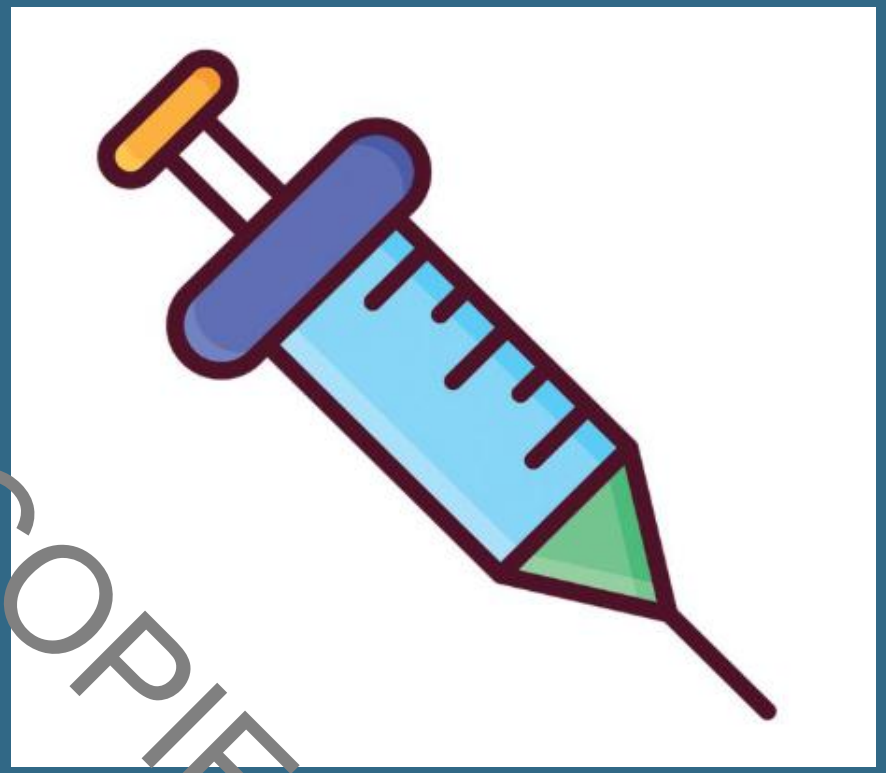
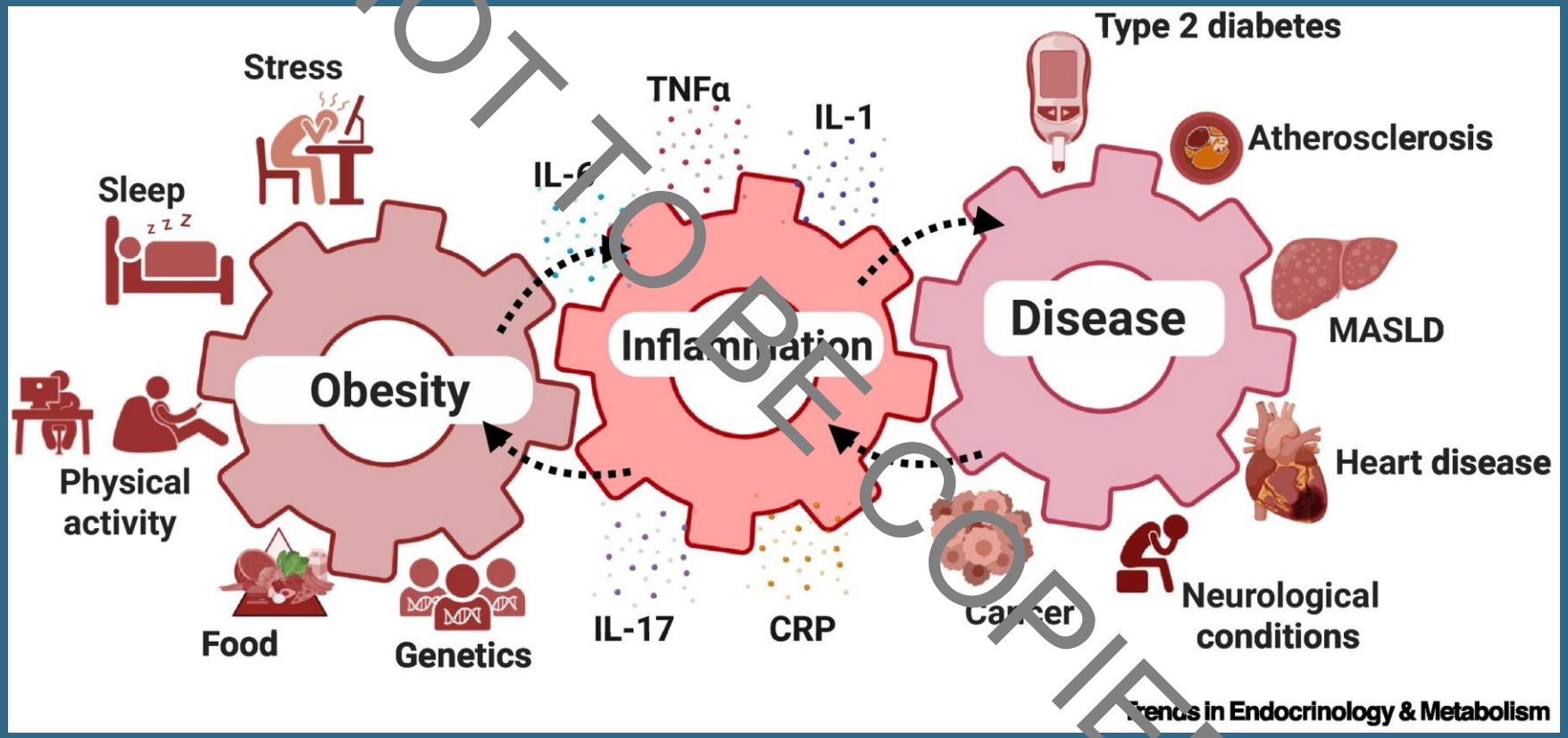
Education is not a singular inoculation



A change of science is a foot.....



…thus a change of GP LTC review infrastructure is a must

Hogan AE, Davis C, Jenkins BJ, Jones N, O'Shea D. Repurposing metabolic drugs as anti-inflammatory agents. Trends Endocrinol Metab. 2025 Aug 13:S1043-2760(25)00149-3

CARDIOVASCULAR-KIDNEY-METABOLIC REVIEW

THE NEW LONG TERM CONDITION FRAMEWORK OF CARE FOR OUR HOUSES OF CARE

Northern Ireland Primary Care Diabetes and Obesity Society

25th September 2025

Dr Eimear Darcy

NHS GP Partner

MB BCH BAO DMH MRCGP (2017)

PG Cert Diabetes (Distinction)

SCOPE certified in Obesity Management.

General Practitioner specialising in CKM

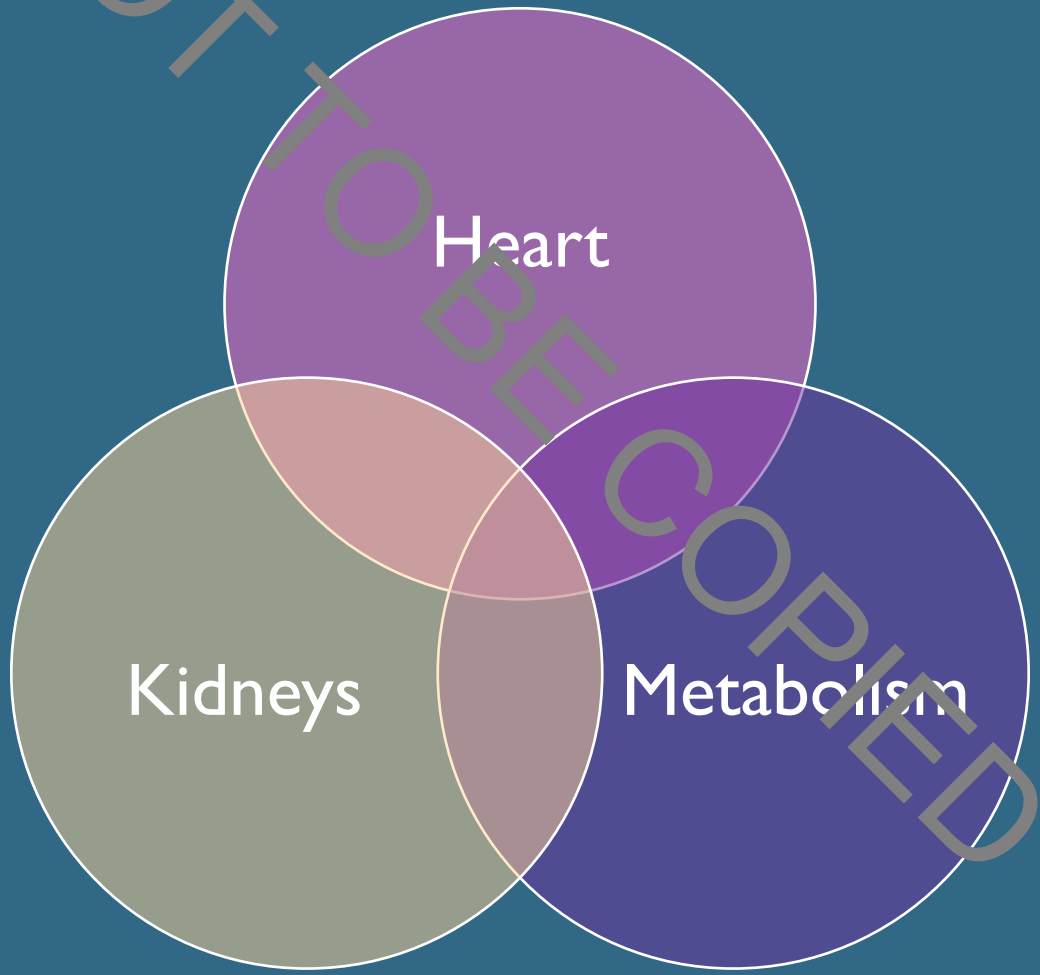
Learning Objectives

OFFICIALLY..

Insights into modern management of CKM Long Term Conditions

PERSONALLY…

CVRM = CKM = CAREME/CRM



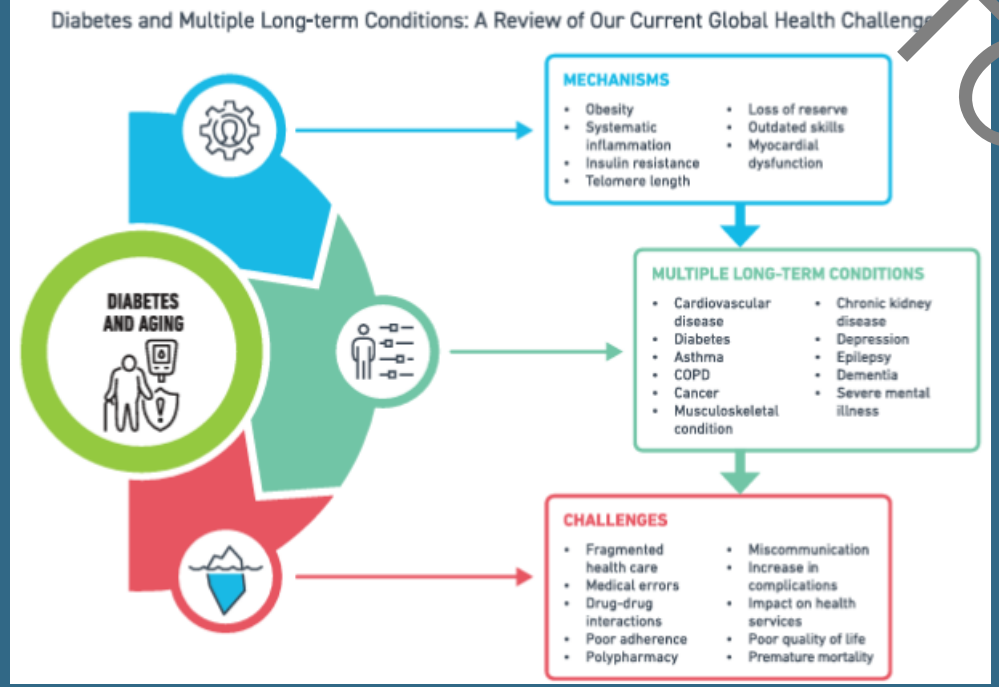
Multiple Long Term Conditions (MTLCs)

Diabetes Care
American Diabetes Association

Diabetes and Multiple Long-term Conditions: A Review of Our Current Global Health Challenge

Kamlesh Khunti, Yogini V. Chudasama, Edward W. Gregg, Monika Kamkuemah, Shivani Misra, Jerry Suls, Nikhil S. Venkateshmurthy, and Jonathan Valabhji

Diabetes Care 2023;46(12):2092–2101 | https://doi.org/10.2337/dci23-0035



Received: 17 March 2020 | Revised: 15 April 2020 | Accepted: 29 April 2020
DOI: 10.1111/dom.14074

ORIGINAL ARTICLE

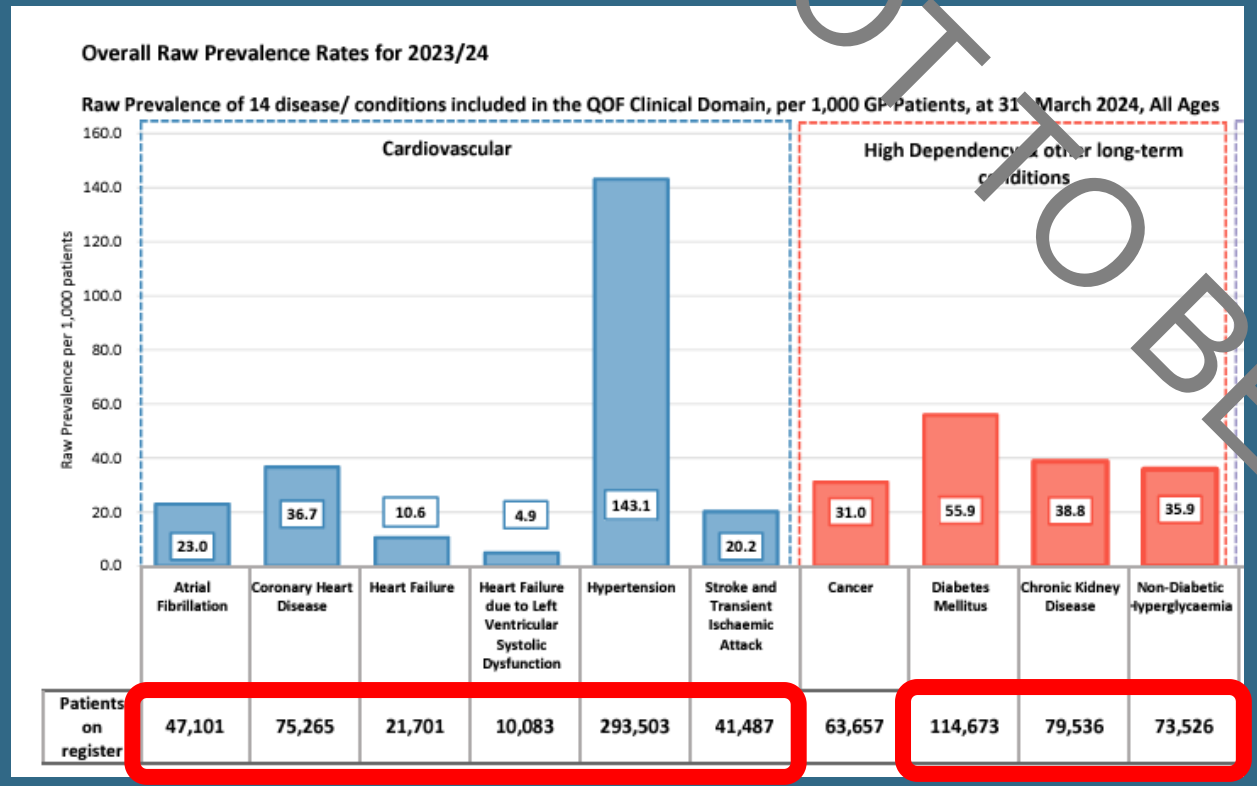
WILEY

Heart failure and chronic kidney disease manifestation and mortality risk associations in type 2 diabetes: A large multinational cohort study

Conclusion: In a large multinational study of >750 000 CVRD-free patients with T2D, HF and CKD were consistently the most frequent first cardiovascular disease manifestations and were also associated with increased mortality risks. These novel findings show these cardiorenal diseases to be important and serious complications requiring improved preventive strategies.

Khunti K, Chudasama YV, Gregg EW, Kamkuemah M, Misra S, Suls J, et al. Diabetes and multiple long-term conditions: A review of our current global health challenge. Diabetes Care. 2023;46(12):2092–101.
Birkeland KI, Bodegard J, Eriksson JW, Norhammar A, Haller H, Linssen GCM, Banerjee A, Thuresson M, Okami S, Garal-Pantaler E, Overbeek J, Mamza JB, Zhang R, Yajima T, Komuro I, Kadowaki T. Heart failure and chronic kidney disease manifestation and mortality risk associations in type 2 diabetes: A large multinational cohort study. Diabetes Obes Metab. 2020 Sep;22(9):1607-1618

Northern Ireland overall raw prevalence rates for 2023/24



	2013/14	2023/24
Diabetes	81,867	114,673

Difference of **32806 people**

The minority of our population is not living with overweight or obesity (2)

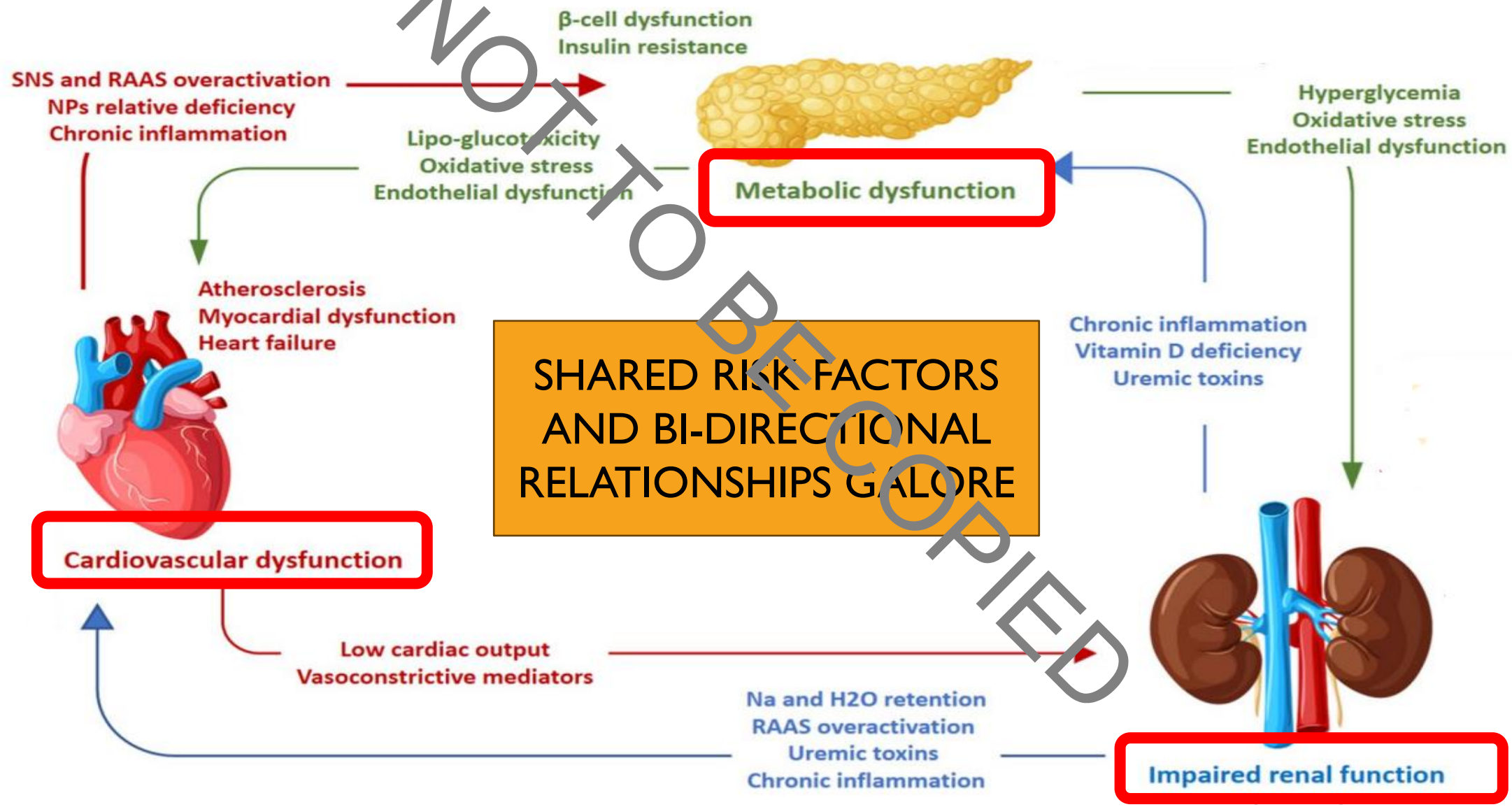
Source : https://www.health-ni.gov.uk/publications/202324-raw-disease-prevalence-trend-data-northern-ireland accessed 10/11/24

https://www.health-ni.gov.uk/news/health-survey-ni-first-results-201920

INFORMATION ANALYSIS DIRECTORATE

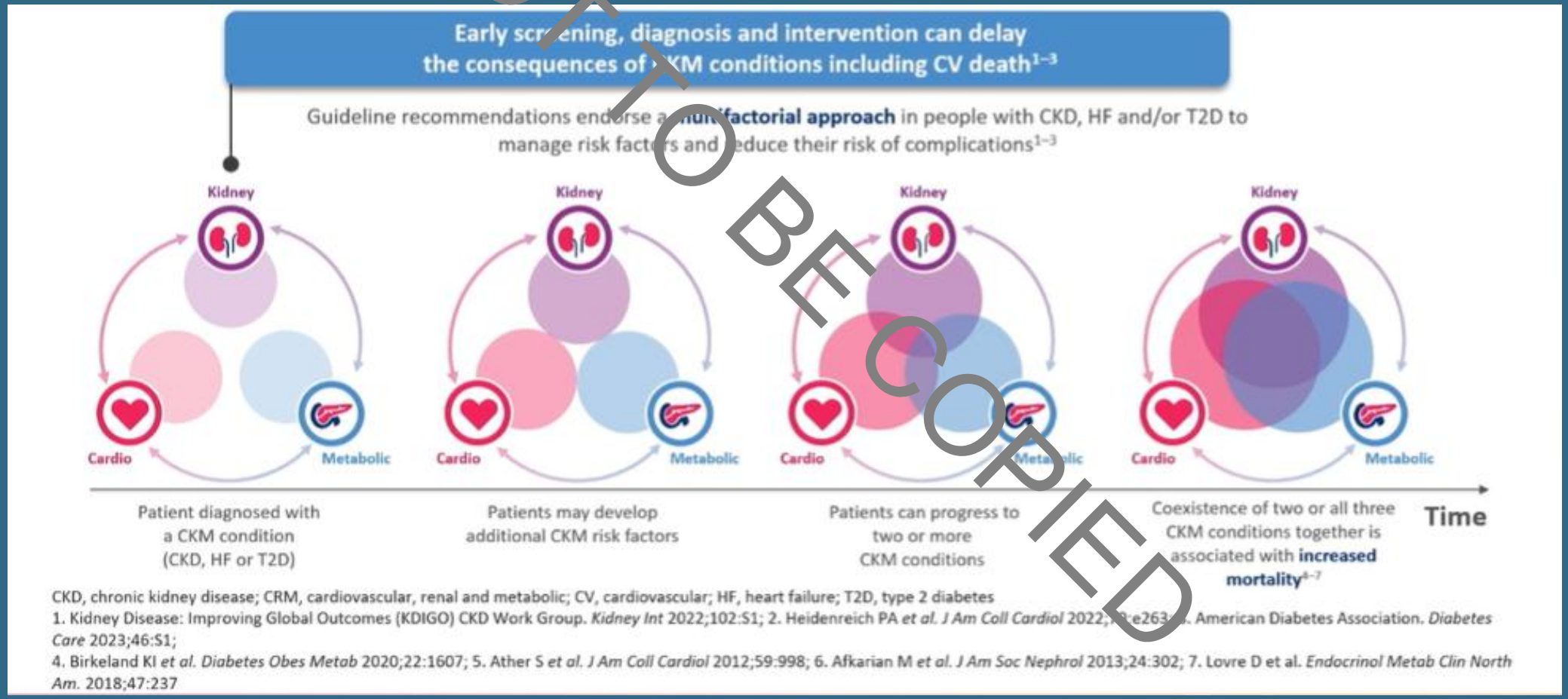
Department of Health
An Roinn Sláinte
Männystrie O Poustie
www.health-ni.gov.uk

CKM syndrome - Groundhog day for disease



Adapted from Marassi, M., Fadini, G.P. The cardio-renal-metabolic connection: a review of the evidence. *Cardiovasc Diabetol* **22**, 195 (2023) [accessed 2/9/25]

Early and multifactorial intervention is the best way to help protect by reducing the amplifying risks associated with interconnected CKM diseases



CKD, chronic kidney disease; CRM, cardiovascular, renal and metabolic; CV, cardiovascular; HF, heart failure; T2D, type 2 diabetes

1. Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. *Kidney Int* 2022;102:S1; 2. Heidenreich PA *et al. J Am Coll Cardiol* 2022;[illegible]:e263[illegible]. American Diabetes Association. *Diabetes Care* 2023;46:S1;
4. Birkeland KI *et al. Diabetes Obes Metab* 2020;22:1607; 5. Ather S *et al. J Am Coll Cardiol* 2012;59:998; 6. Afkarian M *et al. J Am Soc Nephrol* 2013;24:302; 7. Lovre D et al. *Endocrinol Metab Clin North Am.* 2018;47:237

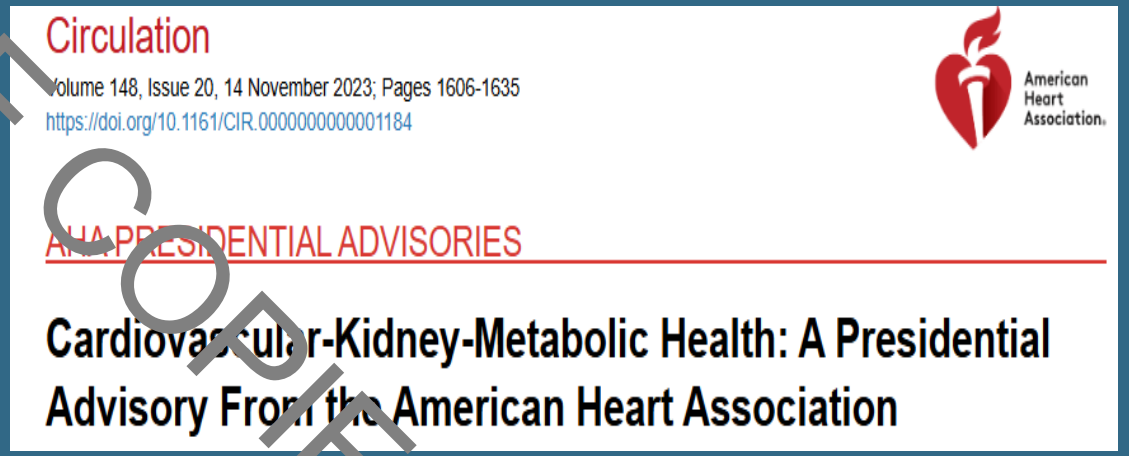
Slide ownership attributed to Dr Alice Cheung

CARDIOVASCULAR–KIDNEY–METABOLIC SYNDROME

Health disorder due to connections amount

- Heart disease
- Kidney Disease
- Type Two Diabetes
- Obesity

Leading to poor health outcomes



CKM syndrome – medical definition

'…a systemic disorder characterised by pathophysiological interactions among **metabolic** risk factors, **CKD** , and **CV** system leading to multi-organ dysfunction and a high rate of adverse CV outcomes'.

Includes individuals:

At risk for CVD disease due to metabolic risk factors.

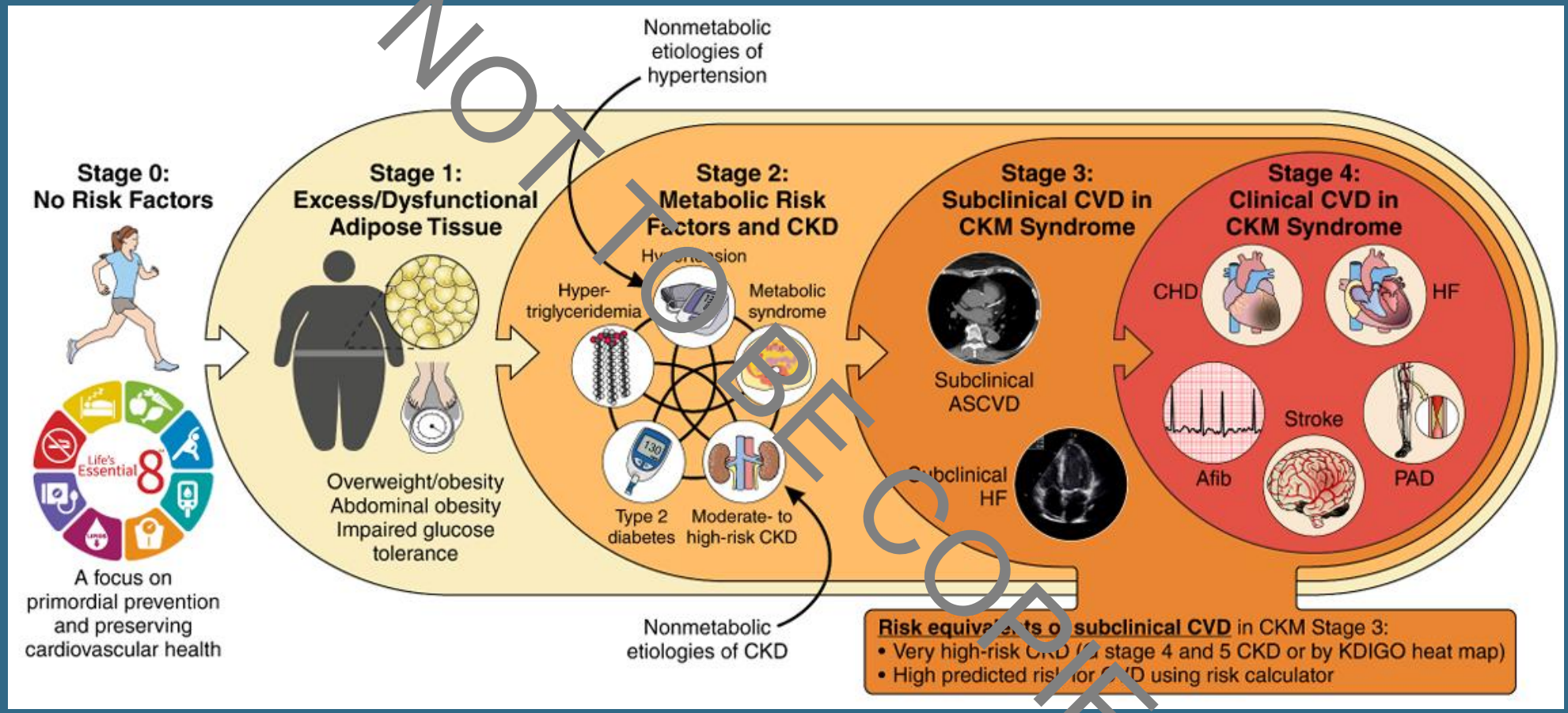
Those with CVD

Those with CKD

Adapted from Ndumele CE, Neeland IJ, Tuttle KR, Chow SL, Mathew RO, Khan SS, et al. A synopsis of the evidence for the science and clinical management of cardiovascular-kidney-metabolic (CKM) syndrome: a scientific statement from the American Heart Association. Circulation. 2023;148(20):1636–64

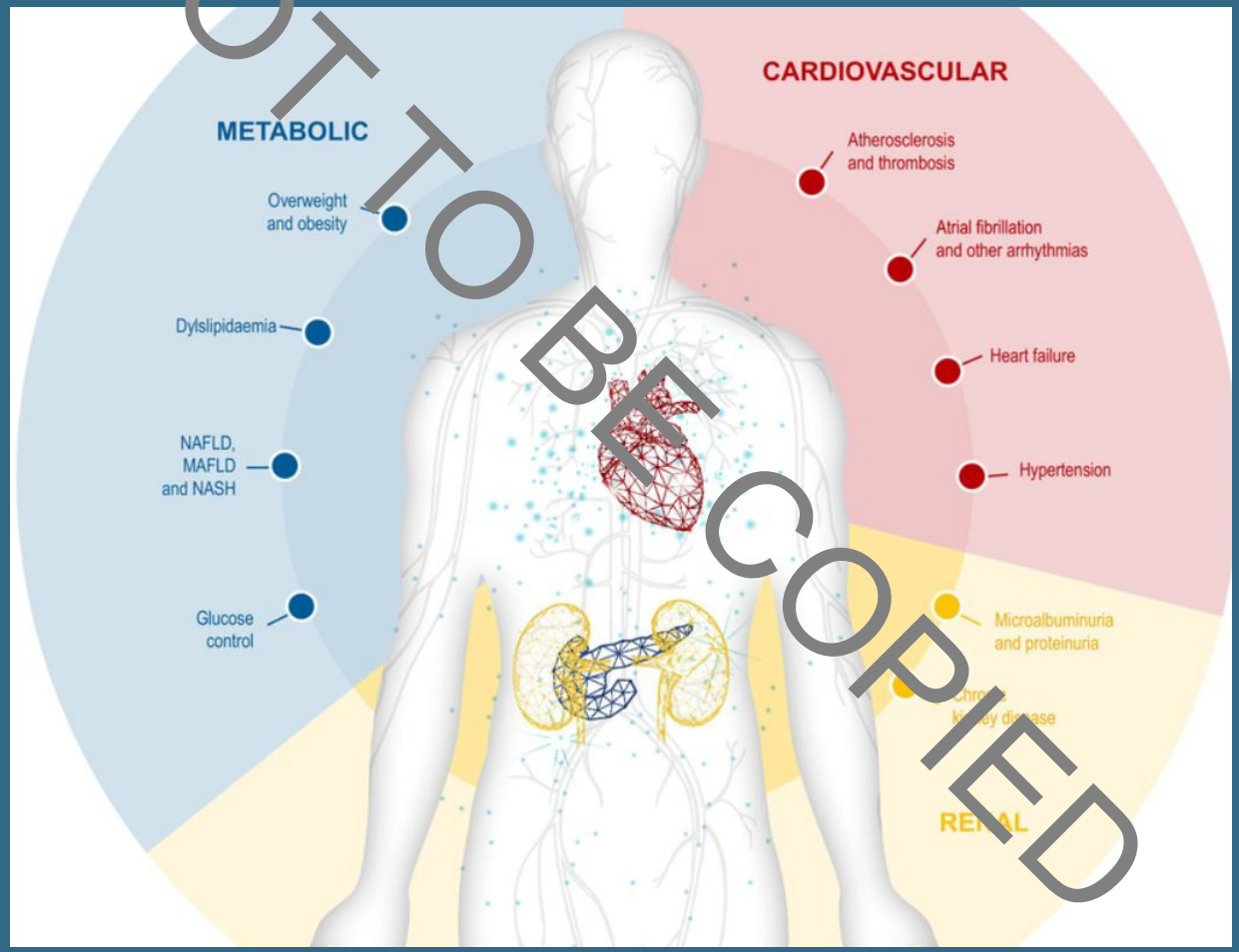
General Practice CKM Review along the life journey

..AND IN THE CONTEXT OF THE PERSONS LIFE STORY



Every stage sits in General Practice

CKM – CARE OF PEOPLE , NOT JUST PATHOLOGY



Vora J, Cherney D, Kosiborod MN, Spaak J, Kanumilli N, Khunti K, et al. Inter-relationships between cardiovascular, renal and metabolic diseases: Underlying evidence and implications for integrated interdisciplinary care and management. Diabetes, Obesity and Metabolism. 2024;26(5):1567–81.

HOLISTIC IMPLEMENTATION

holistic

adjective

UK /həˈlɪs.tɪk/ US /hoʊlˈɪs.tɪk/

Add to word list

dealing with or treating the whole of something or someone and not just a part:

Cambridge Dictionary

ESC European Society of Cardiology
European Heart Journal (2025) 00, 1–29
https://doi.org/10.1093/eurheartj/ehaf314

Clinical staging to guide management of metabolic disorders and their sequelae: a European Atherosclerosis Society consensus statement

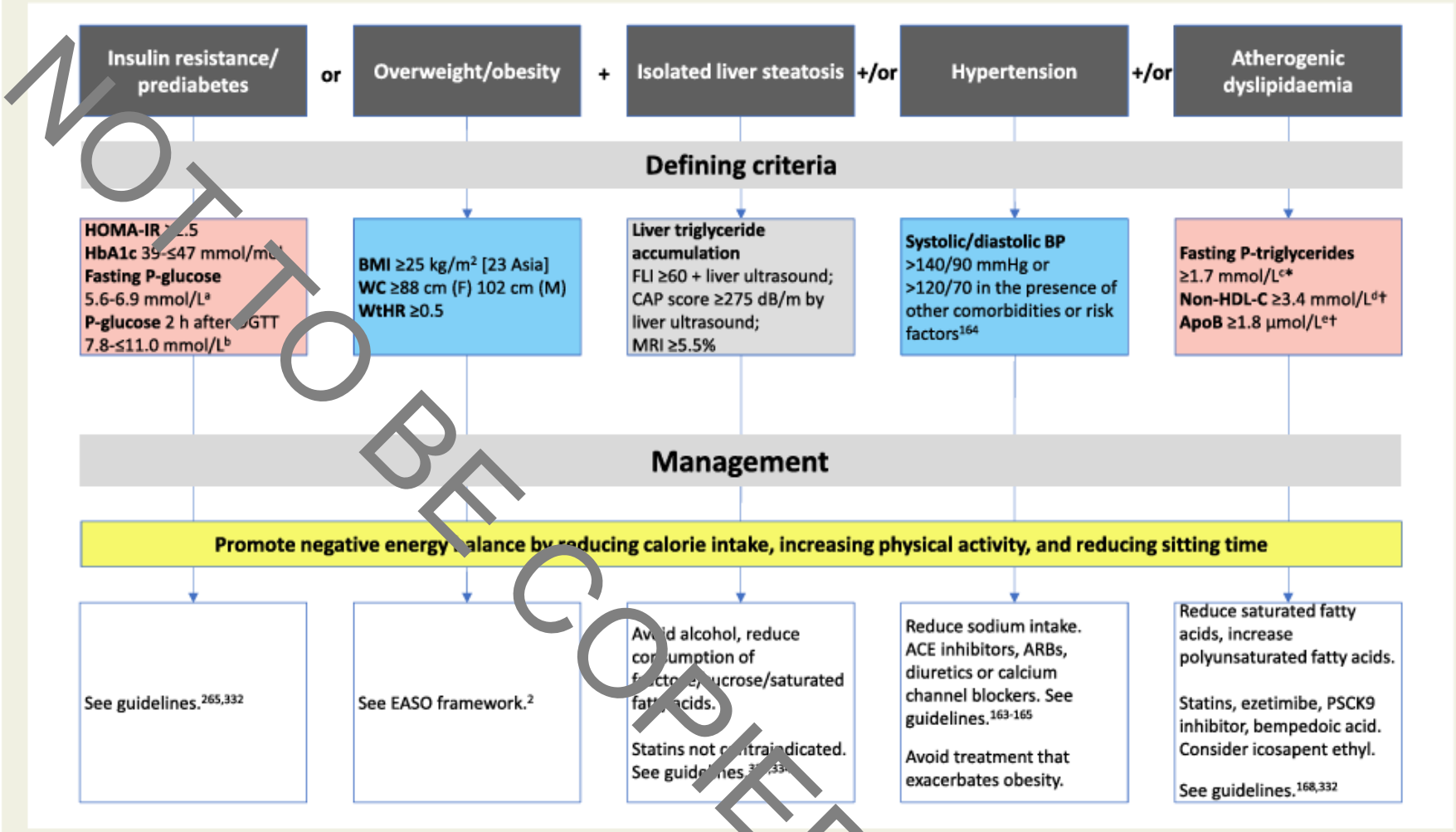


Figure 4 Defining criteria and potential management strategies for systemic metabolic disorder Stage 1. Conventional units: [a]101–124 mg/dL; [b]141 to ≤198 mg/dL; [c]150 mg/dL; [d]131 mg/dL: [e]100 mg/dL. *Non-fasting P-triglycerides ≥2.0 mmol/L (177 mg/dL). †Values shown for individuals at moderate risk of atherosclerotic cardiovascular disease. For those at high risk of atherosclerotic cardiovascular disease, lower thresholds apply: non–HDL-cholesterol ≥2.6 mmol/L (100 mg/dL); apolipoprotein B ≥1.5 µmol/L (≥80 mg/dL). P, plasma; WC, waist circumference; WtHR, waist-to-height ratio; EASO, European Association for the Study of Obesity; FLI, fatty liver index; CAP, controlled attenuation parameter; MRI, magnetic resonance imaging; BP, blood pressure; C, cholesterol; ACE, angiotensin-converting enzyme; ARB, angiotensin-II receptor blocker

communications medicine

Perspective

https://doi.org/10.1038/s43856-025-00742-9

Multiple long-term conditions as the next transition in the global diabetes epidemic

Edward W. Gregg[1,2], Naomi Holman[1,2,3], Marisa Sophiea[2], Shivani Misra[4,5], Jonathan Pearson-Stuttard[2,6], Jonathan Valabhji[3,5,7,8] & Kamlesh Khunti[8,9]

Several transitions, or new patterns and dynamics in the contributors and health outcomes, have altered the character and burden of the multi-decade, worldwide growth in prevalence of type 2 diabetes (T2DM). These changes have led to different needs for prevention and care. These dynamics have been driven by diverse demographic, socio-economic, behavioural, and health system response factors. In this Perspective, we describe these transitions and how their attributes have set the stage for multimorbidity, or multiple long-term conditions (MLTCs), to be the next major challenge in the diabetes epidemic. We also describe how the timing and character of these stages differ in high-, middle-, and low-income countries. These challenges call for innovation and a stronger focus on MLTCs across the spectrum of cause, effectiveness, and implementation studies to guide prevention and treatment priorities.

The global pandemic of type 2 diabetes (T2DM) is often viewed as a long-term by-product of the great epidemiologic transition, wherein in the previous century, human patterns of mortality and disease exchanged high rates of mortality due to infections and maternal and child mortality for lower mortality rates driven by chronic conditions such as cardiovascular disease (CVD), cancer, and T2DM[1,2]. However, there have been differing changes in incidence for specific chronic conditions. For example, deaths due to CVD decreased beginning in the 1970s and 1980s whereas T2DM, lacking effective policy or health care options for prevention, accelerated in the 1990s[2–5]. Although recent signs of a decrease in T2DM incidence in some countries have emerged[6,7], most countries of the world continue to experience unrelenting growth of the problem[7,8].

The T2DM pandemic has itself been complex and multi-phasic. Underlying the overall increases in prevalence, have been several transitions across distinct periods of the T2DM epidemic that impacted the burden and approaches to care, prevention, and research[9–12]. In this Perspective, we explore how these transitions have set the stage for multiple long-term conditions (MLTC, or multimorbidity) impacting morbidity, health services, and approaches to prevent T2DM.

Seeding and steady growth of the problem

The first phase of growth in the T2DM epidemic, evident in the 1970s and 1980s, consisted of steady, gradual, increases in prevalence in high income countries (HICs) and more rapid increases in selected low- and middle-income countries (LMICs) undergoing rapid urbanization, nutritional and other sociocultural changes associated with westernization[9,13–15] (Fig. 1). This was associated with a global nutrition transition, with dietary shifts toward refined carbohydrates, added sweeteners and edible oils, and away from legumes and fresh fruits and vegetables. Declining physical activity levels contributed further and collectively they are cited as driving an environment conducive to increases in obesity and T2DM[16,17]. However, where data were available, diagnosed diabetes prevalence rates were quite low, at around 2–4% in the US, UK, and Northern Europe[3,18,19] compared to recent global estimates, which have surpassed 10% of adults[1,8]. Further, this low diabetes prevalence contrasted with very high rates of severe complications, including a 20-fold increased rate of lower extremity amputation, 10 times the rate of end stage renal disease (ESRD), and three times the risk of CVD[20–26]. These high complication risks were attributed to suboptimal diabetes care, risk factors and self-management practices. For example, estimates from the some HICs in the mid-1990s showed that large segments of the population with diagnosed diabetes had HbA1c levels well over 9% (75 mmol/mol) and blood pressure levels > 140/80, levels considered to be a sign of inadequate management by current standards[27–29]. Thus, perception of the problem centred more on the complications accompanying T2DM rather than the incidence and potential prevention of T2DM.

[1]School of Population Health, RCSI University of Medicine and Health Sciences, Dublin, Ireland. [2]School of Public Health, Imperial College London, London, UK. [3]NHS England, Wellington House, London, UK. [4]Department of Diabetes and Endocrinology, St Mary's Hospital, Imperial College Healthcare NHS Trust, London, UK. [5]Division of Metabolism, Digestion & Reproduction, Faculty of Medicine, Imperial College London, London, UK. [6]Lane Clark & Peacock LLP, London, UK. [7]Chelsea & Westminster Hospital NHS Foundation Trust, London, UK. [8]Diabetes Research Centre, University of Leicester, Leicester, UK. [9]These authors contributed equally: Jonathan Valabhji, Kamlesh Khunti. e-mail: edwardgregg@rcsi.ie

https://doi.org/10.1038/s43856-025-00742-9 Perspective

Summary of Major Transitions in the Diabetes Epidemic in High Income Countries, 1960-2020

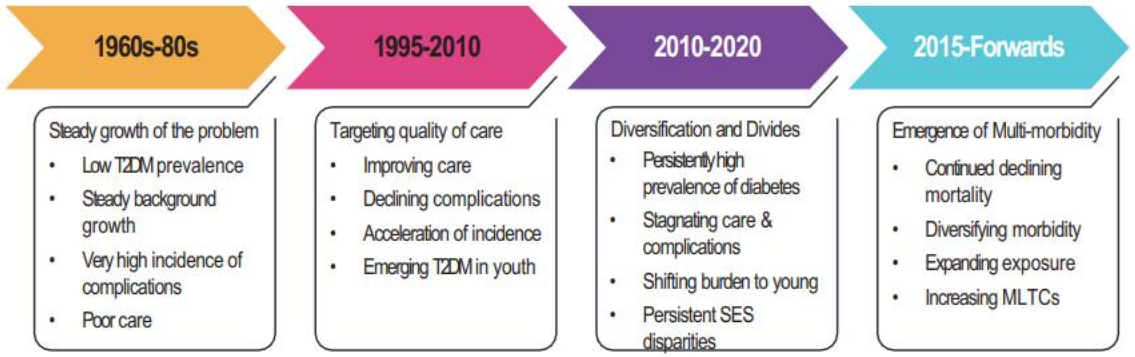


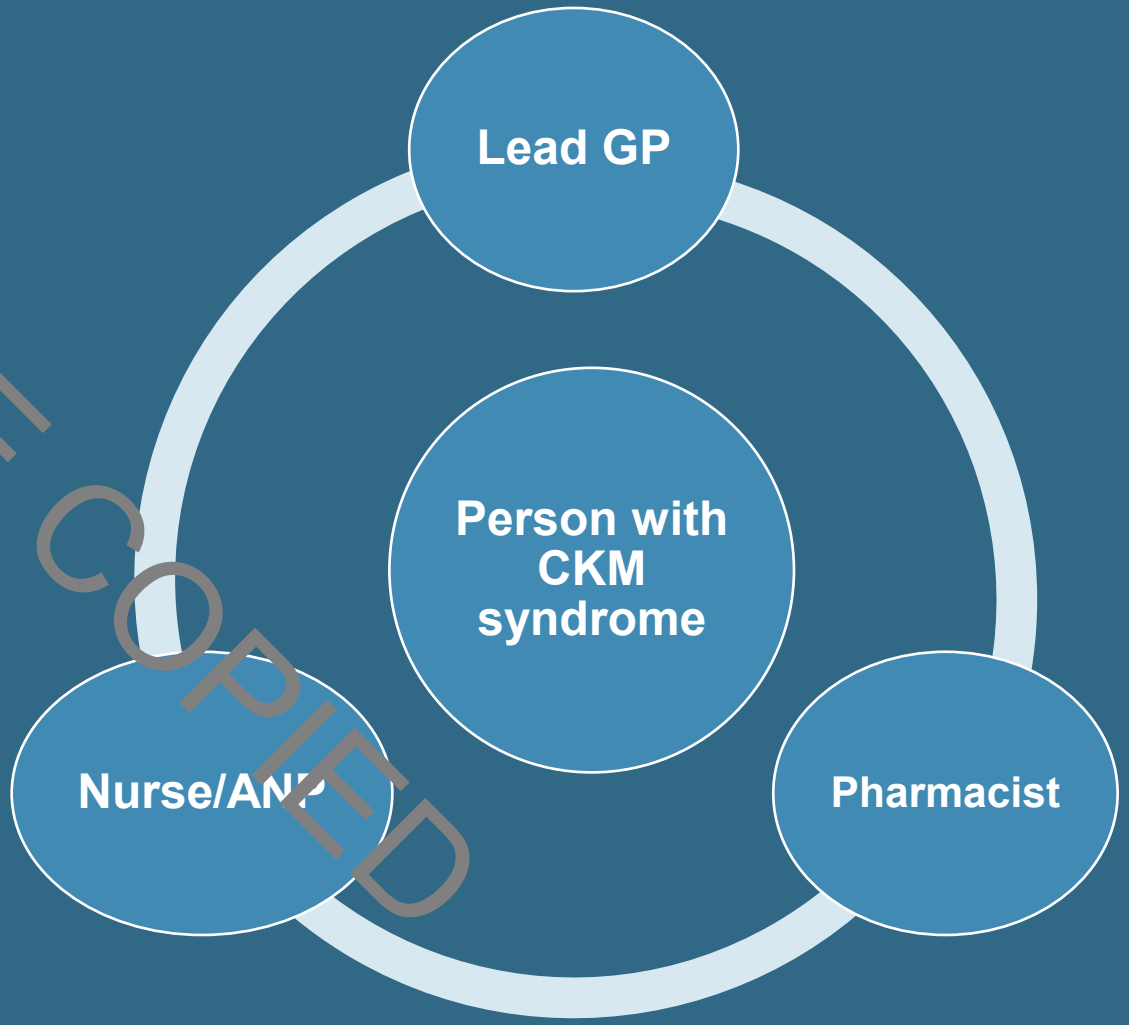
Fig. 1 | Summary of major transitions in the global diabetes epidemic, as experienced by high income countries, 1960–2020. The figure describes key patterns in prevalence, incidnece, complications, care, and socio-demographic factors affecting the T2DM pandemic. T2DM: Type 2 diabetes mellitus; DM: diabetes mellitus; SES: socio-economic status; MLTC: multiple long-term conditions

'if MLTCs are the next major transition in the diabetes epidemic, and the key drivers lie at both ends of the age spectrum as we suggest, the most practical priorities will lie in prevention, ongoing or routine care models and coordination,

i.e **GENERAL PRACTICE, THE WIDER PRIMARY CARE…..and secondary care ongoing care.**

#CKM thought processes are a future cornerstone of General Practice and the wider Primary Care Teams Long Term Condition Care.

Grange Family Practice CKM team



Global Effect of Cardiovascular Risk Factors on Lifetime Estimates

The Global Cardiovascular Risk Consortium

ABSTRACT

BACKGROUND

Five risk factors account for approximately 50% of the global burden of cardiovascular disease. How the presence or absence of classic risk factors affects lifetime estimates of cardiovascular disease and death from any cause remains unclear.

METHODS

We harmonized individual-level data from 2,078,948 participants across 133 cohorts, 39 countries, and 6 continents. Lifetime risk of cardiovascular disease and death from any cause was estimated up to 90 years of age according to the presence or absence of arterial hypertension, hyperlipidemia, underweight and overweight or obesity, diabetes, and smoking at 50 years of age. Differences in life span (in terms of additional life-years free of cardiovascular disease or death from any cause) according to the presence or absence of these risk factors were also estimated. Risk-factor trajectories were analyzed to predict lifetime differences according to risk-factor variation.

RESULTS

The lifetime risk of cardiovascular disease was 24% (95% confidence interval [CI], 21 to 30) among women and 38% (95% CI, 30 to 45) among men for whom all five risk factors were present. In the comparison between participants with none of the risk factors and those with all the risk factors, the estimated number of additional life-years free of cardiovascular disease was 13.3 (95% CI, 11.2 to 15.7) for women and 10.6 (95% CI, 9.2 to 12.9) for men; the estimated number of additional life-years free of death was 14.5 (95% CI, 9.1 to 15.3) for women and 11.8 (95% CI, 10.1 to 13.6) for men. As compared with no changes in the presence of all risk factors, modification of hypertension at an age of 55 to less than 60 years was associated with the most additional life-years free of cardiovascular disease, and modification of smoking at an age of 55 to less than 60 years was associated with the most additional life-years free of death.

CONCLUSIONS

The absence of five classic risk factors at 50 years of age was associated with more than a decade greater life expectancy than the presence of all five risk factors, in both sexes. Persons who modified hypertension and smoking in midlife had the most additional life-years free of cardiovascular disease and death from any cause, respectively. (Funded by the German Center for Cardiovascular Research [DZHK]; ClinicalTrials.gov number, NCT05466825.)

LOOK ALIVE – THINK FIVE!

- 5 **modifiable** risk factors account for ~50% global CVD burden……
- 50% of all CVD cases could potentially be **prevented** through **effective risk-factor management**.
- Fatal 5 : **Smoking ; Blood Pressure ; Cholesterol ; Diabetes ; obesity.**
- If your 50 and five –less….
- Women – CVD **13** yrs later ; death **14** yrs later
- Men – CVD **10** yrs later ; death **11** years later
- Behavioural change has impact!
  - HTN Mx & smoking cessation in midlife = longer life and more years CVD disease free.

Bottom line: Hope lies in our houses of care ; sustain life locally – look for and act on the five.

1. Magnussen C, Alegre-Diaz J, Al-Nasser LA, Amouyel P, Aviles-Santa L, Bakker SJ, et al. Global effect of cardiovascular risk factors on lifetime estimates. N Engl J Med. 2025.

BP threshold for treatment

confirm : BP ≥ 135/85 mmHg 7-day average HBPM or day-time average ABPM

start : pharmacological therapy on top of diet and lifestyle interventions irrespective of CVD risk.

On-treatment BP target

< 130/80 mmHg (measured by 7-day average HBPM or day-time average ABPM or office BP*)

or ALARA without causing unacceptable side-effects, and within 6-months of initiating treatment **for all adults.**

Exceptions:

frail and/or have limited life expectancy

use clinical judgement

CONSENSUS STATEMENT OPEN

Check for updates

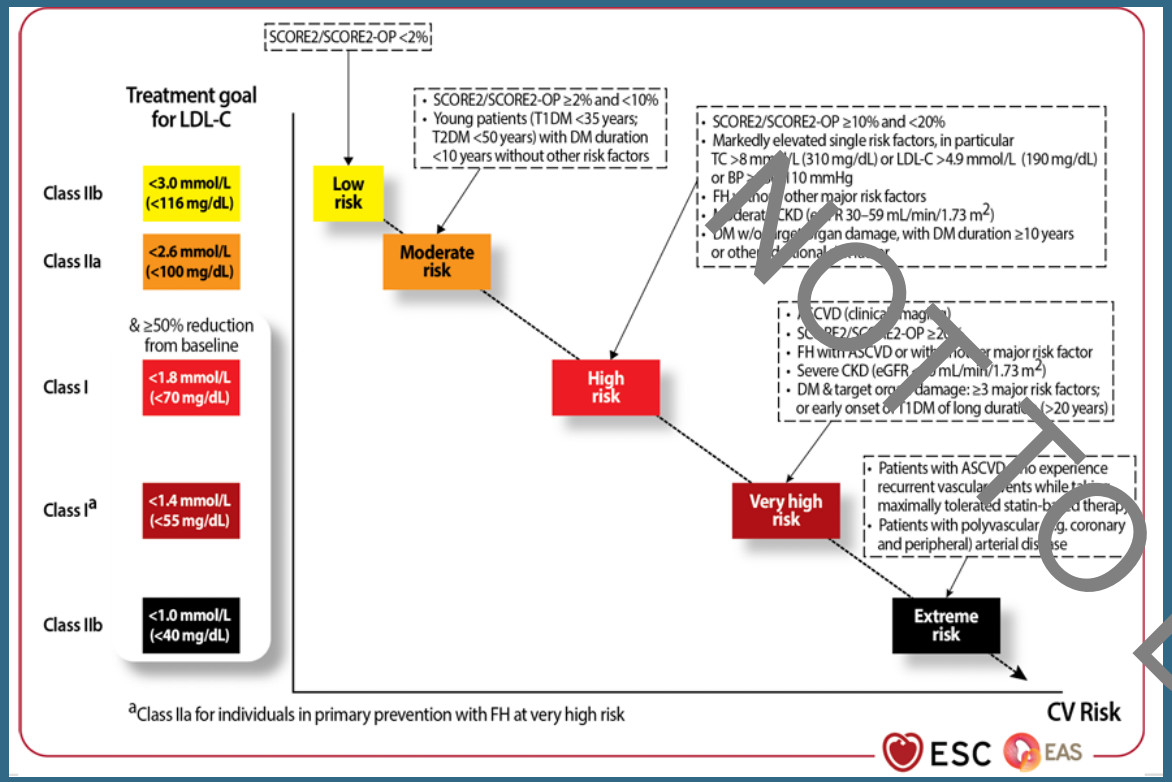
Call to action: British and Irish hypertension society position statement on blood pressure treatment thresholds and targets

Luca Faconti[1], Nayanatara Tantirige[2], Neil R. Poulter[3], Jacob George[4], Vikas Kapil[5], Ajay Gupta[6], Pauline A. Swift[7], Anthony Heagerty[8], Eduard Shantsila[9], Sarah Partridge[10]✉ and Ian B. Wilkinson[2]

In this position statement the British and Irish Hypertension Society (BIHS) present a review of the current evidence for blood pressure (BP) treatment thresholds and targets. The BIHS recommend initiating pharmacological antihypertensive therapy, irrespective of cardiovascular disease risk, following a confirmed diagnosis of hypertension (sustained out-of-office BP ≥ 135/85 mmHg despite diet and lifestyle advice). The BIHS recommend an on-treatment BP target < 130/80 mmHg or as low as reasonably achievable without causing unacceptable side-effects, within 6-months of initiating treatment, for all adults. Possible subgroups to whom this may not apply are those who are frail and/or have limited life expectancy where higher targets may be appropriate based on clinical judgement and the individuals' tolerance to treatment. The BIHS believe that this simple 2-step approach will facilitate practitioners deliver evidence-based best practice, discourage therapeutic inertia around BP lowering and improve heath outcomes for all adults living with high BP.

Journal of Human Hypertension (2025) 39:537–540; https://doi.org/10.1038/s41371-025-01055-z

Faconti, L., Tantirige, N., Poulter, N.R. *et al.* Call to action: British and Irish hypertension society position statement on blood pressure treatment thresholds and targets. *J Hum Hypertens* **39**, 537–540 (2025). https://doi.org/10.1038/s41371-025-01055-z



EXTENT OF LIPID LOWERING WITH AVAILABLE THERAPIES

Approximate reduction in LDL-C					
Statin dose mg/day	5	10	20	**40**	**80**
Fluvastatin			21%	27%	33%
Pravastatin		20%	24%	29%	
Simvastatin		27%	32%	37%	42%
Atorvastatin		37%	43%	49%	55%
Rosuvastatin	38%	43%	48%	53%	
Atorvastatin + Ezetimibe 10mg		52%	54%	57%	61%

QRISK MISSES RISK

SCORE2 SAVES LIVES

RULE OF 6 SAVES TIME

MARY – TATT AND FLUSHING

- 50M - rare attender
- Last seen 2021 (last bloods 2019).
- Nil reg meds.
- NKDA.
- Nil PMH bar Mirena coil last year

- Non smoker
- Occasional Social Alcohol
- Office worker
- Sedentary lifestyle but tries
- Married 2 kids

- PC: Non-specific TATT ? menopause

- HPC flushing , brain fog , vaginal dryness, more irritable, further weight gain from baseline raised BMI.
- HRT assessment done
- Full systematic questioning and examination yielded **nil TATT red flags**
-
- Asked permission to discuss weight – at current highest weight – feels high hunger , low fullness and cravings. Poor sleep from flushing aggravating snacking at night.
- Pregnancies escalated baseline weight
- Always ‘a heavy teenager’
- Fhx of obesity. No medication culprits.
- Explored ideas , concerns , expectations
- Agreed start HRT , TATT bloods and review with results.

First do no harm

Be aware our weight bias and stigma as health care professionals is **harming** the patients we are trying to help.

Weight discrimination consequences (1) :

- Reduced health care use
- Avoidance of physical activity
- Low mood/reduced self esteem
- Increased binge eating

1. Puhl RM, Heuer CA. The stigma of obesity: a review and update. Obesity. 2009;17(5):941

Kings Modified Obesity Staging and the 4 Ms Matter in Primary Care

	Criterion	Stage 0 Normal health	Stage 1 At risk of disease	Stage 2 Established disease	Stage 3 Advanced disease
A	Airway /Apnoea	**Normal** No snoring Neck circ < 43cm Epworth score <10	**Mild sleep apnoea** Mild snoring Epworth score ≥ 10 Mild OSA (dip rate<15/hr) Neck circ >43cm (size 18) Mild asthma	**Resp failure CI** Witnessed apnoea Dip rate >5/hr Uses CPAP (controlled) Severe asthma	Cor pulmonale Obesity hypoventilation syndrome Untreated OSA
B	BMI	**<35 kg/m²**	**35-50 kg/m²**	**50-60 kg/m²**	**>60 kg/m²**
C	CVD risk	**<10%** CVD risk <10% over 10 years [JBS coronary risk prediction chart*]	**10-20%** CVD risk ≥10% over 10 years T2DM	**>20% or stable heart disease** Stable IHD CCF NYHA I-II, *or* >20% risk	Severe angina, *or* CCF NYHA III-IV
D	Diabetes	**Normal** Fasting or random glucose <5.7 mmol/L Normal HbA1c	**IFG** IFG / IGT, *or* previous GDM	**T2DM** Diet, insulin or OHA controlled HbA1c<9%	**Uncontrolled T2DM** HbA1c>9% Advanced microvascular disease
E	Economic complications	**Normal** Obesity has no financial impact	**Financial impact** Increased travel cost Increased clothes cost	**Workplace disadvantage** Earnings limited by obesity Receiving benefits due to obesity	Unemployed due to obesity Financial effect on 3rd party (e.g. carer required to reduce income)
F	Functional status & musculoskeletal	No limitation	Manages one flight of stairs Limitation on work or recreation	Cannot climb stairs (<1 flight) 3rd party assistance for ADL or for dependents	Housebound Wheel chair user Registered disabled
G	Gonadal & reproductive axis	**Normal** Normal sexual and reproductive function Celibate (not seeking physical relationship)	**PCOS / ED** PCOS Low testosterone (men) Impaired sexual function/ erectile dysfunction	**Subfertility** Subfertility or unable to access IVF Marital/ relationship breakdown due to obesity Cessation of all sexual activity	
H	Health status (perceived)	**Normal** Good mental and physical well being	**Low mood/poor QoL**	Mild–moderate depression Takes treatment for depression	Severe depression Suicidal ideation Unmanaged substance abuse Active self harm
I	Body Image & eating behaviour	Minimal or no concern Normal eating pattern	**Dislikes mirror appearance** Comfort eating Inappropriate eating cues Mild body image dysphoria	**Avoids social interaction or mirrors** Severe body image dysphoria Controlled eating disorder	**Eating disorder** Active eating disorder Social phobia
J	Oesophago-gastric Junction	Normal, no GORD symptoms	GORD (acid reflux) controlled on standard PPI	Oesophagitis on OGD within 12 months Severe GORD symptoms: requires high dose PPI	Barrett's oesophagus
K	Kidney	Normal	Proteinuria	eGFR <60	eGFR <30
L	Liver	Normal	Elevated LFTs, NAFLD on ultrasound	NASH	Liver failure

Four M´s	Characteristics included
Mental:	Mood, depression, eating disorders, anxiety, personality, cognition, attention deficit, sleep quality, potentials traumas, addictions.
Mechanical:	Musculoskeletal disorders, chronic pain, OSA, GERD, urinary incontinence, intertrigo, thrombosis, plantar fascitis, pseudotumour cerebri.
Metabolic:	T2D, hyperinsulinemia, dyslipidemia, hypertension, gout, cholelithiasis, MAFLD, PCOS, hypothyroidism, obesity-related cancers.
Monetary	Medical insurance, impact of obesity on income, education, employment, the ability to afford a healthy diet, access to weight loss programs

Dobbie, L.J., Coelho, C., Crane, J. *et al.* Clinical evaluation of patients living with obesity. *Intern Emerg Med* **18**, 1273–1285 (2023). https://doi.org/10.1007/s11739-023-03263-2
Reviews in Endocrine and Metabolic Disorders (2023) 24:795–807 https://doi.org/10.1007/s11154-023-09797-2

- FBP/TFT/B12/coeliac/folate/iron stores all normal
- **Airways** -Snores but no other OSA symps Neck Circumference 41cm (at risk) STOP BANG 0 EPWORTH 0.
- **BMI** - 36.8 wt104kg WC 141cm wt height ratio 0.66 (highest weight currently ; BMI>30 since at least 2006)
- **CVD:** LDL 3.6 QRISK 14% BP 150/92 at clinic. No S&S HF.
- **Diabetes:** Hba1c 84 (repeat 82) ; recurrent thrush
- **Economic:** weight not affecting work but menopause is. She cant play sport with her children.
- **Functional:** LBP – long standing – no red flags - imaging NAD advised supportive mx previously 'loose weight'.
- **Gonadal** No Infertility/PCOS issues – 2 children
- **Health status** 65 mins /week activity + resistance training x 1
- **Image** No body dysmorphia / no binge eating disorder but negative perception of self
- **Gastro** functional dyspepsia HB N no nsaids/alcohol h plyori -ve no red flags OTC Rennies
- **Kidney** – GFR: >60 mL/min/1.73m^2 ACR: Normal
- **Liver** – LFTS N Fib 4 low risk 0.72

Image taken from ECPO bank

DIAGNOSIS FOUND

#CKM Diagnoses Found:

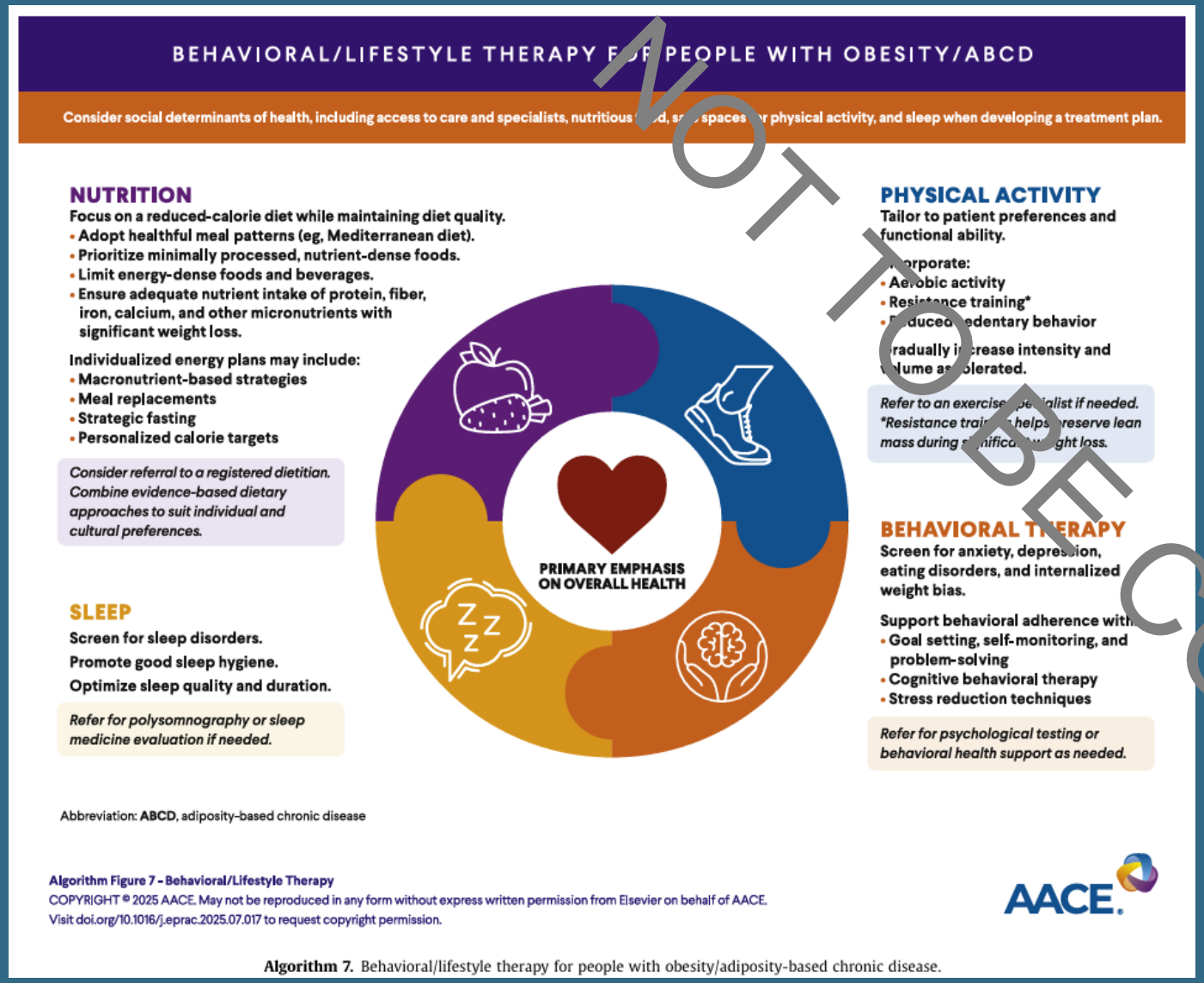
- Obesity
- T2D
- Dyslipidaemia
- Hypertension (24 hr BP cuff confirmation average day 143/92 mmHg) ECG: NSR, no LVH)

- **AND** functional dyspepsia / mechanical lower back ache / fungal infections/ relationship with family impacted.

CKM care is comprehensive whole person care

SILO REVIEW CHECKERS → CKM REVIEW CHESS

CHESS MOVES MADE



Algorithm 7. Behavioral/lifestyle therapy for people with obesity/adiposity-based chronic disease.

- Food Strategy
- Plate work
- Movement Strategy
- Stress
- Sleep - CBTi

- Just start , think
- SMART

Article in press K. Nadolsky, W.T. Garvey, M. Agarwal et al., American Association of Clinical Endocrinology Consensus Statement: Algorithm for the Evaluation and Treatment of Adults with Obesity/Adiposity-Based Chronic Disease — 2025 Update, Endocrine Practice,

CHESS MOVES MADE

CHESS MOVES MADE

Non-pharmacological Moves:

DSMES

Podiatry (low risk)

Regional eye screening (none present)

PARS

Rapid Pharmacological Moves:

Metformin 2g

SGLT2i

irbesartan 75 mg (improved systolic to 132)

Atorvastatin 40 mg

Repeat Hba1c at 3 months was 60; **BMI unchanged**. Incretin initiated and titrated to maximum dose

CURRENT STATE OF PLAY

Hba1c 40

U&E N ACR N

LFTS N

Fib 4 N

Systolic 128 (now off ARB)

LDL 1.9 (LLT combo ezetimibe just added in)

BMI 30.1

17 % body weight loss with incretin

11cms of waist circumference

HRT – CVD protection

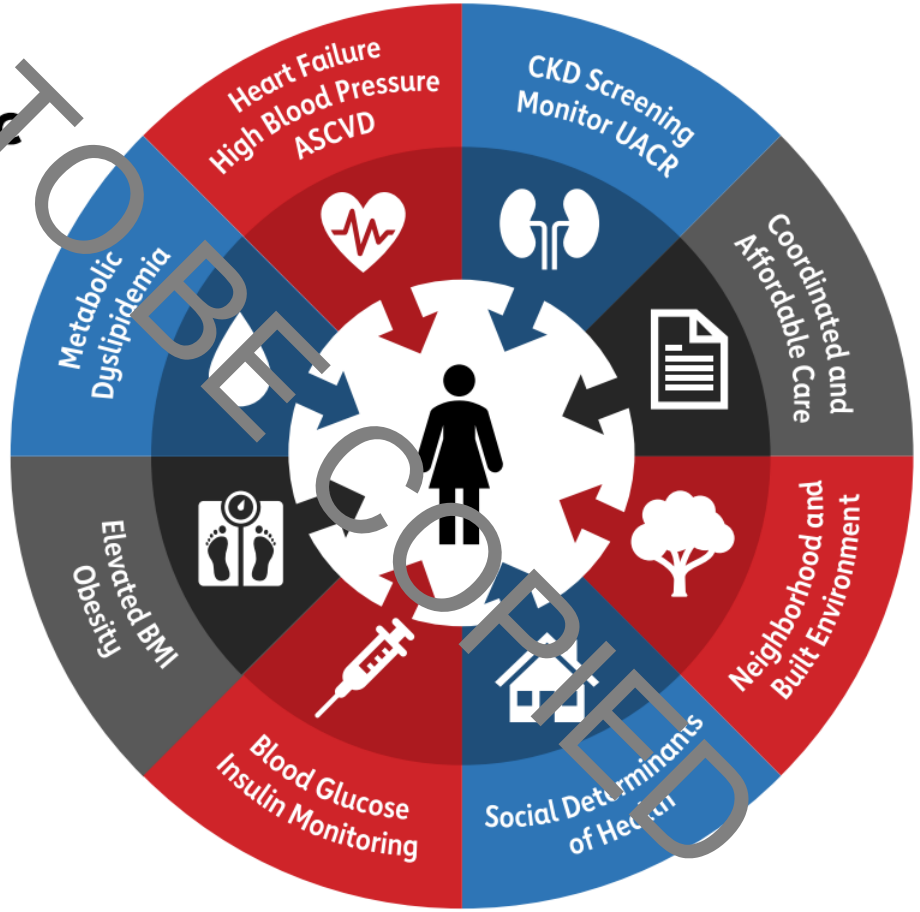
Taking medications. On routine review.

What is she doing currently ? I do not know because she is busy flourishing in her life. I will find out at routine review or if she self represents with evolving clinical need.

CVRM APPROACH ELIMINATES CARE FRAGMENTATION

Cardiovascular-Kidney-Metabolic Syndrome

Patient-Centered Implementation Focus



Abbreviations: ASCVD indicates atherosclerotic cardiovascular disease; BMI, body mass index; CKD, chronic kidney disease; and UACR, urine albumin-creatinine ratio.

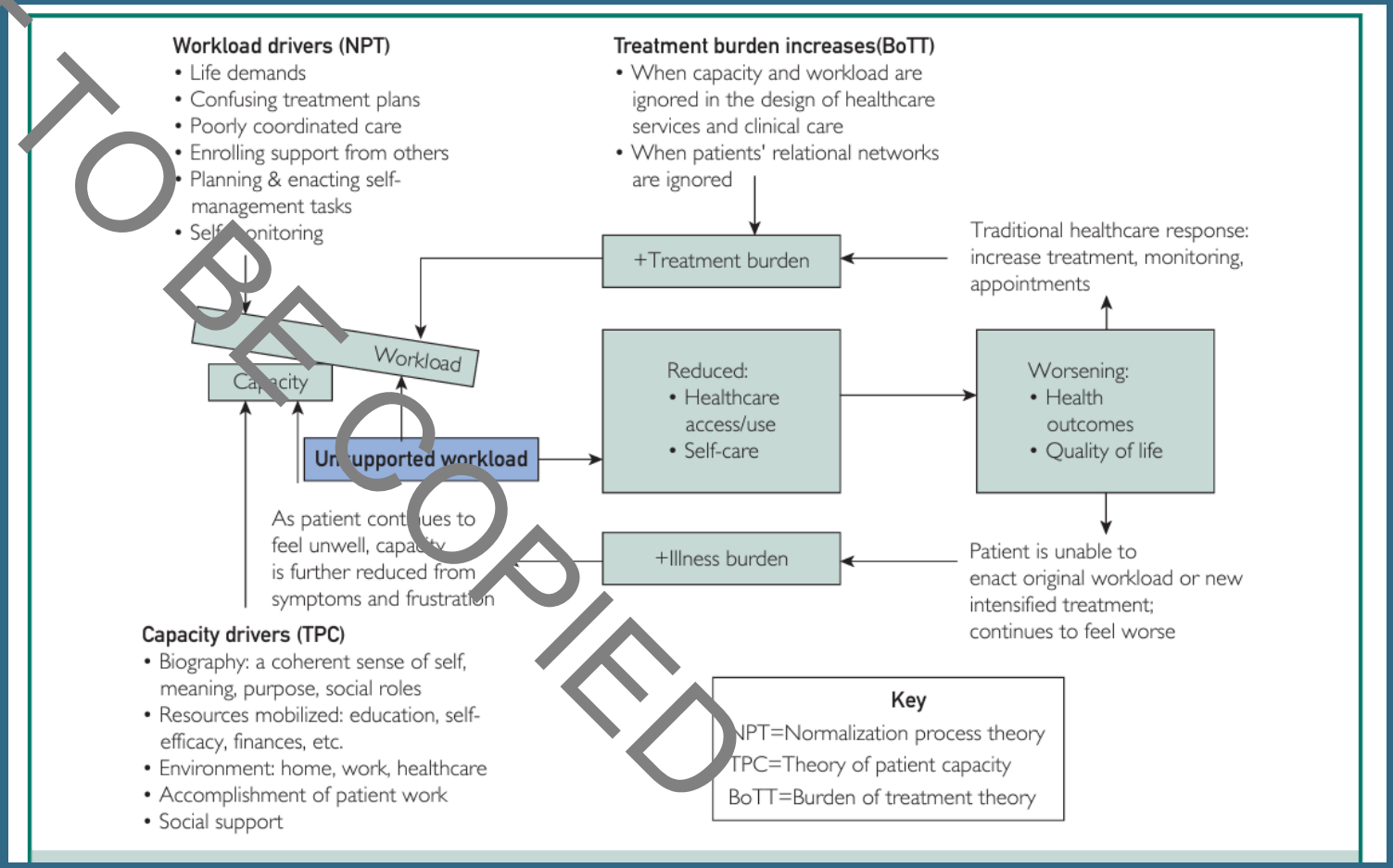
American Heart Association.

Ndumele, C.E. et al., Cardiovascular-Kidney-Metabolic Health: A Presidential Advisory From the American Heart Association. 2023. *Circulation*.

GENERAL PRACTICE CKM REVIEW IS MINIMALLY DISRUPTIVE MEDICINE

- Multi-organ impact
- Co-ordinated care
- ⬇ Appointment burden
- 1 review facilitating agendas across multiple specialties
- ⬇ Person workload

…Polypharmacy is at play



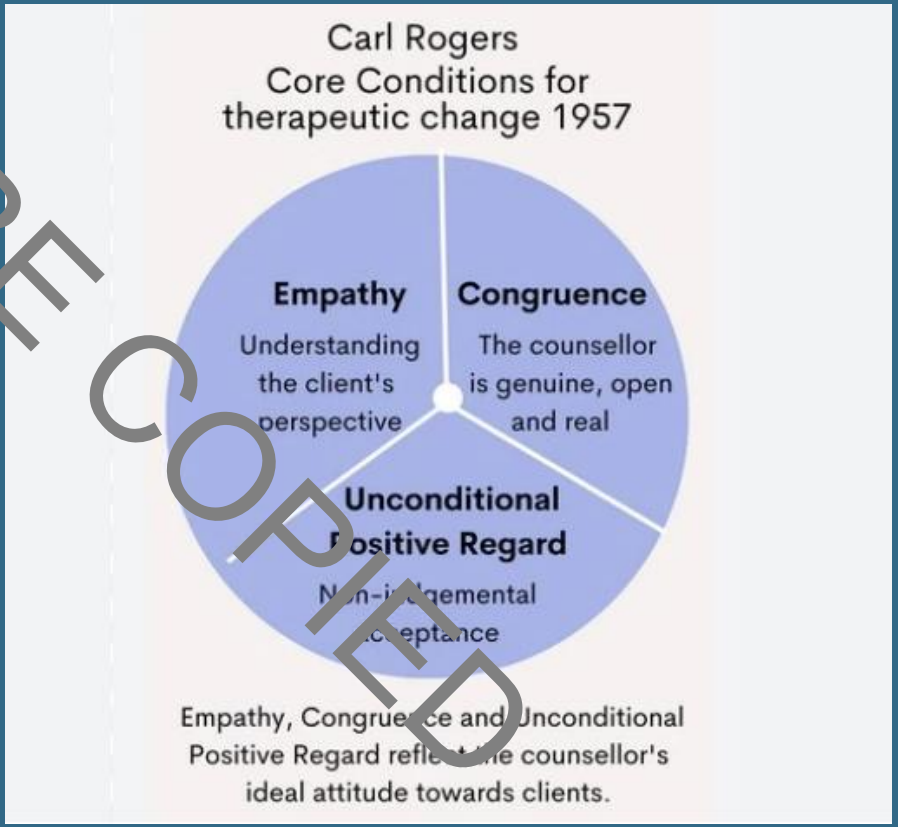
Boehmer KR *et al. Mayo Clin Proc*. 2022;97(2):210–220.
Boehmer KR, Gallacher KI, Lippiett KA, Mair FS, May CR, Montori VM. Minimally disruptive medicine: progress 10 years later. Mayo Clinic Proceedings; Elsevier; 2022

CKM PHILOSOPHY OF CARE

The professional conversation is a tool – **use it.**

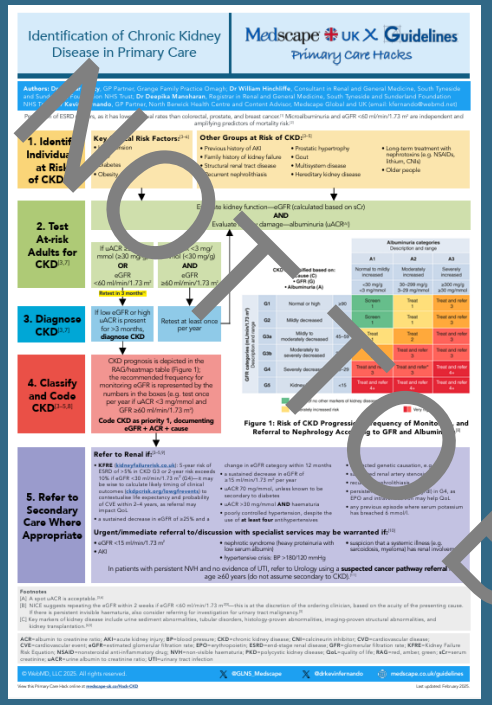
Behavioural Science

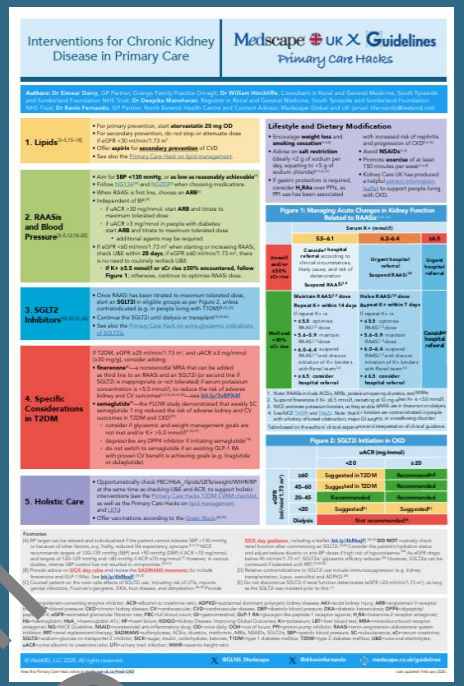
Anchoring – Frame – Chunking & Checking –Cognitive ease – Choice architecture- Status Quo bias

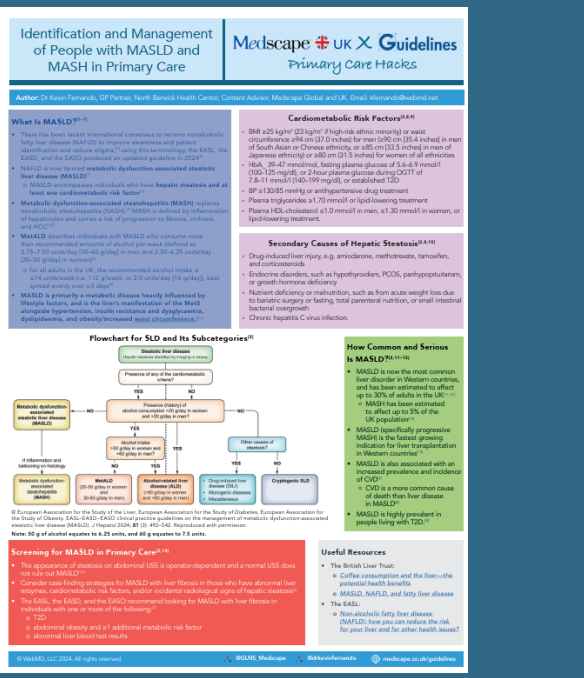


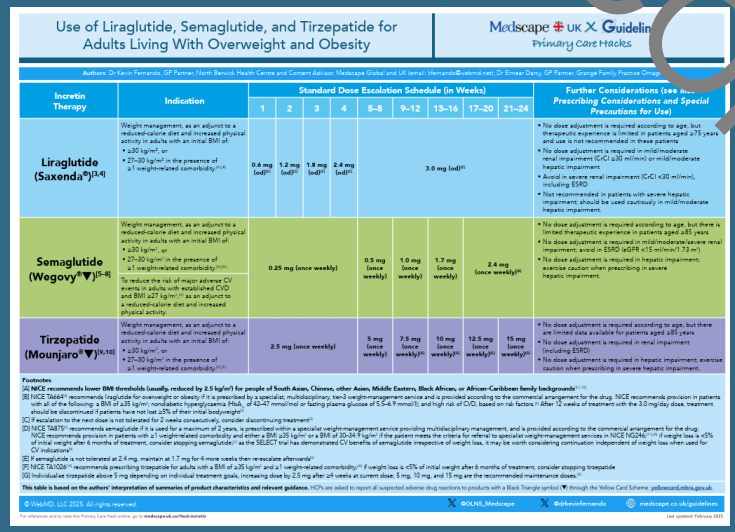
Source : https://counsellingtutor.com/counselling-approaches/person-centred-approach-to-counselling/carl-rogers-core-conditions/

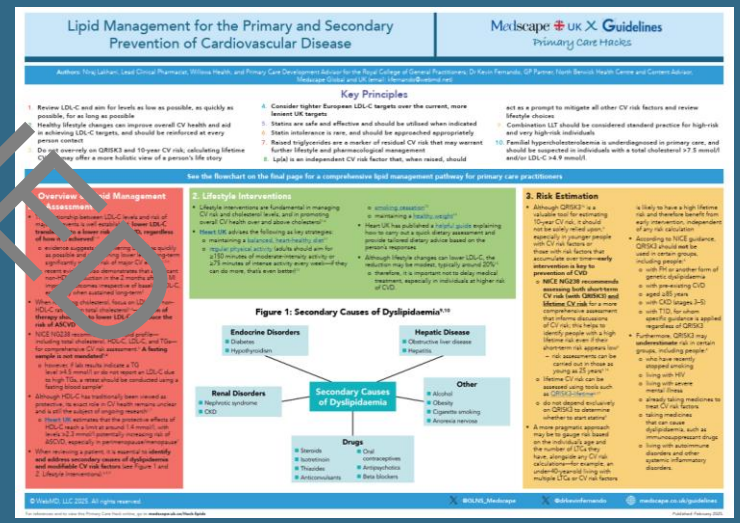
A compendium of CKM help for your GP Houses of Care.











OBESITY IS AN **INDEPENDENT** DISEASE STATE WITHIN THE CVRM SYNDROME THAT DESERVES **INDEPENDENT** ATTENTION....**IN GENERAL PRACTICE**

Analysis

Shift the paradigm to shift the weight: obesity care in the community

Hannah O'Hara and Alexander Dimitri Miras

Introduction

Obesity is a chronic relapsing condition characterised by abnormal or excessive accumulation of adipose tissue that presents a risk to health. It is associated with an increased risk of other chronic conditions including type 2 diabetes (T2DM), cardiovascular disease, renal and liver disease, musculoskeletal problems, and cancer.[1] It can impact a person's quality of life, wellbeing, and lifespan. Obesity is a complex condition, with a multitude of biological, social, environmental, and commercial factors, as well as food production and consumption processes, contributing to its development.[2] One in four adults in the UK is living with obesity with comparable figures seen in children, and recent decades have seen an increase in prevalence.[3,4]

Current weight management services

The National institute for Health and Care Excellence (NICE) updated its guidelines on the management of obesity in 2023.[5] Weight management services were previously offered in tiers according to severity and complexity of disease, with Tiers 1 and 2 addressing population-level public health measures and short-term primary care-based services focusing on dietary and lifestyle factors, respectively. Tier 3 services offered pharmacotherapy in addition to intensive behavioural interventions for those with complex, refractory, or severe disease, while bariatric surgery was delivered within Tier 4 services. Engagement with one tier was necessary before onward referral to the next.

"If specialist obesity services could be embedded within primary care, it could vastly expand access to much needed services across the UK, simultaneously reducing existing health inequalities"

Evidence does not support using bariatric surgery as a last resort and changes to NICE guidance removed the requirement for exhaustion of non-surgical measures prior to consideration of surgery.[5] The update also considered Tiers 3 and 4 together as specialist obesity services composed of a multidisciplinary team (MDT) including physicians, specialist nurses, specialist dieticians, psychologists, psychiatrists, and physiotherapists. Access to these services is hugely variable across the UK, with only 21% of clinical commissioning groups in England offering these services in 2014–2015 and one devolved nation (Northern Ireland) having no access whatsoever.[6] It is hoped that the recent amendments will reduce health inequalities resulting from unequal access to specialist obesity services but, for those living in areas with no access to bariatric surgery, there is potential for inequities to widen. Undoubtedly, the variability in access to bariatric surgery needs to be addressed. However, in focusing on access to surgery, it is imperative that we do not neglect expansion of non-surgical obesity services, paying particular attention to areas with little or no resource.

Could a community-based approach offer a solution?

Specialist obesity services are currently almost exclusively delivered in secondary care, but managing a condition affecting more than 20% of the population in this setting is impractical. Conditions with comparable prevalence, such as hypertension, are managed in primary care with only the most complex patients referred to secondary care. The development and implementation of Integrated Care Systems offer an important opportunity to transform how obesity services are delivered. If the concept of integrated care is embraced and actioned as intended, obesity care could be an authentically patient-centred service, with dissolution of silos allowing coordinated effective care for those who need it. This notion has already been demonstrated in diabetes care, with MDTs delivering community-based specialist diabetes care addressing the holistic needs of the patient. There is significant overlap between the components of diabetes and obesity care, and adaptation of existing pathways would be a viable option. The NICE definition of a specialist obesity service recognises its potential to be a specialist primary, community, or secondary care-based MDT. Primary care is embedded within the community, maintaining an in-depth knowledge of the population it serves, and is uniquely placed to deliver obesity care at scale.[7]

NICE recommends several management options for obesity within a specialist service, as described below. We propose that a substantial proportion of this service could be delivered in a primary care or community-based setting, in combination with tailored psychological support.

Behavioural modification

People living with obesity should be supported to increase their activity levels and improve eating behaviours and diet quality, with significant health benefits to be gained regardless of whether weight loss occurs. Increased activity can be achieved through active travel, for example, or through supervised exercise programmes. Potential dietary approaches include

O'Hara H, Miras AD. Shift the paradigm to shift the weight: obesity care in the community. Br J Gen Pract. 2024 May 30;74(743):275-278.

Obesity management as a primary treatment goal for type 2 diabetes: time to reframe the conversation

Ildiko Lingvay, Priya Sumithran, Ricardo V Cohen, Carel W le Roux

Obesity is now recognised as a disease that is associated with serious morbidity and increased mortality. One of its main metabolic complications is type 2 diabetes, as the two conditions share key pathophysiological mechanisms. Weight loss is known to reverse the underlying metabolic abnormalities of type 2 diabetes and, as such, improve glucose control; loss of 15% or more of bodyweight can have a disease-modifying effect in people with type 2 diabetes, an outcome that is not attainable by any other glucose-lowering intervention. Furthermore, weight loss in this population exerts benefits that extend beyond glycaemic control to improve risk factors for cardiometabolic disease and quality of life. We review the evidence supporting the role of weight loss in the management of type 2 diabetes and propose that many patients with type 2 diabetes would benefit from having a primary weight-centric approach to diabetes treatment. We discuss the logistical challenges to implementing a new weight-centric primary treatment goal in people with type 2 diabetes.

Published Online September 30, 2021 https://doi.org/10.1016/S0140-6736(21)01919-X

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Introduction

Over the past decade, management of patients with type 2 diabetes has undergone a major conceptual change, with treatment objectives shifting to include a cardiocentric goal in the subpopulation with high cardiovascular risk, alongside the singular glucocentric goal that has long been held.[1] This advance was driven by studies showing that several glucose-lowering agents, used in addition to standard of care, further lower the risk of myocardial infarction, stroke, and cardiovascular death,[2,3] largely independently of lowering blood glucose concentration.[4,5] Yet, even after this landmark evolution, the treatment framework for type 2 diabetes is primarily focused on preventing or treating the downstream metabolic consequences, which tend to occur late in the disease course.

A promising opportunity lies in intervening upstream to address the key pathophysiological driver of type 2 diabetes and its associated metabolic complications: obesity (figure 1). Sustained loss of at least 15% bodyweight has a major effect on progression of type 2 diabetes, inducing remission in a large proportion of patients and markedly improving metabolic status in many others.[6,7]

Until 2021, the only intervention that could routinely result in maintenance of weight loss of this magnitude was bariatric surgery. However, despite its considerable benefits, a complex surgical procedure is not feasible or scalable as the mainstay for a population-wide intervention. Now, with effective pharmaceuticals to reduce bodyweight in the pipeline, many of which can also directly lower blood glucose concentration, it is time to rethink treatment goals for patients with type 2 diabetes to position obesity management as a principal goal (ie, aiming for substantial weight loss as the primary means to treat patients with type 2 diabetes and reach glycaemic targets). Such a weight-centric intervention would disrupt the underlying pathophysiology of type 2 diabetes, reverse or slow down the disease course, concomitantly benefit other associated cardiovascular risk factors, and prevent microvascular and macrovascular complications of type 2 diabetes in the long term.

Here, we review the clinical evidence supporting weight loss as a fundamental target, propose a novel therapeutic framework, and explore challenges for the widespread implementation of this approach for people with type 2 diabetes.

Type 2 diabetes and obesity are interconnected, heterogeneous diseases

Obesity and type 2 diabetes are heterogeneous conditions. Not all people who are categorised as having obesity (ie, body-mass index ≥30 kg/m²) have excessive adiposity. Moreover, even among people who do have excess adiposity, not all people will have metabolic complications, such as type 2 diabetes.[8] Conversely, some people with only minimal adiposity develop metabolic complications, prompting the concept that adipose tissue pathology, rather than quantity, might be the primary driver of complications.[9] Abnormal adipose tissue pathology is characterised by adipocyte hypertrophy, visceral adiposity, and ectopic fat deposition, with resulting systemic inflammation and metabolic dysfunction. This process is not directly proportional to adipose quantity or body-mass

Search strategy and selection criteria

References for this Review were identified by searching MEDLINE, PubMed, and the ClinicalTrials.gov registration site using the search terms: "overweight", "obesity", "weight gain", "weight loss", "weight management", "body weight", "morbid obesity", "obesity pharmacotherapy", "adiposity", and "bariatric surgery" in combination with the term "type 2 diabetes". We included references from relevant articles that were identified during the search. Articles published in English between Jan 1, 1990, and March 30, 2021, were reviewed and included on the basis of originality, relevance to the broad scope of the Review, and impact in the field (ie, number of citations).

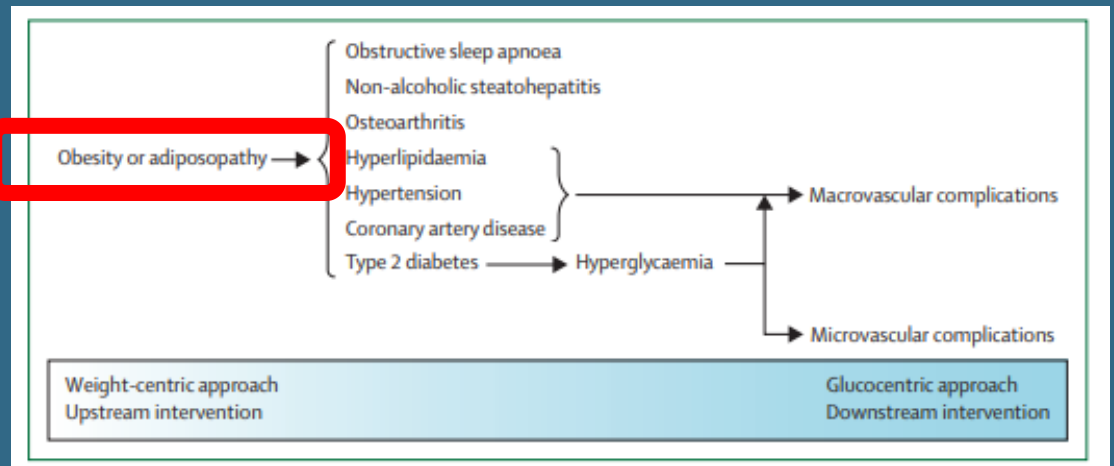

Figure 1: **Illustration of the wide-ranging benefits of an upstream weight-centric approach versus a glucocentric management approach**

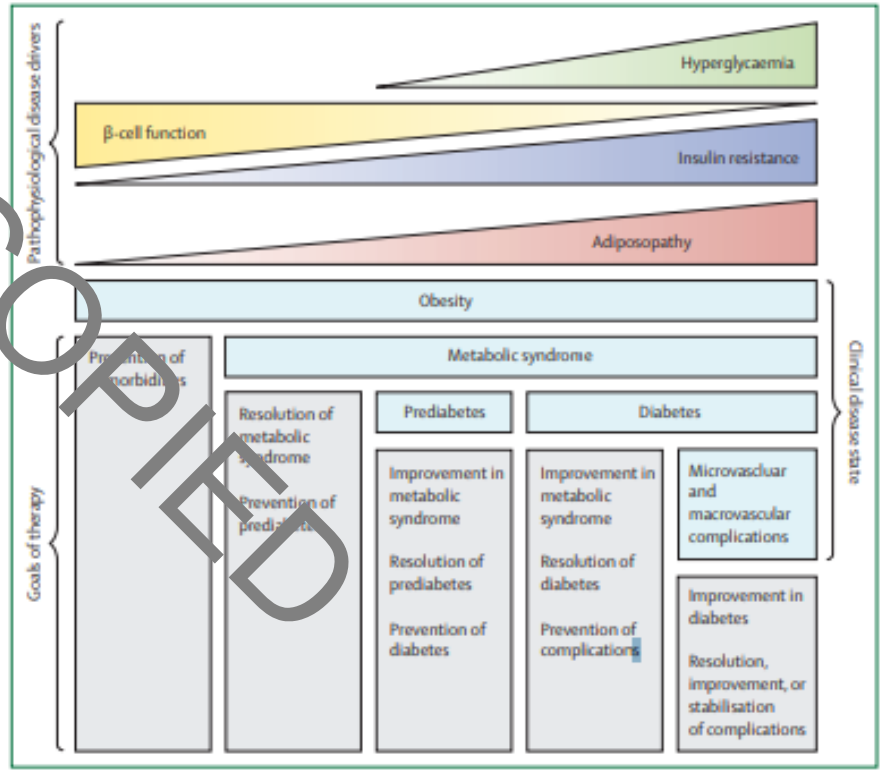

Figure 2: **The disease continuum for weight-related type 2 diabetes**
Pathophysiology, clinical disease states, and goals of therapy are shown along the continuum.

Received: 7 October 2024 | Revised: 7 January 2025 | Accepted: 8 January 2025
DOI: 10.1111/dom.16206

WILEY

REVIEW ARTICLE

Striving for early effective glycaemic and weight management in type 2 diabetes: A narrative review

Alice Y. Y. Cheng MD[1] | Robert J. Heine MD[2] | Stefano Del Prato MD[3] | Jennifer B. Green MD[4] | Vivian Thuyanh Thieu PhD[2] | Meltem Zeytinoglu MD[2]

[1]Department of Medicine, University of Toronto, Toronto, Ontario, Canada
[2]Eli Lilly and Company, Indianapolis, Indiana, USA
[3]School of Medicine, University of Pisa, Pisa, Italy
[4]Duke Department of Medicine, Duke University, Durham, North Carolina, USA

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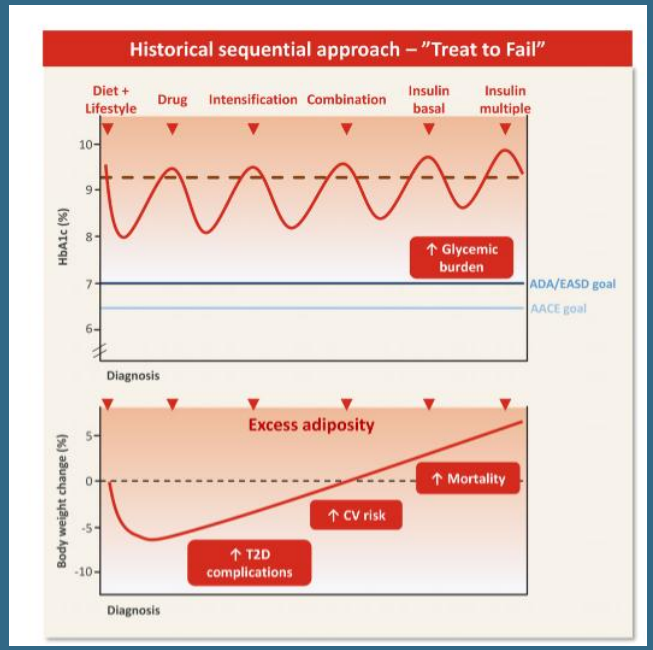
Email: zeytinoglu_meltem@lilly.com

Funding information
Eli Lilly and Company

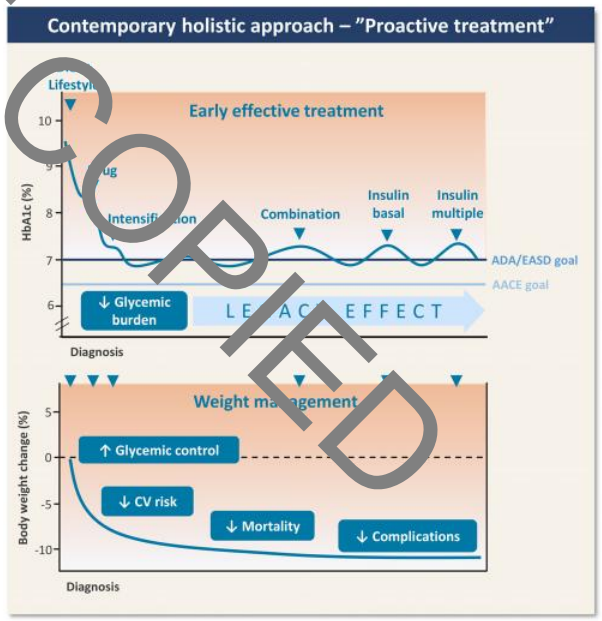
Abstract

Despite the recognition by key guidelines that achieving early glycaemic control has important benefits in individuals with type 2 diabetes (T2D) and that addressing excess adiposity is one of the central components of comprehensive person-centred T2D care, a substantial proportion of individuals with T2D do not meet their metabolic treatment goals. Prior treatment paradigms were limited by important treatment-associated risks such as hypoglycaemia and body weight gain. Therefore, a more conservative, sequential approach to treatment was typically utilized. One potential consequence of this approach has been a missed opportunity to achieve a 'legacy effect', where early treatment to reach glycaemic targets is associated with enduring long-term benefits in T2D. Additionally, while previous treatment approaches have addressed core defects in T2D, including insulin resistance and β-cell function decline, they have been unable to address one of the underlying causal abnormalities—excess adiposity. Here, we review currently available evidence for the beneficial long-term effects of early glycaemic control and management of body weight in people with T2D and discuss potential next steps.

KEYWORDS
antidiabetic drug, antiobesity drug, diabetes complications, glycaemic control, weight management

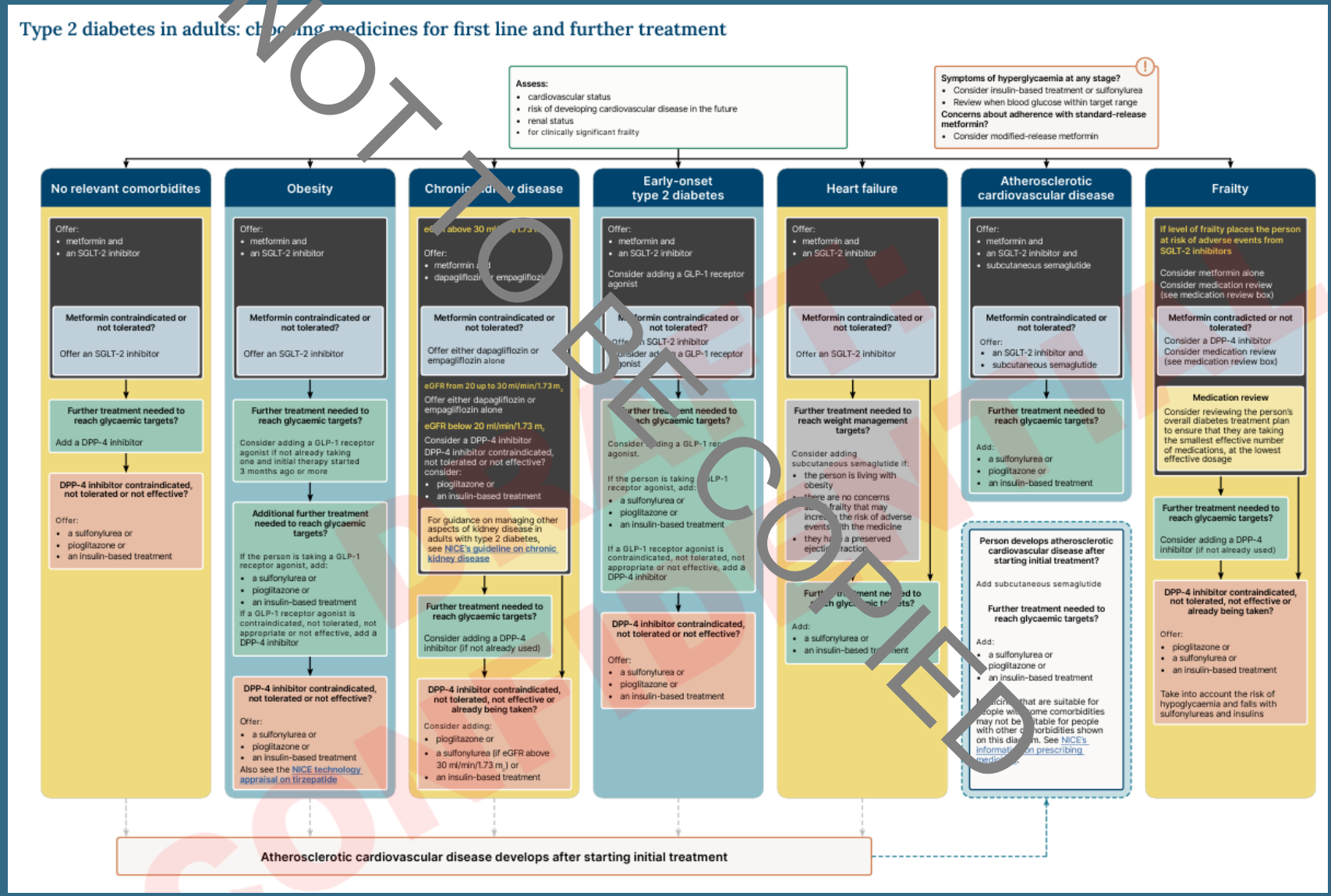


Is this really working for us in General Practice?

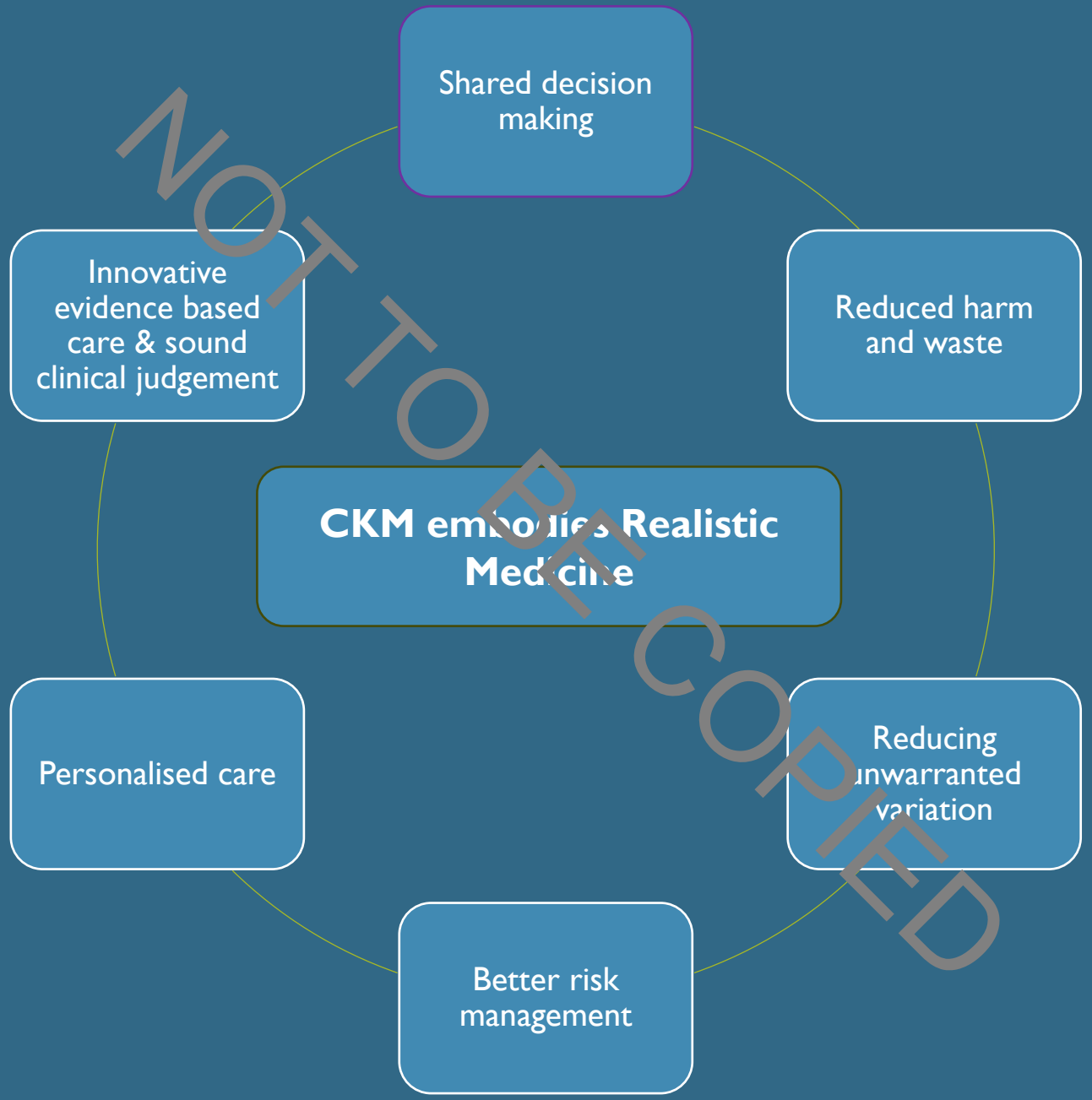


Advocating for this approach moving forward makes sense.

Hope is on the horizon

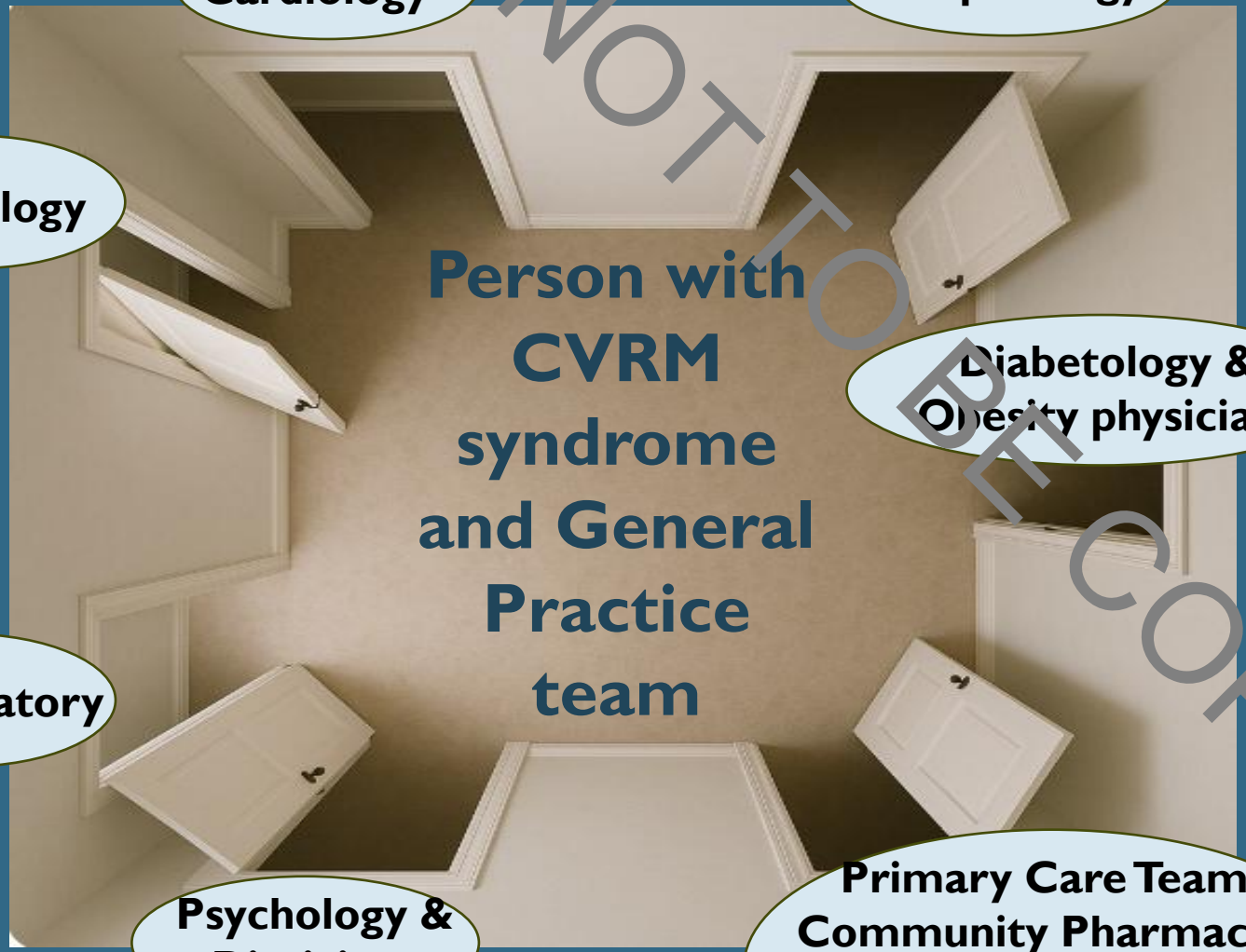


NG28 update in consultation



https://realisticmedicine.scot/about/

NHS General Practice CKM care



Cardiology

Nephrology

Hepatology

Diabetology & Obesity physicians

Respiratory

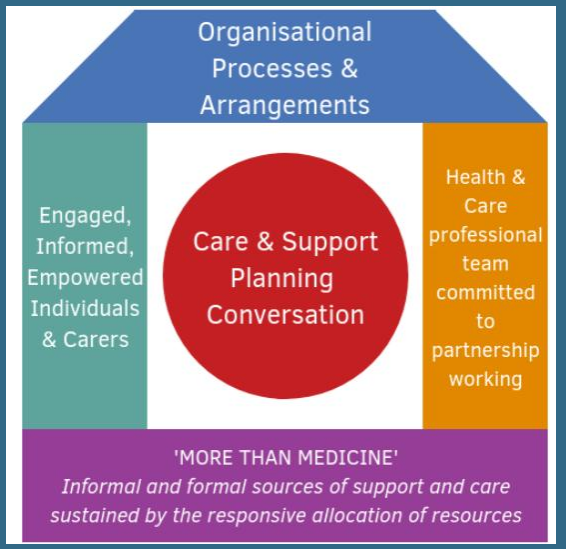
Psychology & Dieticians

Primary Care Teams– Community Pharmacy / Physio/OT/ Social Services and Voluntary Sector

- Whole person advanced generalist care :
  - Co-ordinated
  - Comprehensive
  - Continuous
  - Person centred
- Longitudinal life span care
- MDT care – stronger together
- Agile care –open doors of engagement with and back up from other teams when required.

Take homes from a CKM GP

- CKM syndrome - a **dynamic continuum** that **changes over time.**
- **Contextualise. Prioritise. Personalise.**
- Shared decision making - **with** the person , **not to** the person.
- **Ordering** and **pacing** of interventions – a personalised marathon.
- **Life long treatments and interventions** ; **not** burst therapies or approaches.
- **Combination therapy and interventions =** organ and person **protection**.
- General Practice MLTC infrastructure **will evolve** from current set up to a **de-sioled format.**
- This will take a **team** – if you are doing this as a lone professional – **stop doing it alone.**



We are stronger together

https://www.alliance-scotland.org.uk/past-work-and-projects/scotlands-house-of-care/the-house-of-care-model/

CODE CODE CODE CODE
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CODE CODE CODE CODE

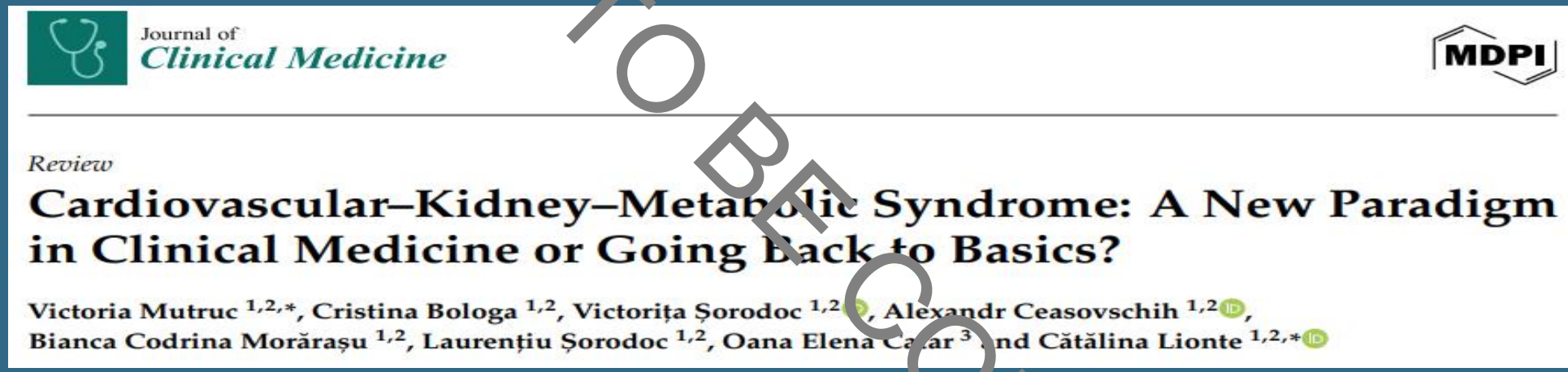
General Practice Cardiovascular Kidney Metabolic Review

VALUE LIES IN A COMPREHENSIVE AND COMPREHENSIBLE APPROACH TO A COMPLEX PROBLEM

Larkin H. *JAMA*. 2023;330(21):2042–2043.

The Lightblub

Lets get back to the basics, and get them right.



Journal of Clinical Medicine

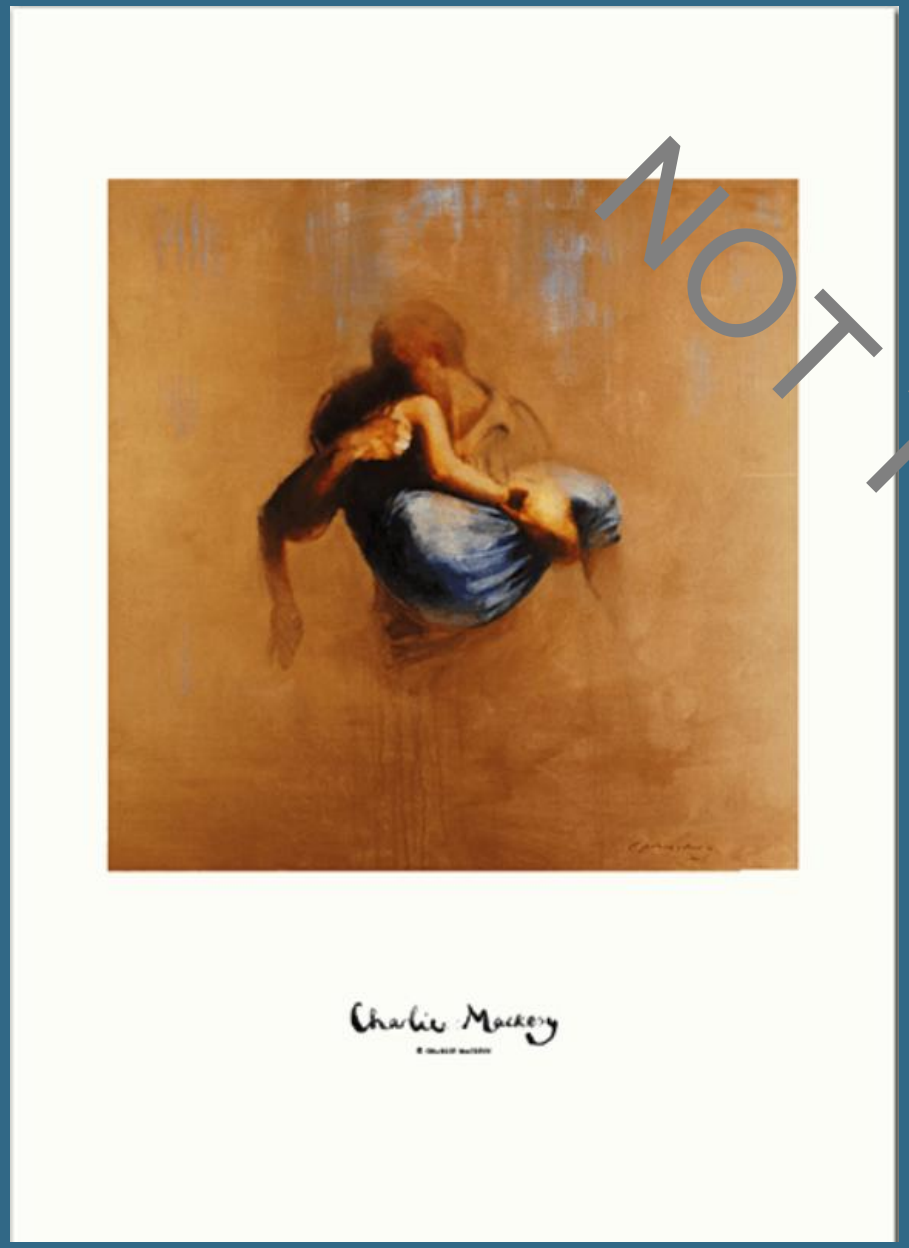
MDPI

Review

Cardiovascular–Kidney–Metabolic Syndrome: A New Paradigm in Clinical Medicine or Going Back to Basics?

Victoria Mutruc [1,2,*], Cristina Bologa [1,2], Victoriţa Şorodoc [1,2], Alexandr Ceasovschih [1,2], Bianca Codrina Morărașu [1,2], Laurenţiu Şorodoc [1,2], Oana Elena Catar [3] and Cătălina Lionte [1,2,*]

Mutruc, V.; Bologa, C.; S, orodoc, V.; Ceasovschih, A.; Morăras,u, B.C.; S, orodoc, L.; Catar, O.E.; Lionte, C. Cardiovascular–Kidney–Metabolic Syndrome: A New Paradigm in Clinical Medicine or Going Back to Basics? J. Clin. Med. 2025, 14, 2833. https://doi.org/ 10.3390/jcm14082833



General Practice #CKM care is the enactment of humanity.

Collectivism
Compassion
Care

The responsibility to curate it together lies with us.

Art – Charles Mackesy