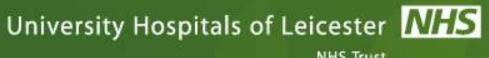
## Leicester Diabetes Centre

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### Multi-morbidity care in diabetes: Cardio-metabolic morbidities

Kamlesh Khunti University of Leicester, UK



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### Multimorbidity

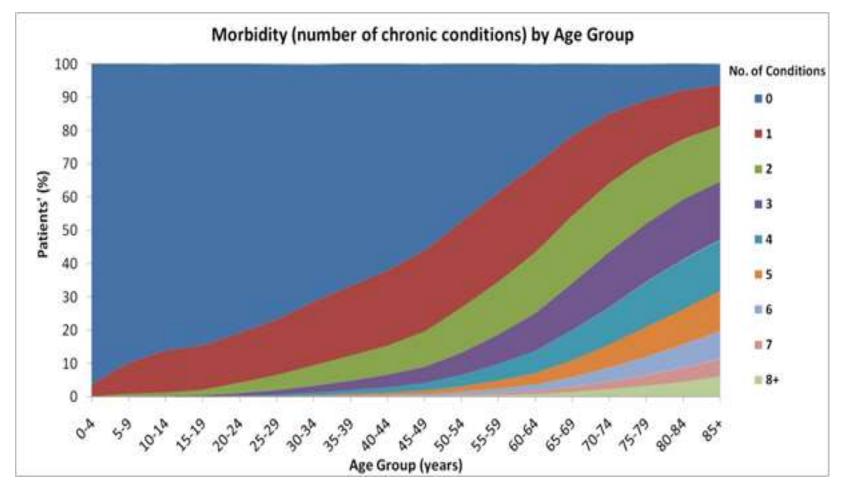
• Multimorbidity is the presence of two or more long term conditions.

It matters because:

- Living with multiple conditions is the norm rather than the exception for many people. It is associated with poorer quality of life, more hospital admissions and higher mortality
- Health services are largely organised to provide care for single diseases



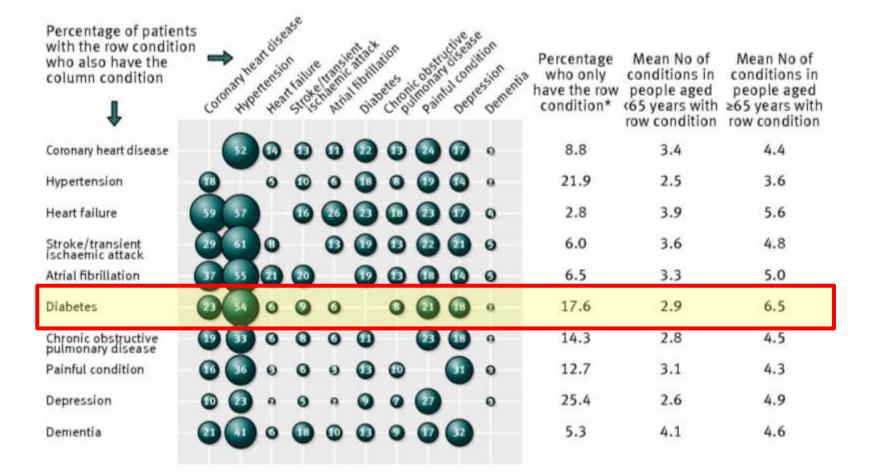
### **Multimorbidity is common**



- The majority of over-65s have 2 or more conditions, and the majority of over-75s have 3 or more conditions
- More people have 2 or more conditions than only have 1

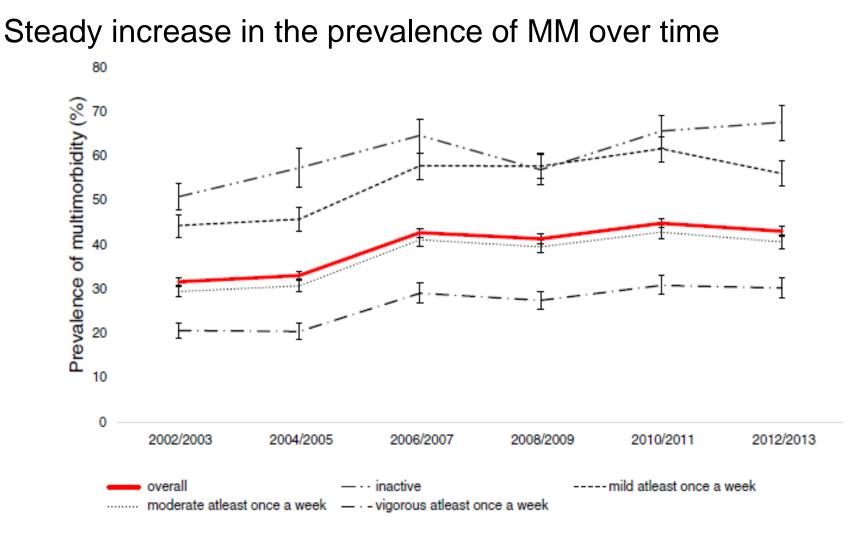


### Most people with a chronic condition have multimorbidity Comorbidity of 10 common conditions among UK primary care patients



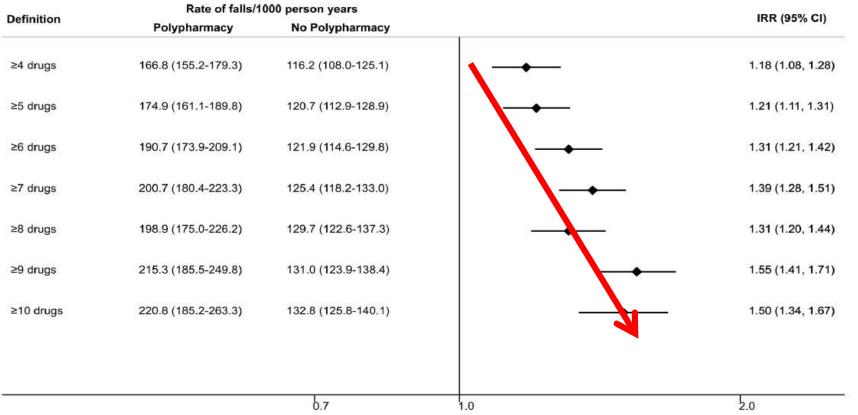


## Long term trends of multimorbidity and association with physical activity in an older English population



Dhalwani NN, et al. International Journal of Behavioral Nutrition and Physical Activity 2016 13:8

### Polypharmacy is associated with increased risk of falls

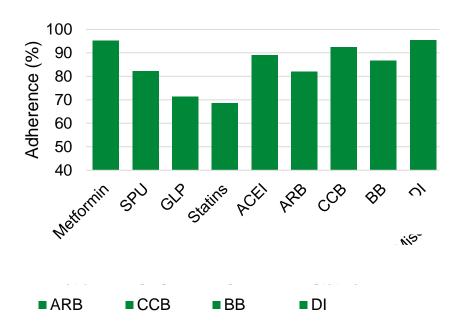


IRR adjusted for age, sex, ethnicity, wealth quintiles, walking speed, smoking status, excess alcohol consumption and multimorbidity

Figure 2 Rates and rate ratios for falls comparing people with and without polypharmacy, using different definitions of polypharmacy. IRR, incidence rate ratio.



# Adherence rates determined through biochemical testing



- Routine urine samples, received at the time of annual diabetes review
- 228 people with T2DM
- Adherence assessed by LC-MS/MS
- 28.1% non-adherent to OHAs, antihypertensive and/or lipid lowering medications
- Non-adherence to statins was the highest at 23.7% and was 9.3% for OHAs.
- HbA1c, ACR & lipid profiles significantly higher in the non-adherent people



### **Cardiometabolic morbidity**

All-cause mortality for the Emerging Risk Factors Collaboration by disease status of participants at baseline (N=689,300)

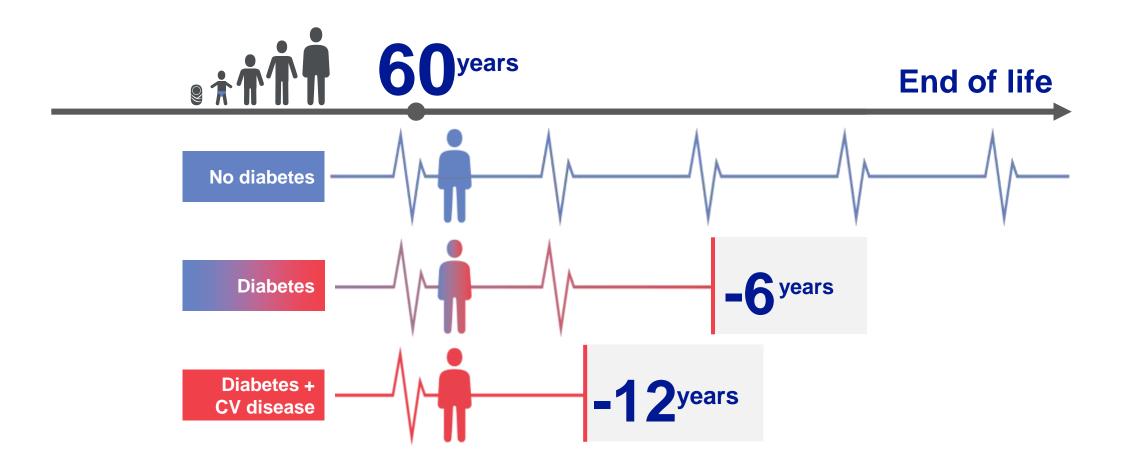
Disease status at baseline	No. of participants	No. of deaths	Person-years	HR (95% CI)		l² (95% CI)
Diabetes, stroke and MI	541	379	3584	6.9 (5.7,8.3)	<b>⊢●</b> •	51 (38, 62)
Stroke and MI	1836	1174	14,210	3.5 (3.1, 4.0)	<b>I⊕</b> 1	61 (52, 69)
Diabetes and stroke	1321	778	10,234	3.8 (3.5, 4.2)	•	18 (0, 38)
Diabetes and MI	3233	1794	25,321	3.7 (3.3, 4.1)	•	69 (62, 75)
MI	21,591	9636	216,081	2.0 (1.9, 2.2)	•	84 (80, 86)
Stroke	8583	3814	82,208	2.1 (2.0, 2.2)	•	50 (36, 61)
Diabetes	24,677	8087	254,608	1.9 (1.8, 2.0)	•	76 (70, 80)
None	627,518	103,181	8,772,977	1 [reference]	•	

Increased risk



The Emerging Risk Factors Collaboration. JAMA 2015;314:52

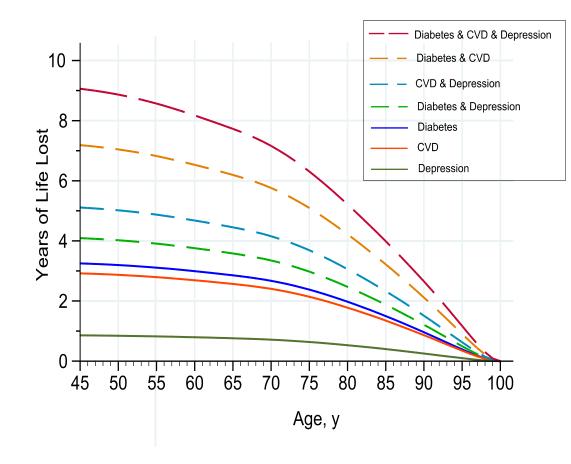
# Life expectancy is reduced by 12 years in patients with diabetes and previous CV disease\*





#### Association between disease and life expectancy

Participants with a disease have reduced life expectancy compared to those with none.



At age of 45 years, being physically active was associated with life years gained:

Diabetes	2.34 (0.93, 3.54)
Diabetes & CVD	2.28 (1.40, 3.16)
CVD	2.15 (0.05, 4.26)
Diabetes, CVD & Dep	6.81 (-1.50, 15.31)



### Implications

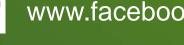
- Multimorbidity is the norm for people with long-term conditions
- Cardiometabolic multimorbidities are more prevalent
- Multimorbidity contributes significantly to health inequalities and the inverse care law
- We need to understand how to better support people with multimorbidity
- Primary care is central to providing this support



## Thank you



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