Characteristics, service use and mortality of clusters of multimorbid patients in England: a population-based study
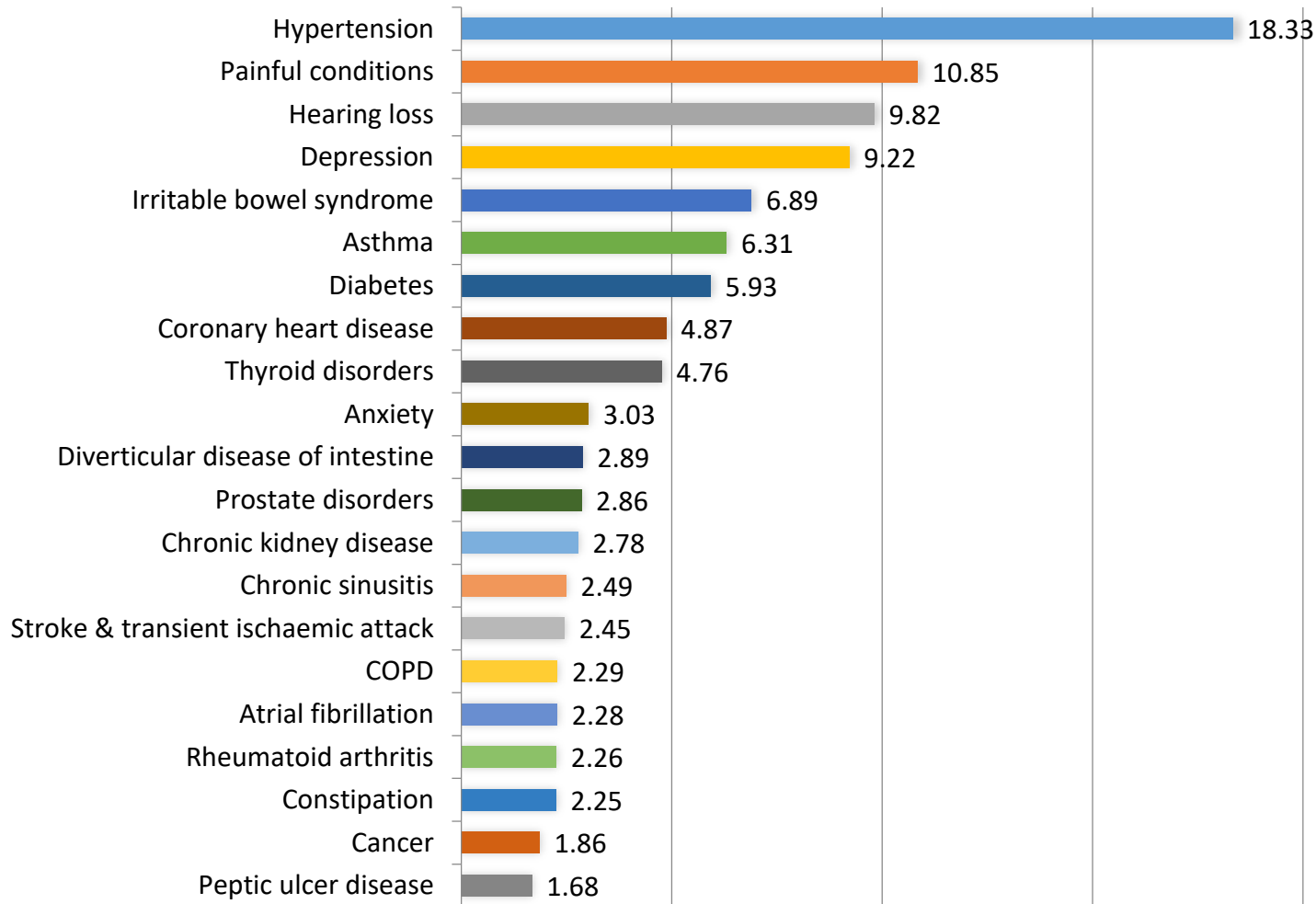
Yajing Zhu[1], Duncan Edwards[1], Jonathan Mant[1], Rupert A Payne[2], Steven J Kiddle[1]

Affiliation: [1] University of Cambridge, [2] University of Bristol.

12th European Public Health conference, Marseille
November 2019

Read article: https://doi.org/10.1101/19000422
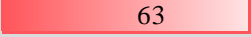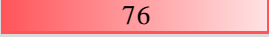
Data: English primary care electronic health records (CPRD)
- 113,000 multimorbid / 400,000 adult patients
- 4 age groups, 38 chronic conditions

Condition	Value
Hypertension	18.33
Painful conditions	10.85
Hearing loss	9.82
Depression	9.22
Irritable bowel syndrome	6.89
Asthma	6.31
Diabetes	5.93
Coronary heart disease	4.87
Thyroid disorders	4.76
Anxiety	3.03
Diverticular disease of intestine	2.89
Prostate disorders	2.86
Chronic kidney disease	2.78
Chronic sinusitis	2.49
Stroke & transient ischaemic attack	2.45
COPD	2.29
Atrial fibrillation	2.28
Rheumatoid arthritis	2.26
Constipation	2.25
Cancer	1.86
Peptic ulcer disease	1.68

18 – 44 year olds

Lead condition	Multimorbid patients	Greater deprivation	Current smokers	5-year mortality	# GP contacts in a year
(%)	(%)	(%)	(%)	(%)	(Median [Q1-Q3])
Non-multimorbid				**0.2**	**1 [0-5]**
Depression (100%)	32	50	46	1.8	12 [5-20]
Pain (36%)	23	46	27	2.7	9 [3-17]
Asthma (100%)	20	41	29	0.6	9 [4-16]
IBS (100%)	18	37	28	0.4	8 [3-15]
PSM (75%)	7	63	76	3.9	7 [1-16]

Most prevalent 5 conditions in the **highest** mortality cluster

- Psychoactive substance misuse — 75%
- Alcohol problems — 42%
- Depression — 24%
- Painful condition — 19%
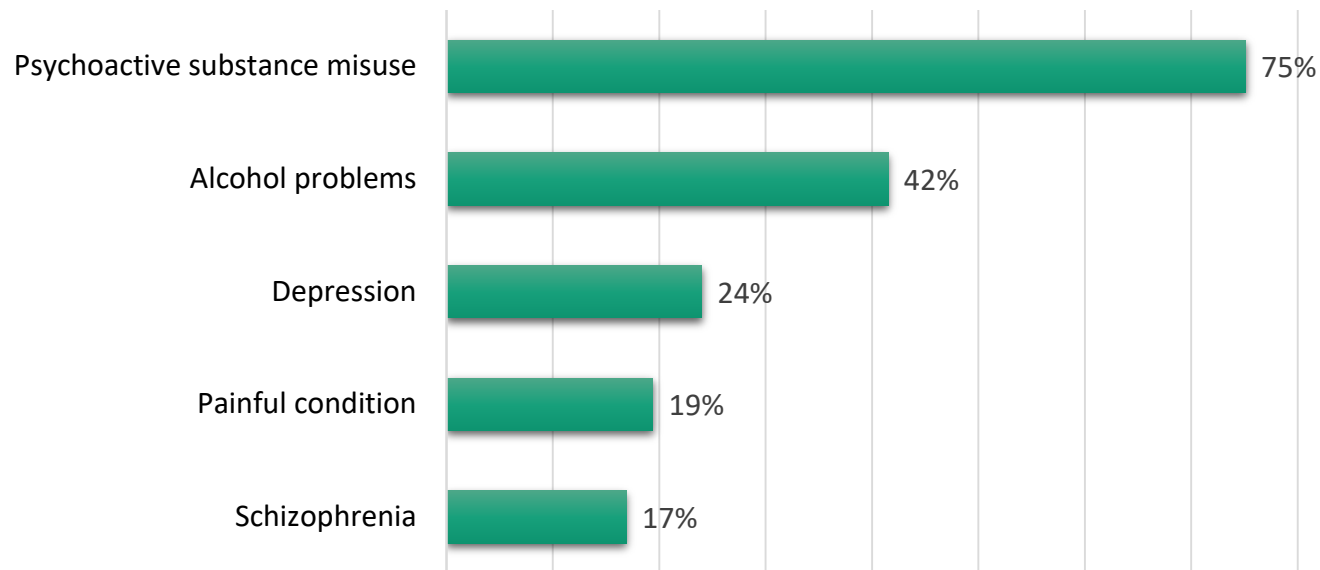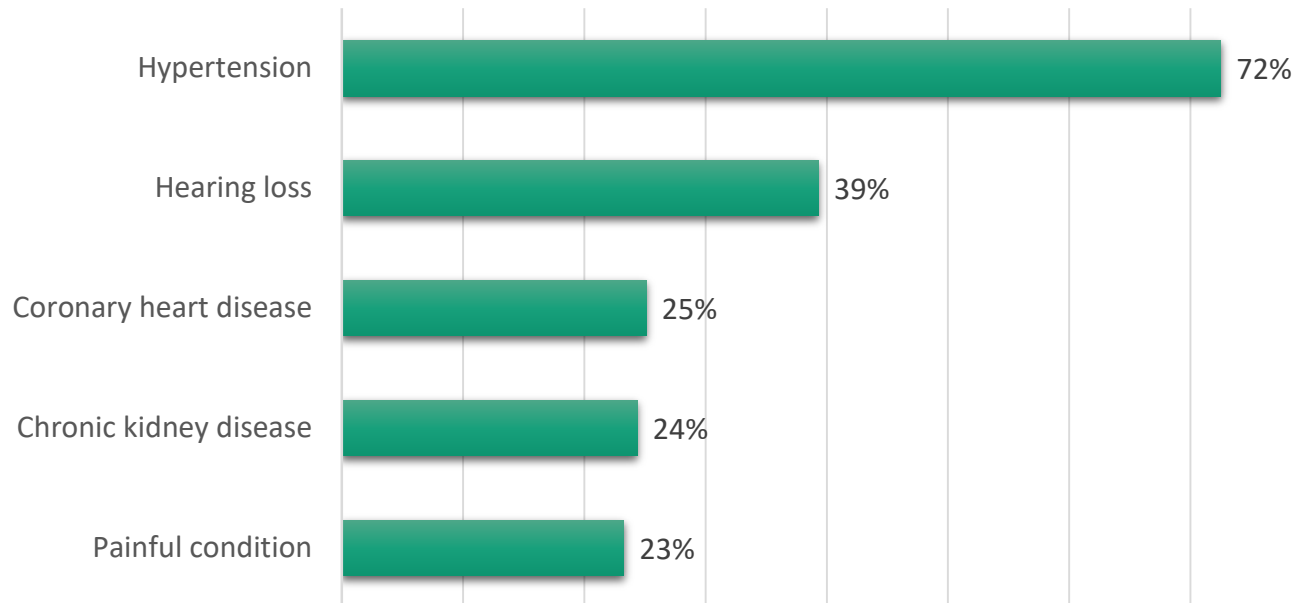- Schizophrenia — 17%

Read article: https://doi.org/10.1101/19000422

85+ year olds

Lead condition	Multimorbid patients	Greater deprivation	Current smokers	5-year mortality	# GP contacts in a year
(%)	(%)	(%)	(%)	(%)	(Median [Q1-Q3])
Non-multimorbid				**36.0**	**0 [0-2]**
Hypertension (72%)	58	30	5	49.5	4 [0-6]
Pain (64%)	23	30	5	62.9	7 [4-10]
CHD (61%)	11	30	4	70.8	8 [5-11]
Asthma (48%)	8	30	8	56.5	7 [4-10]

Most prevalent 5 conditions in the **lowest** mortality cluster

- Hypertension 72%
- Hearing loss 39%
- Coronary heart disease 25%
- Chronic kidney disease 24%
- Painful condition 23%

Evidence-based policy implications

- Unmet need to improve outcomes for **younger multimorbid patients with psychoactive substance misuse** given that risk factors (drug use, smoking, deprivation) are amenable to intervention

- We show that the **majority of 85+ year old multimorbid patients belong to a cluster with relatively low service use and mortality** for that age group

- Supports the need for **parity of physical and mental health** within the healthcare system

Read article: https://doi.org/10.1101/19000422