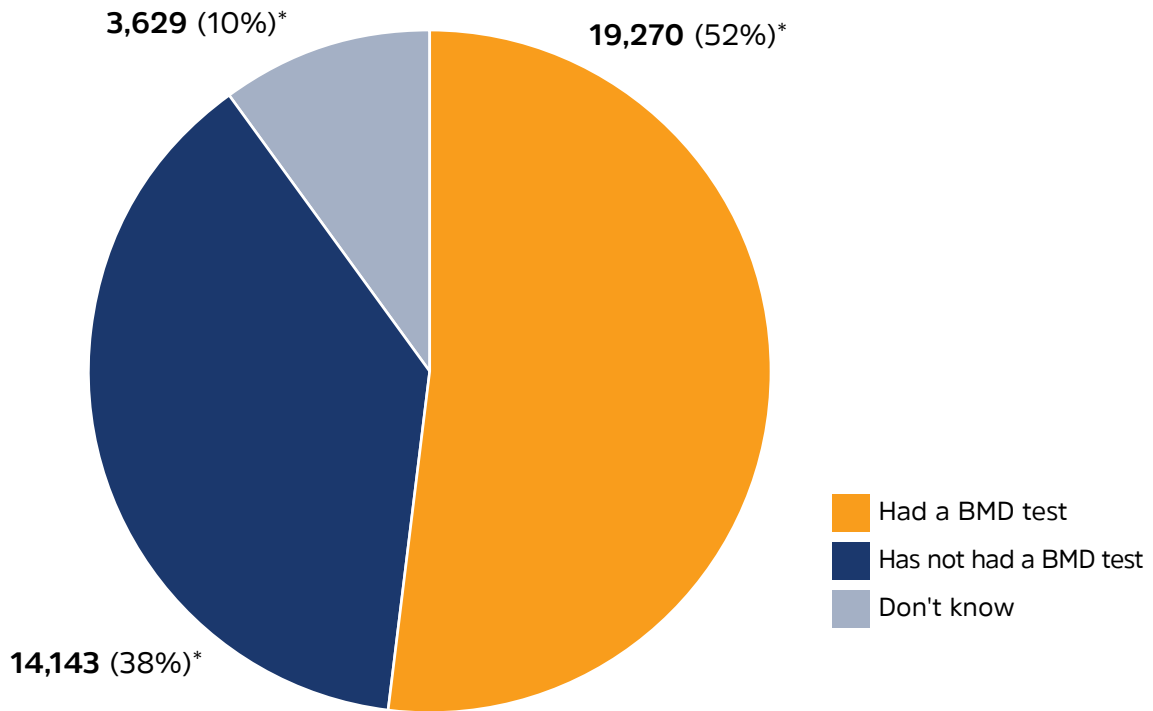
<sup>†</sup>Clinical risk factors include: Daily oral use glucocorticoids, early menopause/low testosterone, loss of height, coeliac disease, overactive parathyroid, overactive thyroid, rheumatoid arthritis, chronic liver or kidney disease, treatment for breast cancer or prostate cancer.

\*Percentages are rounded



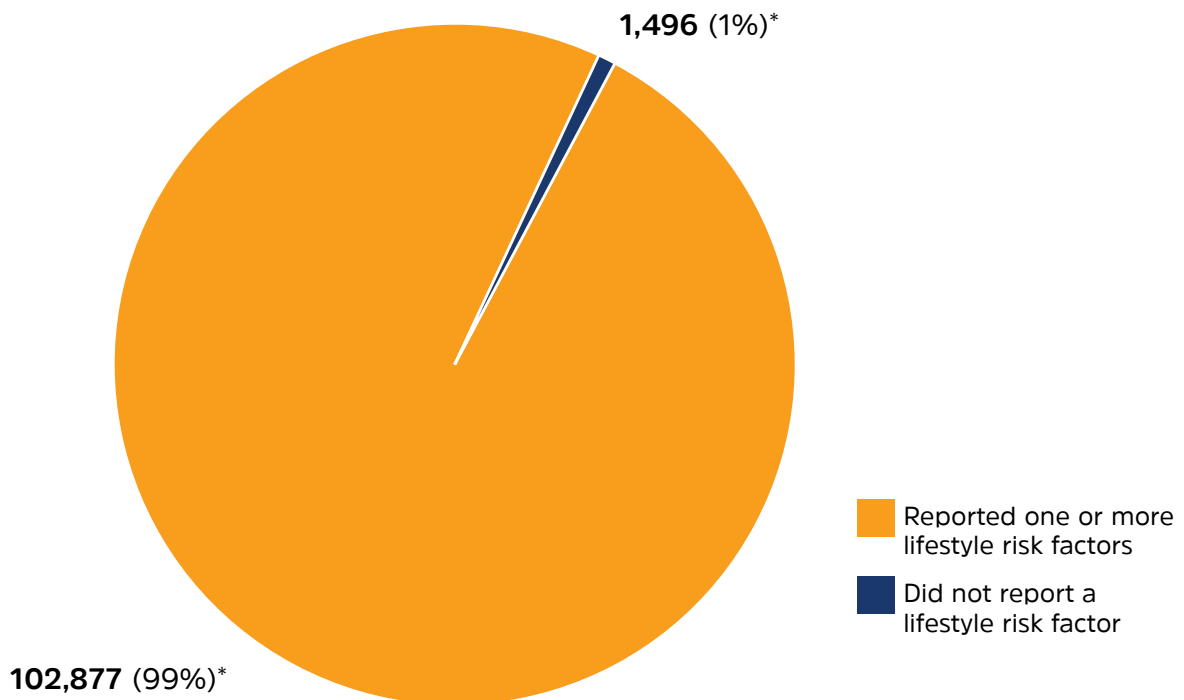
## Number of Assessments with Clinical Risk Factors<sup>†</sup> by Bone Mineral Density (BMD) Test Status

(Total no: 37,042)



## Number of Assessments by Total Lifestyle Risk Factors<sup>†</sup>

(Total no: 104,373)

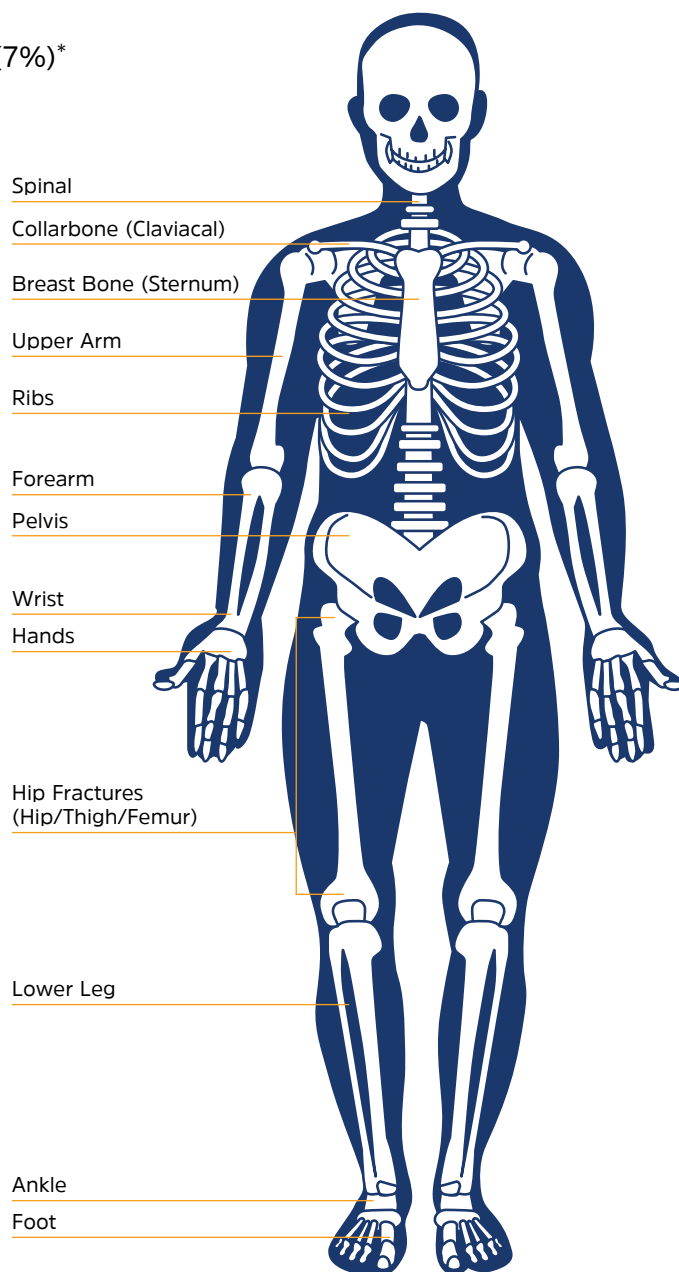
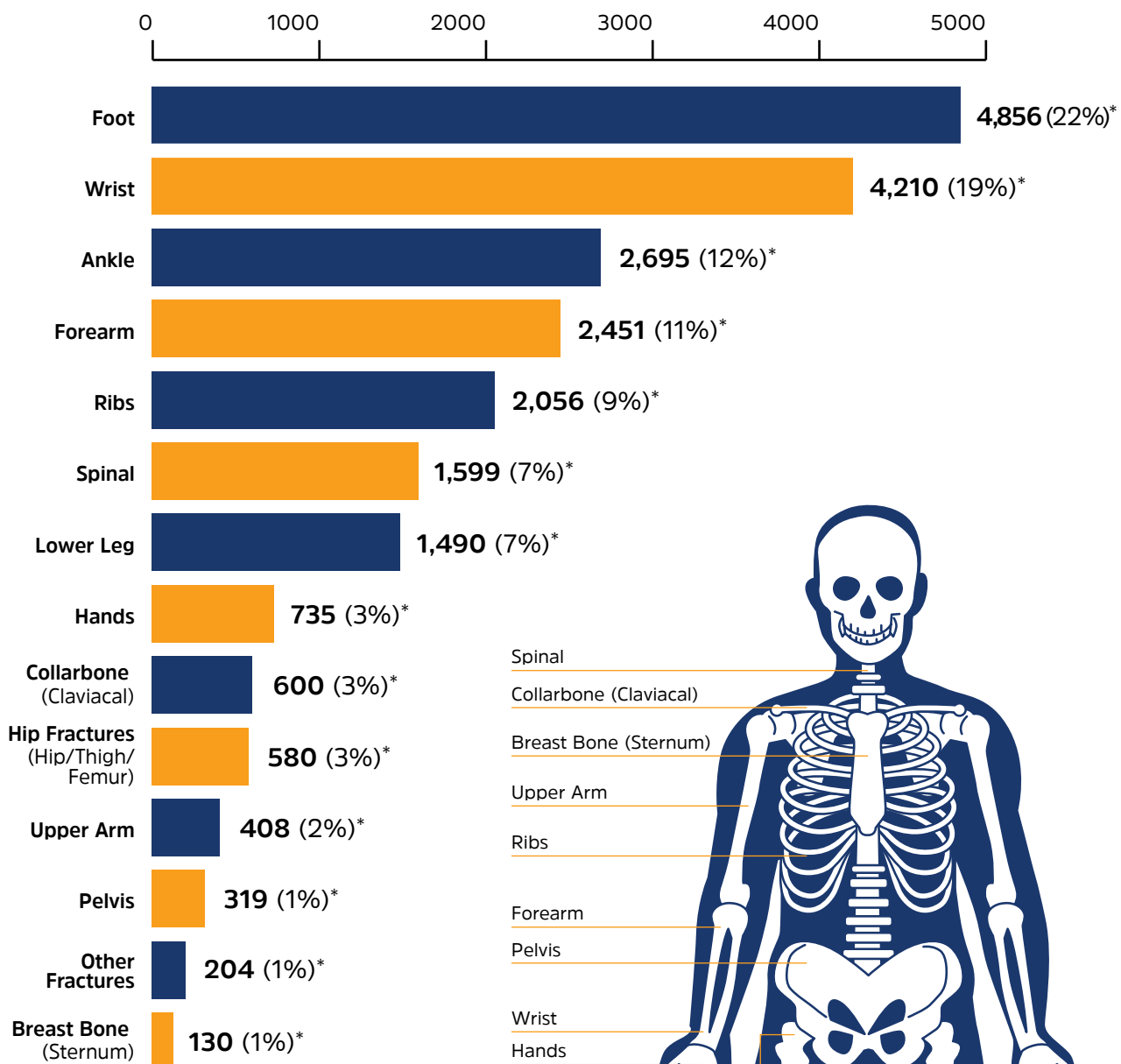


<sup>†</sup>Lifestyle risk factors include: smoking, alcohol intake, lack of adequate calcium/vitamin D/exercise.

\*Percentages are rounded

## Total Number of Minimal Trauma Fractures (MTFs) by Body Site

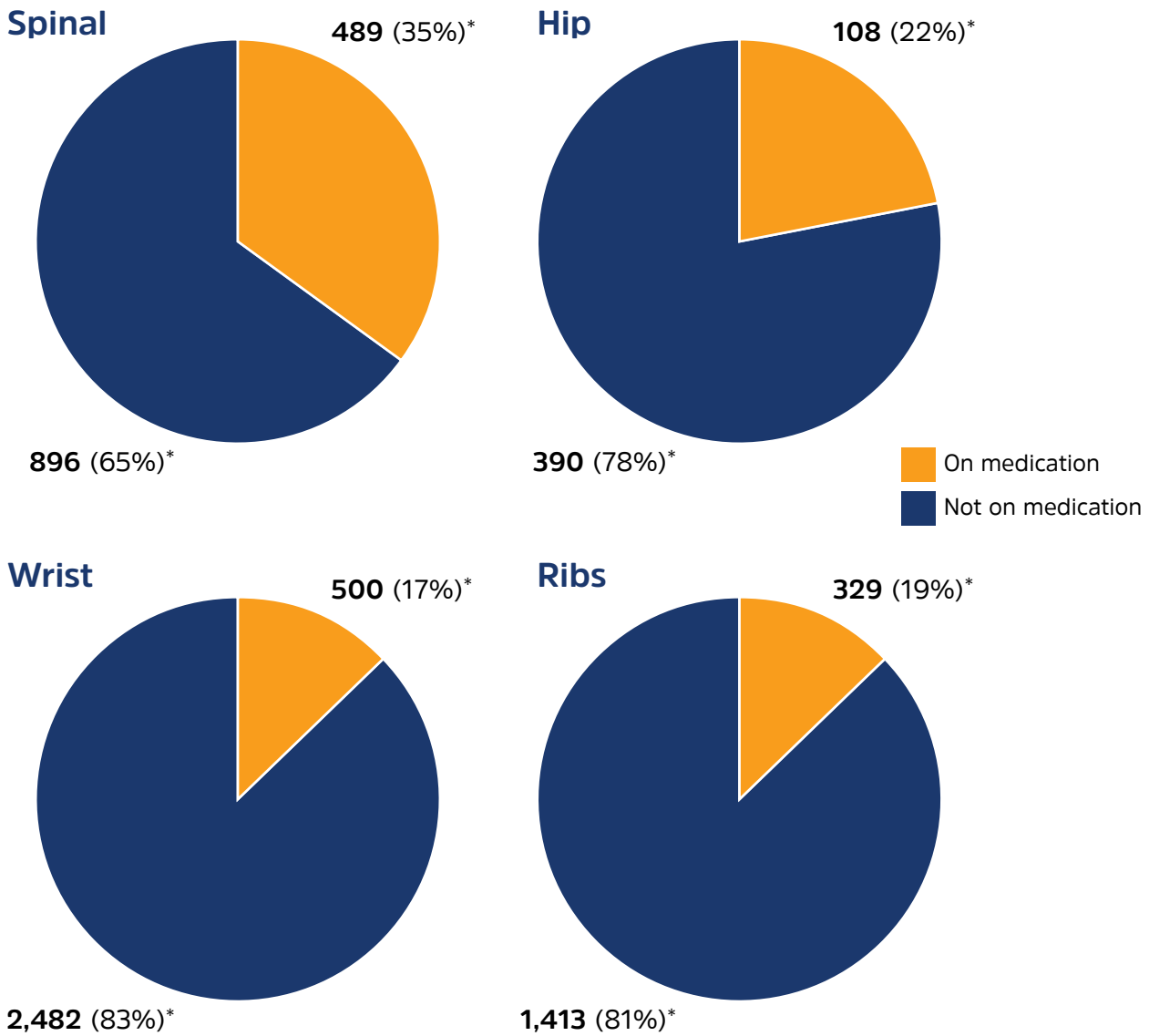
(Total no: 22,333)



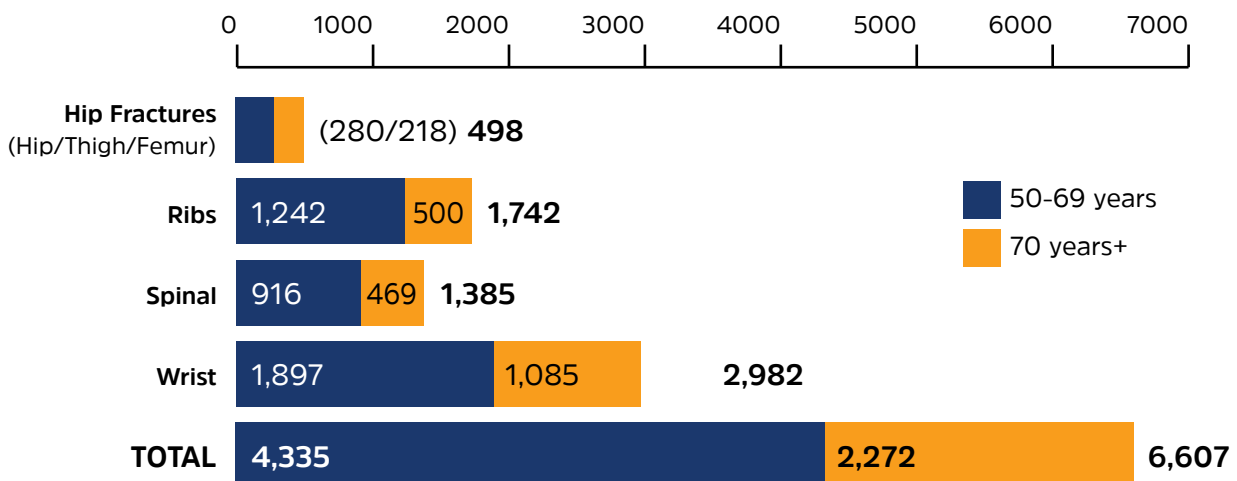
**73% of Minimal Trauma Fractures (MTFs) reported in adults age 50+**

\*Percentages are rounded

## People Aged 50+ with Minimal Trauma Fracture (MTF) at a Specific Body Site by Medication Status

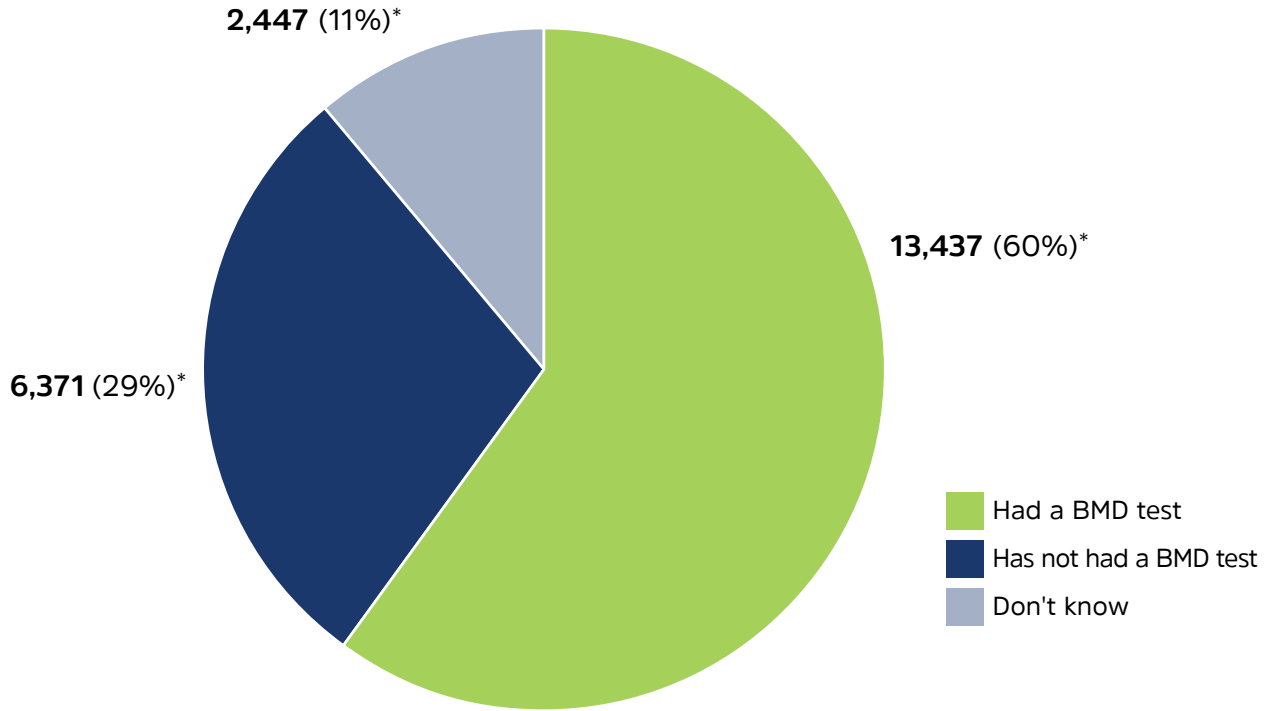


## Number of Minimal Trauma Fractures (MTFs) at a Specific Body Site by Age Group

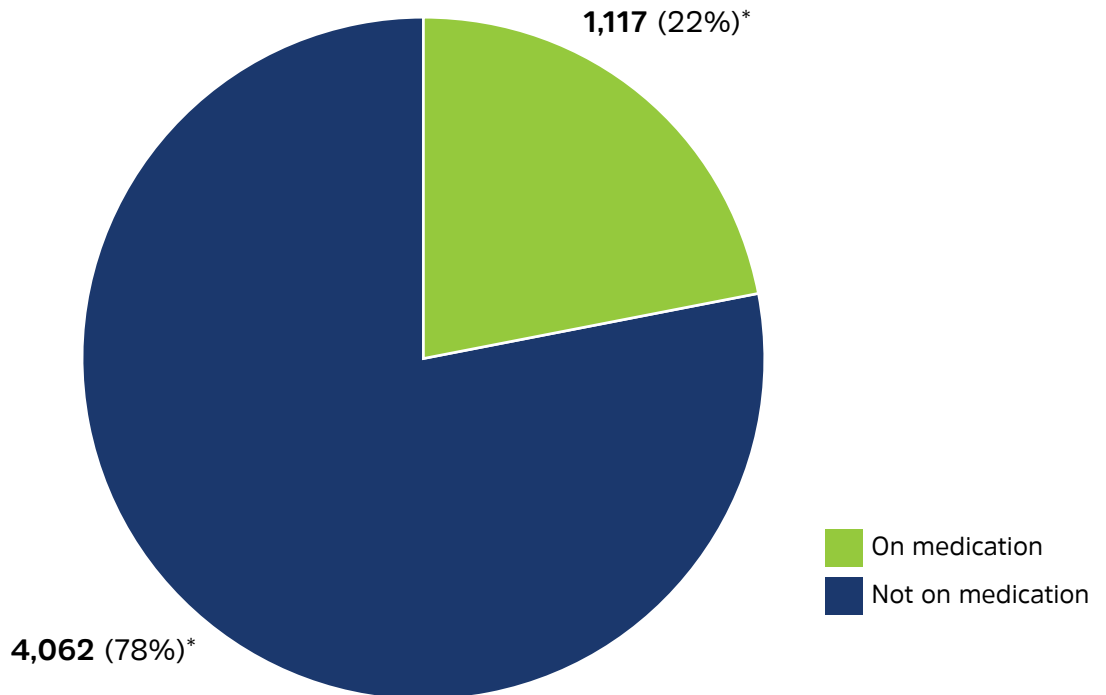


\*Percentages are rounded

**People Age 70+ Bone Mineral Density (BMD) Test Status**  
(Total no: 22,255)

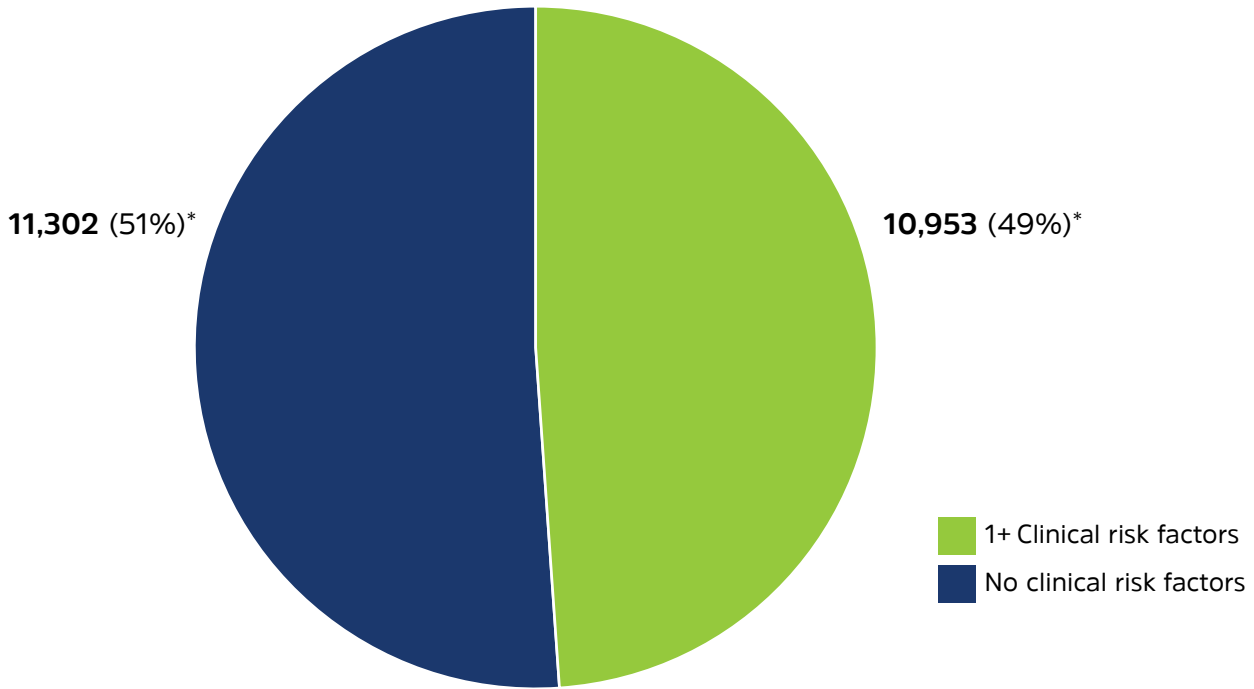


**People Age 70+ that reported a Minimal Trauma Fracture (MTF) by Status of Treatment**  
(Total no: 5,179)

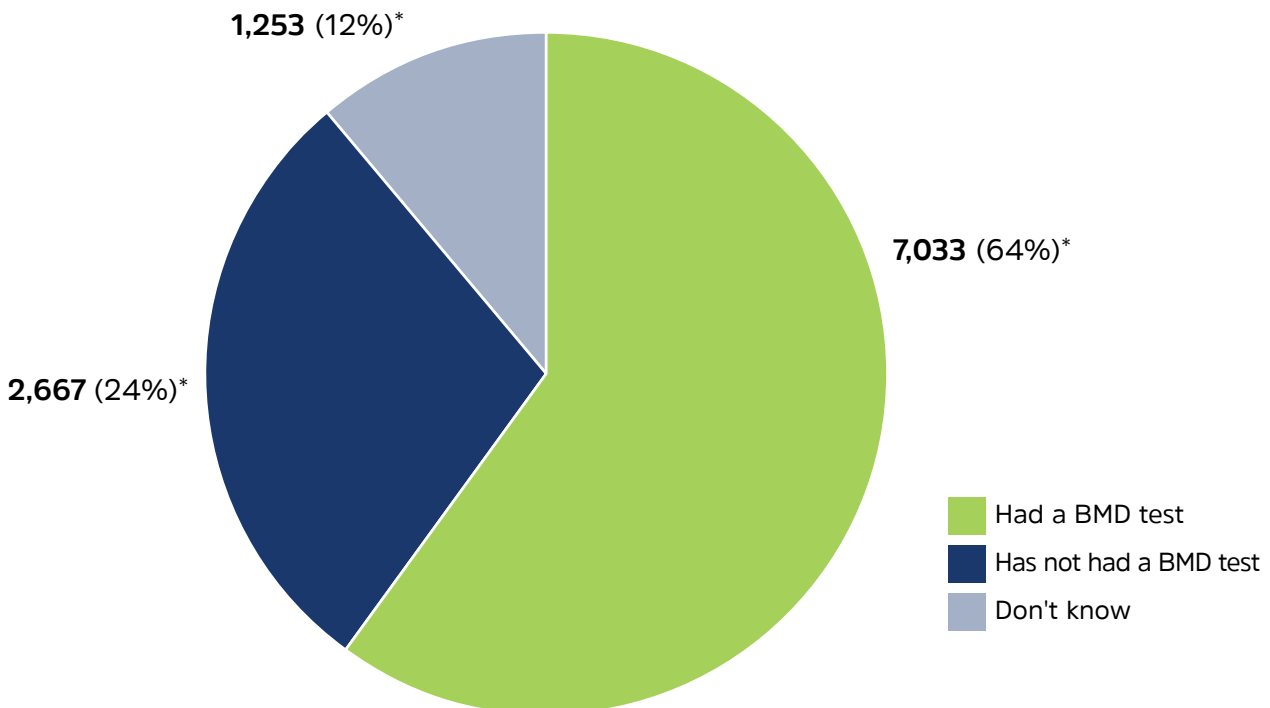


\*Percentages are rounded

### People Age 70+ Clinical Risk Factors<sup>†</sup> (Total no: 22,255)



### People Age 70+ with Clinical Risk Factors<sup>†</sup> and Bone Mineral Density (BMD) Test Status (Total no: 10,953)



<sup>†</sup>Clinical risk factors include: Daily oral use glucocorticoids, early menopause/low testosterone, loss of height, coeliac disease, overactive parathyroid, overactive thyroid, rheumatoid arthritis, chronic liver or kidney disease, treatment for breast cancer or prostate cancer.  
\*Percentages are rounded

## National Overview



**Poor bone health affects over 6 million adults age 50+<sup>1</sup>**



**Over 183,000 fractures annually<sup>1</sup>**



**Fractures cost \$2.59 billion each year<sup>1</sup>**

Includes: • Hospital costs • Rehabilitation  
• Emergency • Home care

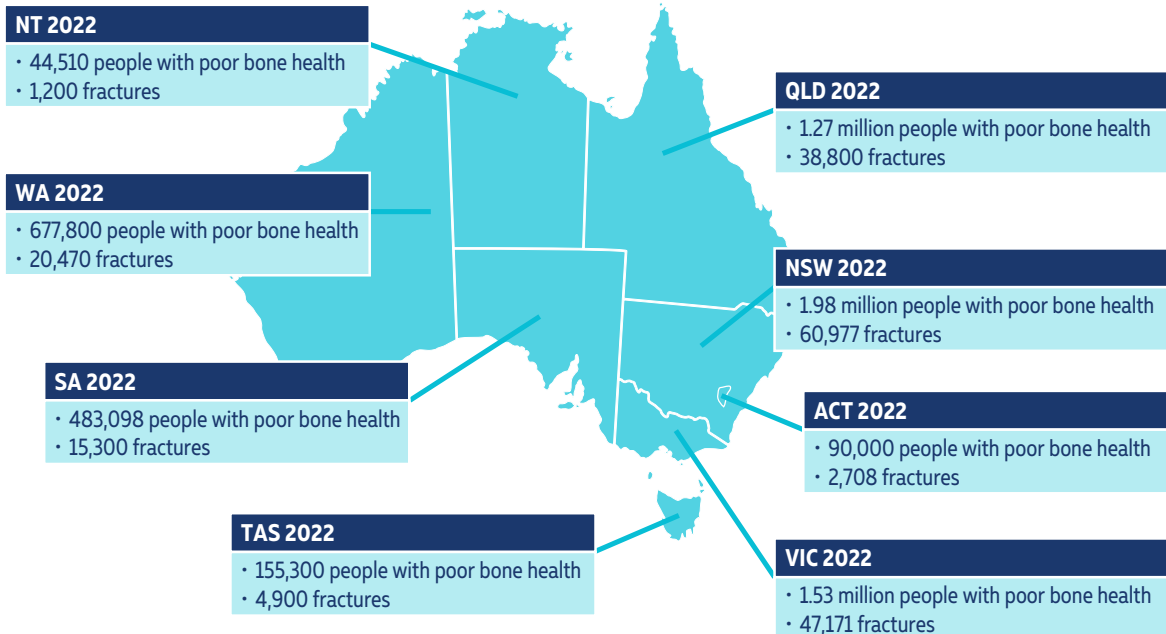


**Total cost of disease \$3.4 billion<sup>1</sup>**

Includes: • General medical  
• Pharmaceuticals



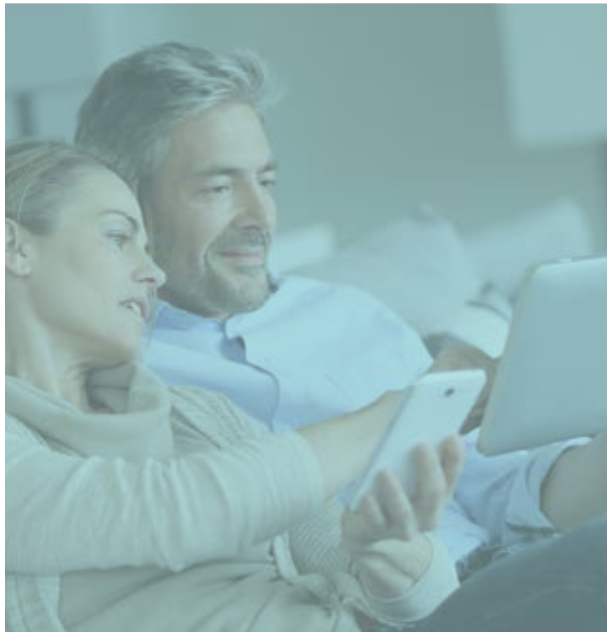
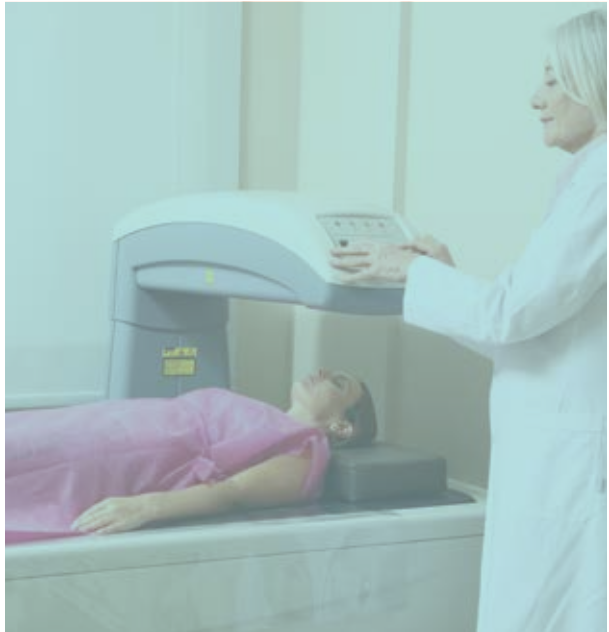
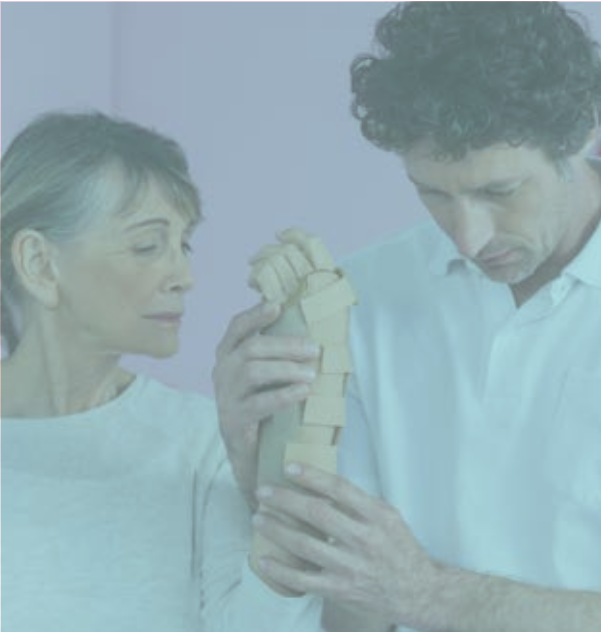
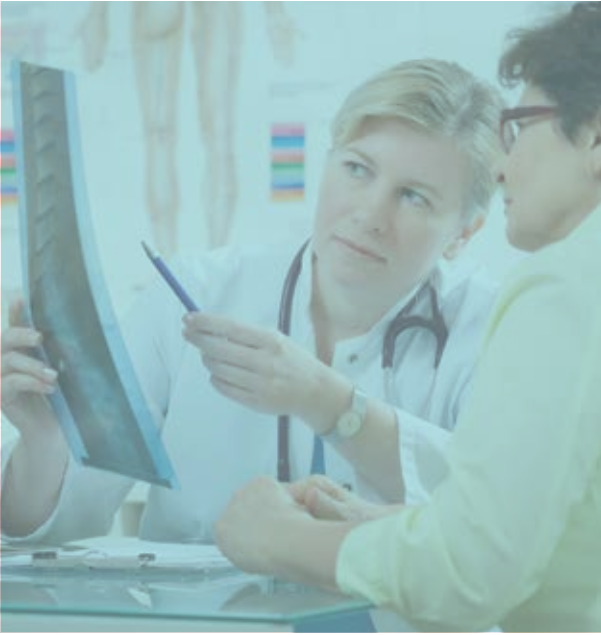
## Issue by State and Territory<sup>2</sup>



<sup>1</sup>Watts JJ, Abimanyi-Ochom J, Sanders KM. Osteoporosis costing all Australians A new burden of disease analysis – 2012 to 2022. Osteoporosis Australia 2013

<sup>2</sup>Sanders KM, Watts JJ, Abimanyi-Ochom J, Murtaza G. Osteoporosis costing [state or territory name]: A burden of disease analysis – 2012 to 2022. Osteoporosis Australia 2017

Reports can be accessed at: <https://healthybonesaustralia.org.au/about-us/publications-reports/>





[www.knowyourbones.org.au](http://www.knowyourbones.org.au)