Advanced Osteoporosis Triage System Shortens the Waiting Time for Osteoporosis Clinic

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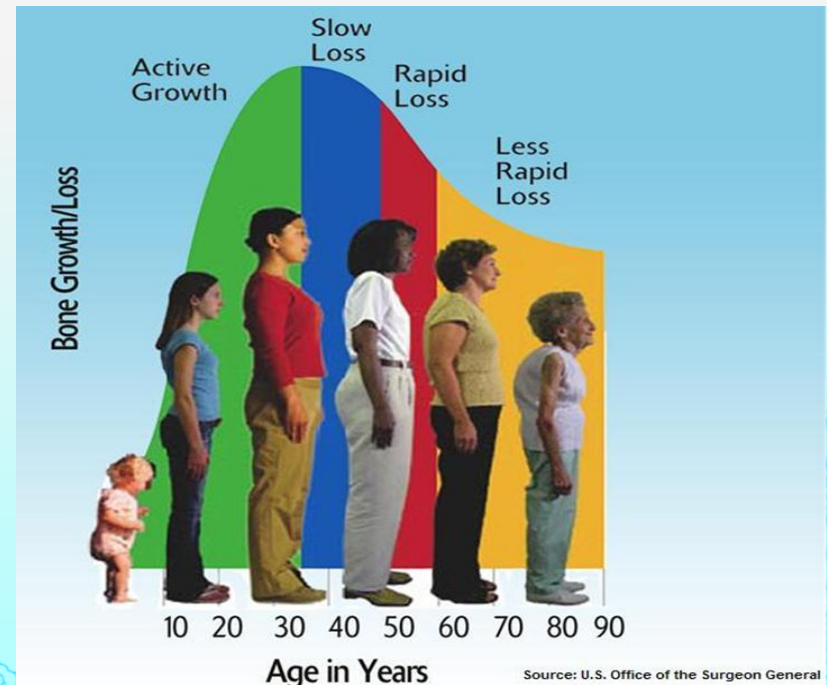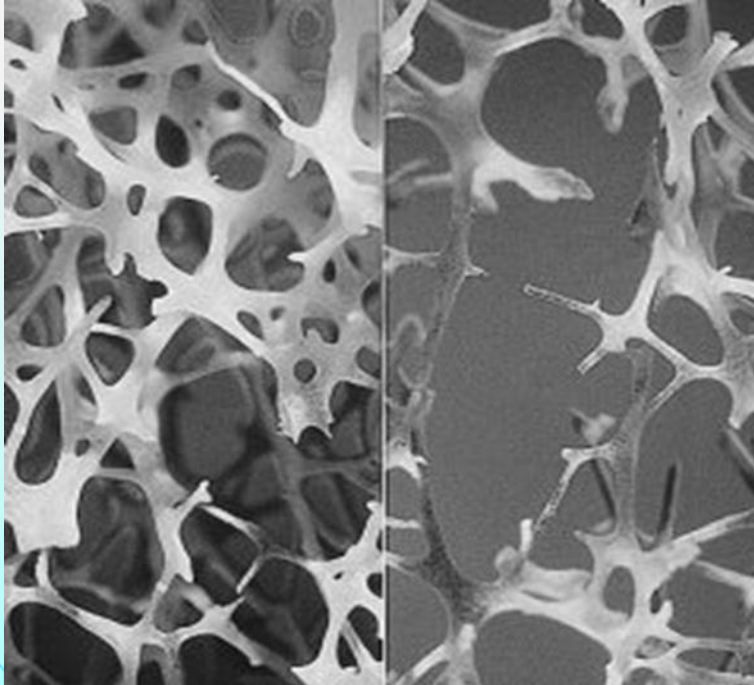[1] Department of Medicine, Queen Mary Hospital
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In our Society …..

Ageing population are expected to

Increase the prevalence of

Osteoporosis and associated Fractures

International Osteoporosis Foundation ...

Around the world:

- ◆ 1 in 3 women and 1 in 5 men

- ◆ are at risk of an osteoporotic fracture

- ◆ In fact, an osteoporotic fracture is estimated to occur every 3 seconds ……

Osteoporosis – Negative Outcome

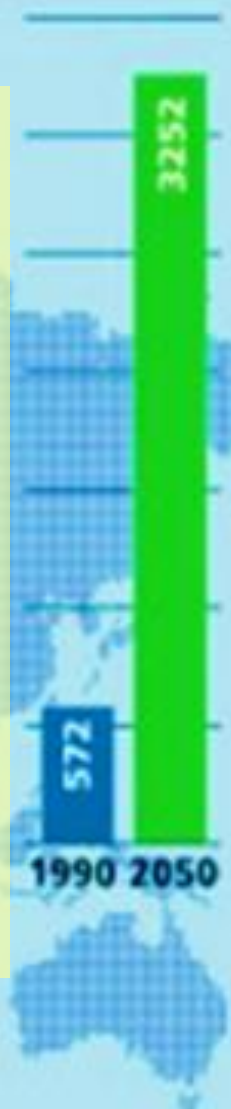**Osteoporotic hip fractures worldwide will rise from**

1.66 million in 1990

to

6.26 million in 2050

Information source:
Sambrook P, Cooper C. Osteoporosis. Lancet 2006;367:2010-18

Any possible ways to avoid …?

Many osteoporotic fractures can be avoided by
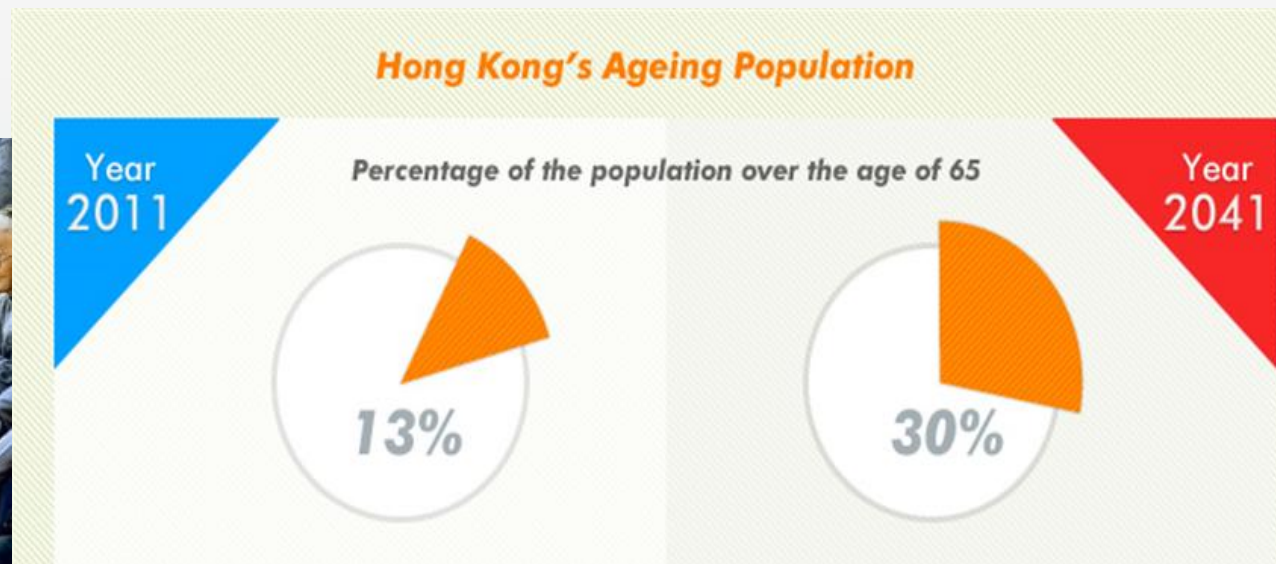
2As + 2Es:

Appropriate medical treatment

Adequate health promotion

Early diagnosis of Osteoporosis

Early identification of

primary and secondary causes of Osteoporosis

What are we facing in HKWC ?

Waiting time for Specialist Clinic has risen because of our aging population

Source: Mandatory Provident Fund Schemes Authority

What we need?

An effective health care referral system
is required to meet
the growing demand of service

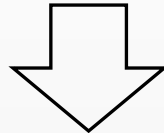# What we done?

Since 2012, in Ost. Specialist Clinic, QMH:

Advanced Osteoporosis Triage System (AOTS)
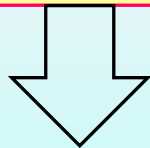
has been commenced

What is it ?

Patients with Osteoporosis referred to us

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Case Manager: Nurse

Clinical Management Protocol:
Advanced Osteoporosis Triage System
(AOTS)

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**High-risk
Group**

**Non-high-risk
Group**

Advanced Osteoporosis Triage System

We assess …..

Presence of Fracture

Recent Fall

Drug History

Advanced Osteoporosis Triage System

We calculate …..

WHO Fracture Risk Assessment Tool (FRAX) score
<10-year probability of fracture>

Advanced Osteoporosis Triage System

We identify ……..

Possible secondary cause of Osteoporosis:

1. Vitamin D deficiency
2. Hyperparathyroidism
3. Thyrotoxicosis
4. Cushings' Syndrome
5. Rheumatic Diseases
6. On long-term steroid

Does it work ..... !?

How we measured the outcome …?

Waiting time for a medical consultation in the Osteoporosis Specialist Clinic, QMH, were compared among:

1. High-risk group

2. Non-high-risk group

3. A historical control group

    - patients being seen in the Clinic before the implementation of the Advanced Osteoporosis Triage System (AOTS)

Between 1.2012 and 1.2014 ….

1,689 patients were referred to Osteoporosis Specialist Clinic

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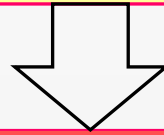
Case Manager: Nurse

Advanced Osteoporosis Triage System (AOTS)

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High-risk Group
325 patients (20%)

Non-high-risk Group
1,364 patients (80%)

Among the High-risk Group (n=325)
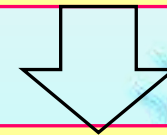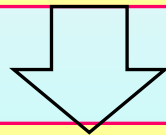
	Clinical Risk Factors for Osteoporotic Fracture	n	%
1	Secondary causes of Osteoporosis :	164	50%
	① Vitamin D deficiency ② Thyroid disease ③ Primary hyperparathyroidism	131 26 7	
2	Comorbid medical conditions :	121	38%
	① Impaired renal function ② Intolerance to anti-osteoporosis drug ③ Diabetes	61 46 14	
3	Recent history of fracture	28	9%
4	FRAX score: High fracture risk	7	2%
5	Recurrent fall	5	1%

the Case Manager further arranged …

High-risk Group

1. Individual counselling and education
2. Baseline assessment:
   - Bone mineral density measurement, blood test, daily oral calcium intake etc …
3. Further investigations:
   - Specific blood test
4. Early appropriate referral to:
   - Diabetes Clinic
   - Rheumatology Clinic
   - Endocrine Surgery ……
5. Post Osteoporosis Clinic Nursing follow-up

Non-high-risk Group

1. Group education
2. Baseline assessment:
   - Bone mineral density measurement, blood test, daily oral calcium intake etc …..
3. Post Osteoporosis Clinic Nursing follow-up

Waiting time for Medical Consultation before and after the implementation of Advanced Osteoporosis Triage System (AOTS) ….

Waiting Time
for Osteoporosis Specialist Clinic

High-risk Group (n=325)	Control Group (n=1,218)	p
15 $\pm$ 3 weeks	28 $\pm$ 2 weeks	< 0.05

Non-high-risk Group (n=1,364)	Control Group (n=1,218)	p
28 $\pm$ 1 weeks	28 $\pm$ 2 weeks	0.17

Conclusion

The Advanced Osteoporosis Triage System (AOTS) demonstrates:

- An effective model which enhances the provision of specialist service to the most appropriate patients in a more timely way

- Not only can shorten the clinic waiting time but also help in early identification of underlying disease

Acknowledgement

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Thank you