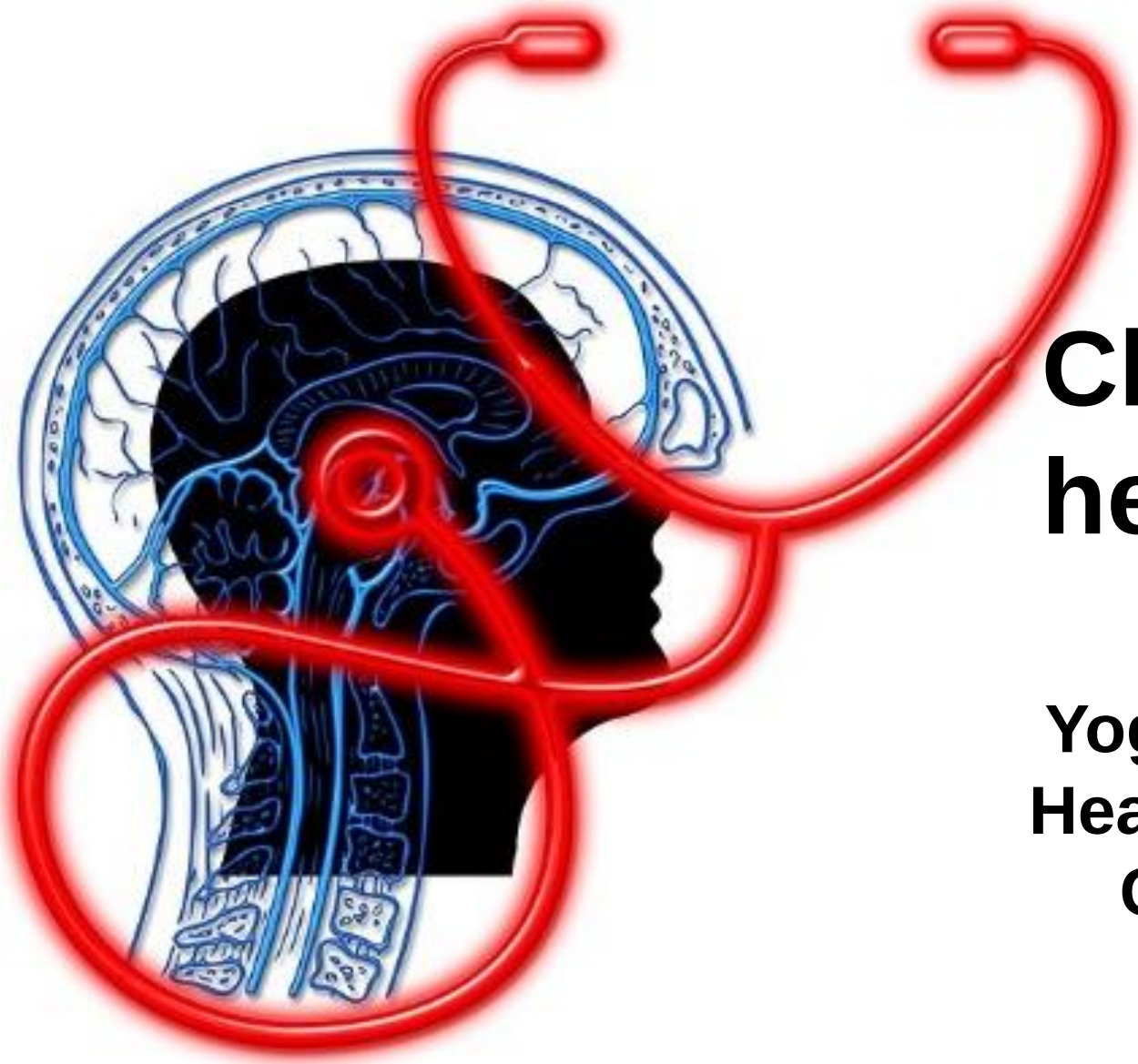


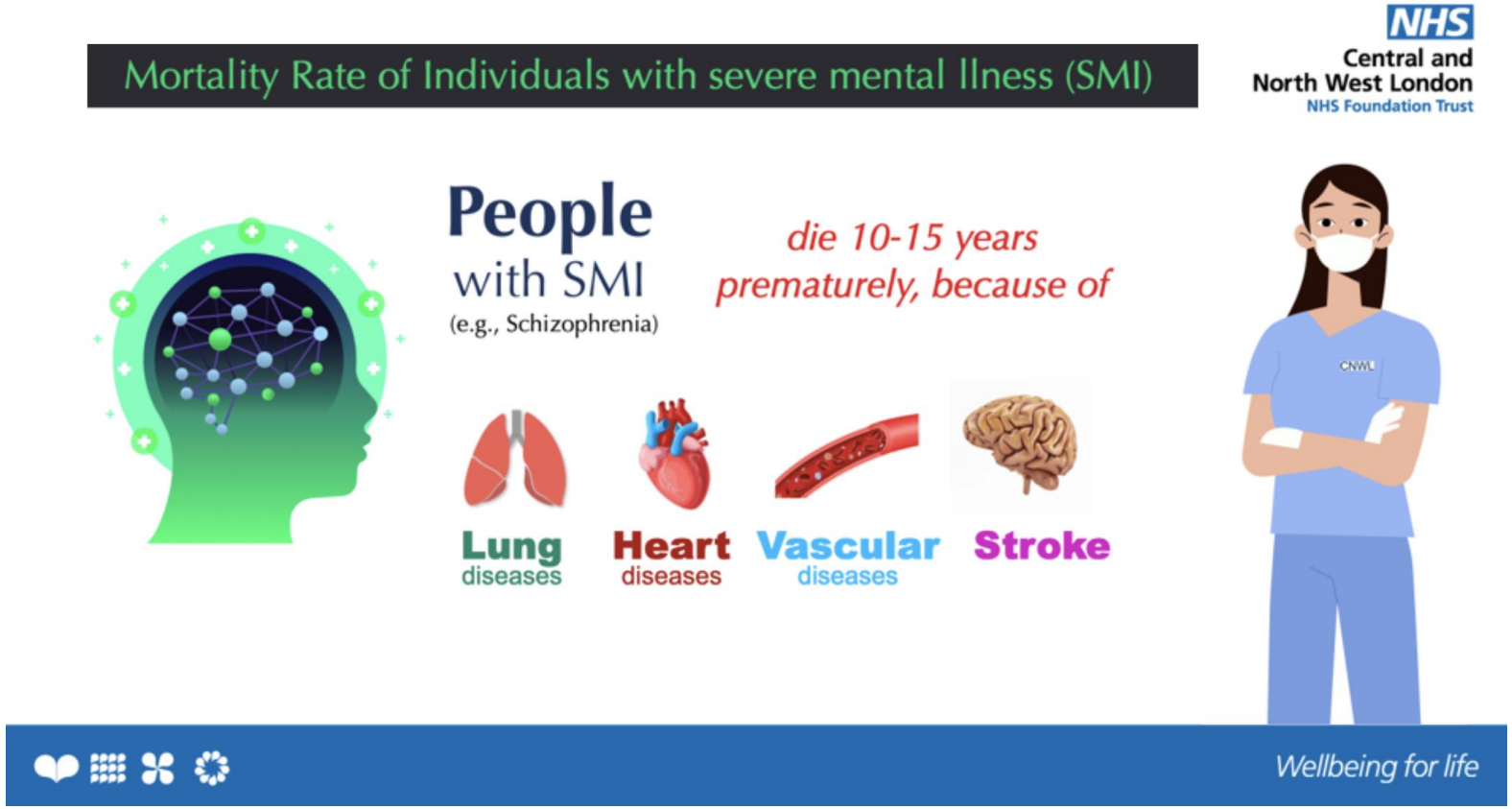
Challenges of physical health in mental health

Yogita Dawda, Clinical Lead, Mental Health Pharmacy & Mehtab Rahman, Consultant Psychiatrist, CNWL

Aims & Objectives

- Understand the challenges of physical health in mental health settings
- Prescribing for co-morbidities in physical and mental health
- Support SUs & carers understand the impact of medication on their physical health
- Work with service users to counteract side effects of medication
- Sharing good practice from CNWL

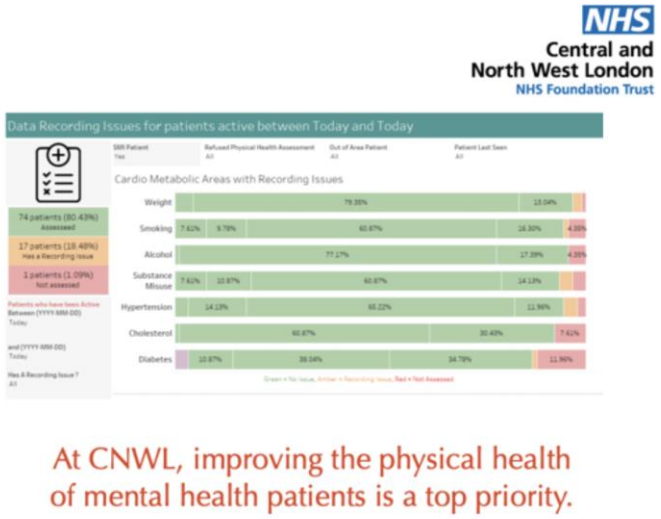
The link between Physical and Mental Health



- One of the greatest health inequality gaps in England
- SMI patients are not consistently being offered physical health assessments despite the higher risk of poor physical health

Mental Illness and Physical Health

- SMI patients die up to 20 years earlier than the general population
- Mainly due to cardiometabolic illness
- Multiple factors to explain this phenomenon
  - Smoking
  - Low levels of activity
  - Long term conditions
  - Medication side effects
  - Access to healthcare



- Inadequate interventions offered to SMI patients

Pressure on the NHS: Physical Health in SMI

- Increased hospitalisation rate
- Increased use of outpatient services
- 45% increased healthcare costs for each person with mental illness
- £8-13 billion spent on long term conditions linked to poor mental health

Physical Illness in Severe Mental Health

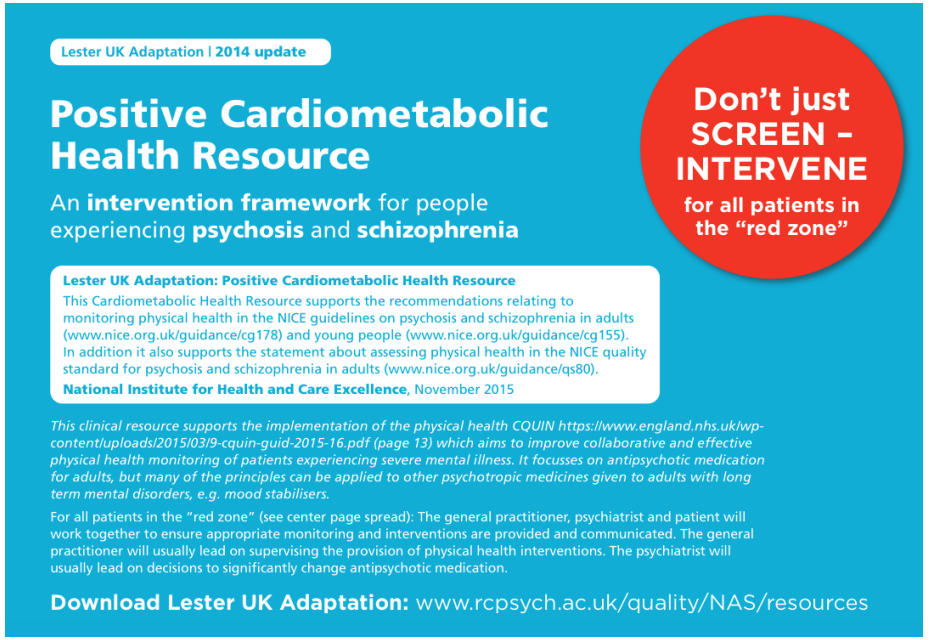
Disease Category	Physical Disease with increased frequency
Bacterial Infections	Tuberculosis
Viral Diseases	HIV, Hep B/C
Neoplasms	Obesity related cancers
Musculoskeletal Disorders	Osteoporosis
Oral Health	Poor dental status
Respiratory	Impaired lung function, COPD
Urological	Sexual Dysfunction
 **Cardiovascular**	**Stroke, MI, HTN, Vascular Diseases**
 **Metabolic**	**Obesity, Diabetes, Metabolic Syndrome, Hyperlipaemia**

The Problems

Improving the physical health of people with mental health problems, NHS England (2016)

The Lester Tool

- Physical Health Intervention Framework for SMI
- Enables effective physical health monitoring of patients experiencing SMI
- Many of the principles can be applied to other psychotropic medicines given to adults with long term mental disorders, e.g. mood stabilisers



Smoking

Lifestyle and Life Skills

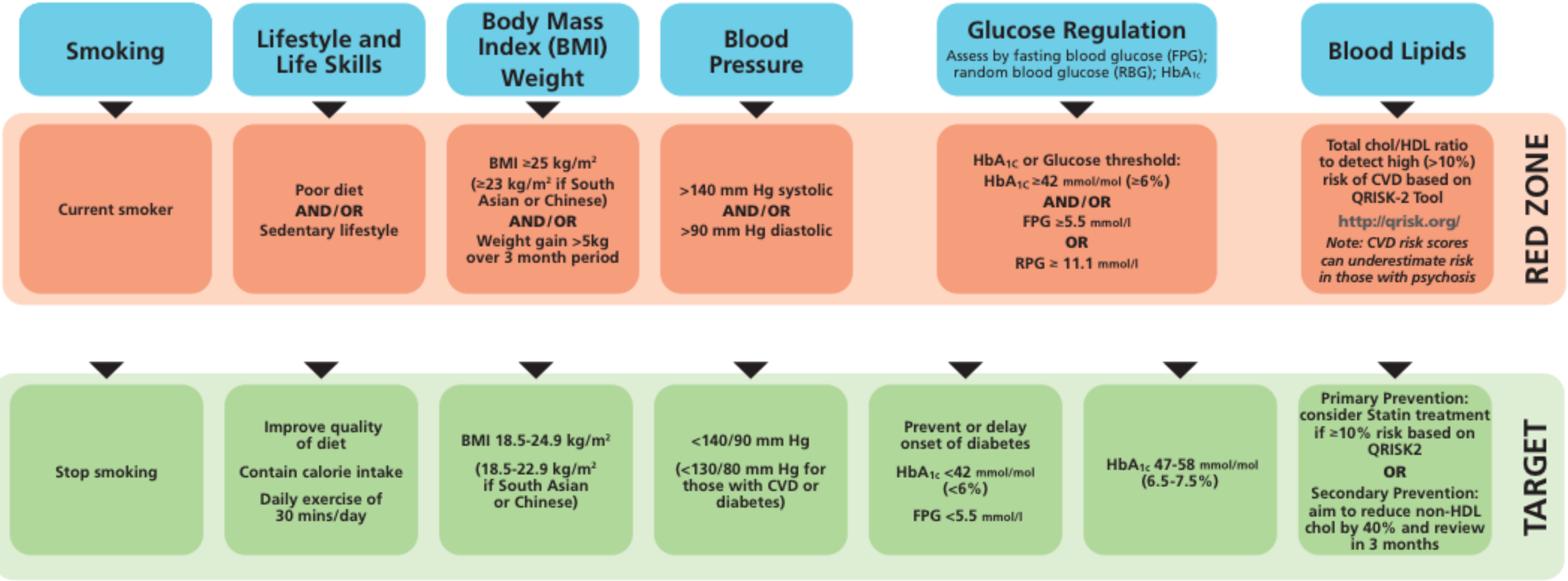
Body Mass Index (BMI) Weight

Blood Pressure

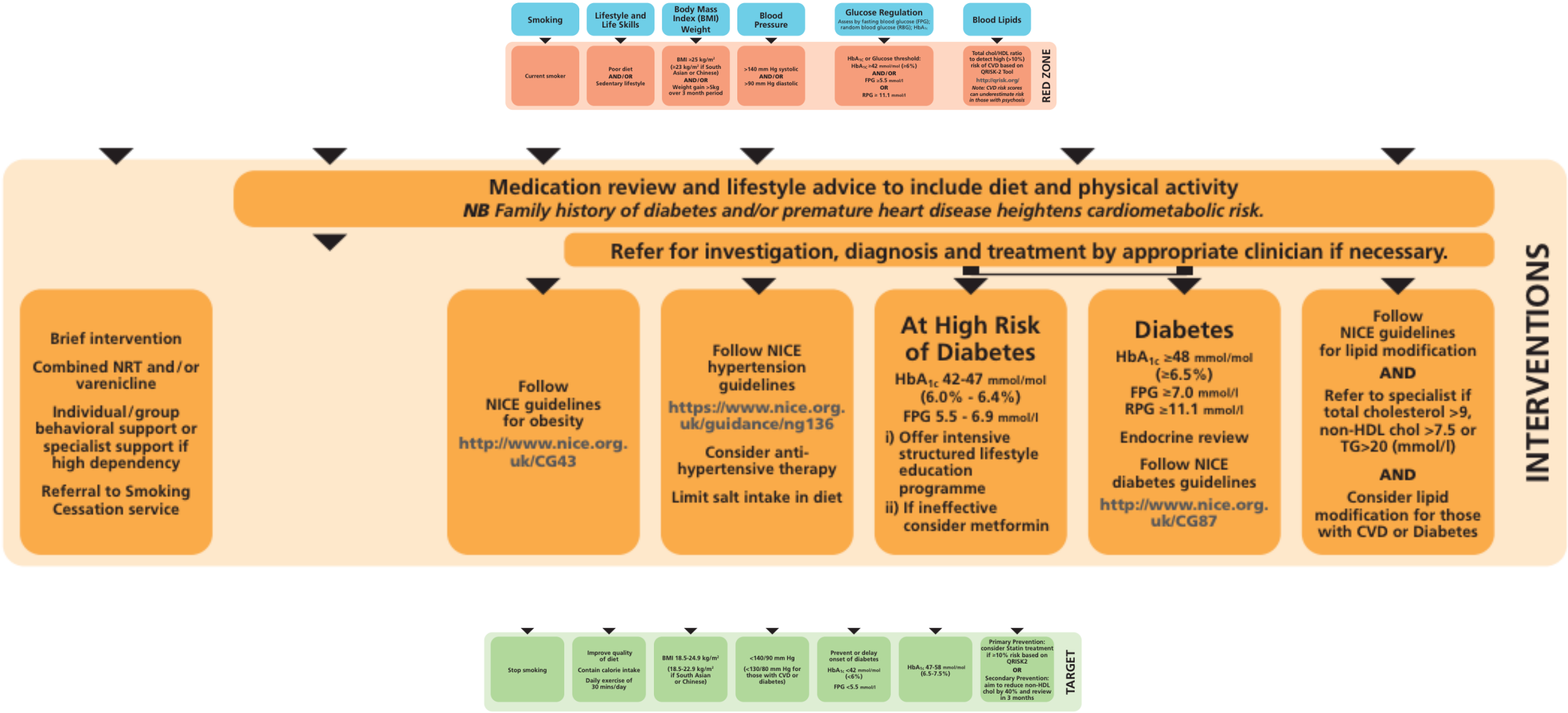
Glucose Regulation
Assess by fasting blood glucose (FPG); random blood glucose (RBG); HbA_{1c}

Blood Lipids

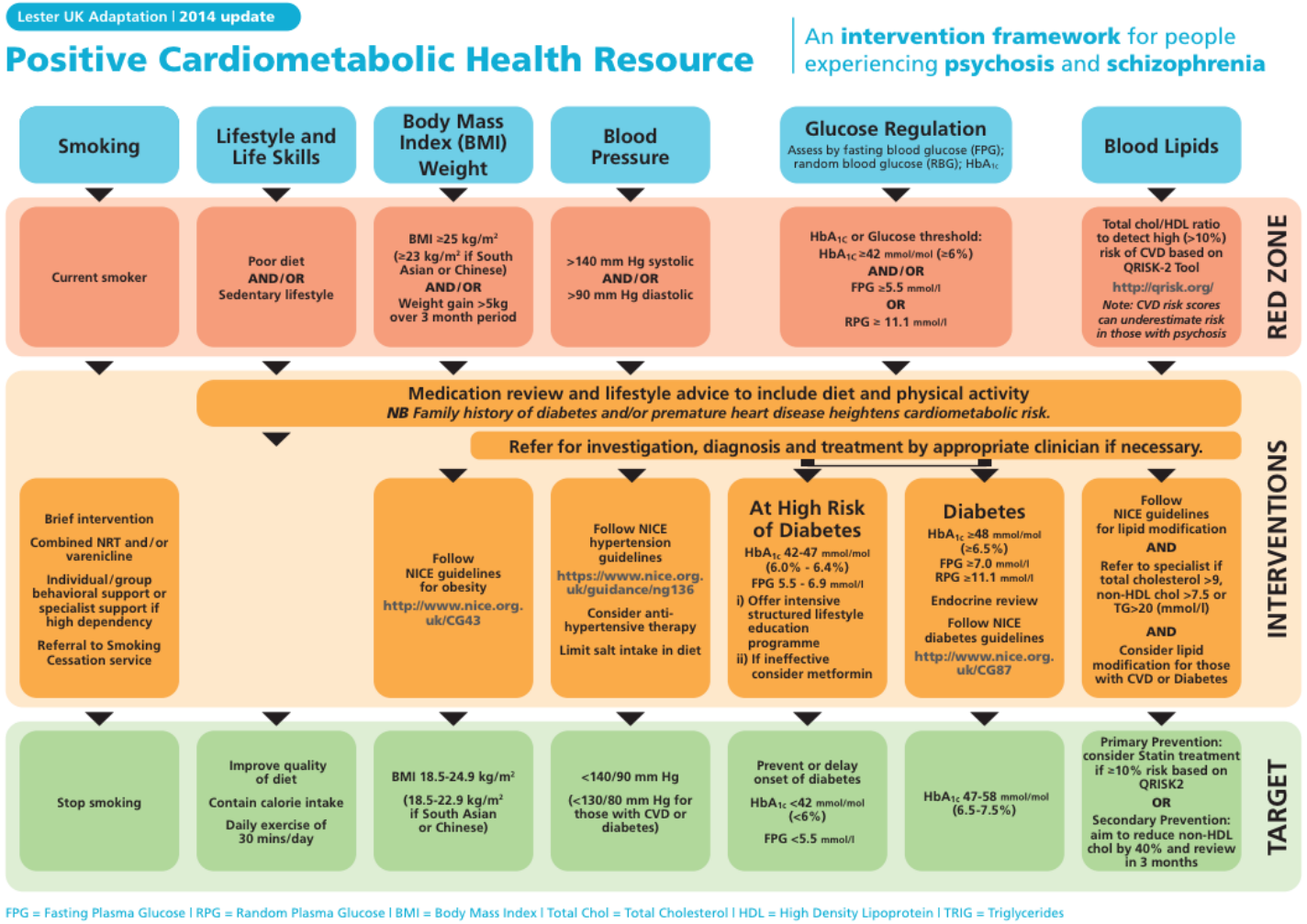
The Lester Tool



The Lester Tool



The Lester Tool



https://www.rcpsych.ac.uk/docs/default-source/improving-care/ccqi/national-clinical-audits/ncap-library/rcp17056-lester-uk-adaptation-4pp-a4-leaflet_4_updated.pdf?sfvrsn=7bc177e9_2

Impact of psychotropics on physical health

Metabolic Syndrome

NCEP ATP III definition

At least 3 of the 5 following criteria must be met to diagnose a person with metabolic syndrome:

- Abdominal obesity: waist circumference of ≥102 cm in men and ≥88 cm in women
- Hypertriglyceridemia: ≥150 mg/dl (1.695 mmol/L)
- Low HDL-C: < 40 mg/dL (1.04 mmol/dL) in men and < 50 mg/dL (1.30 mmol/dL) in women
- High blood pressure (BP): >130/85 mmHg
- High fasting glucose: >110 mg/dl (6.1 mmol/L)

Evidence

Pre-treatment monitoring

Psychosis and schizophrenia in adults: prevention and management

NICE guideline

1.3.5 Choice of antipsychotic medication

1.3.5.1 The choice of antipsychotic medication should be made by the service user and healthcare professional together, taking into account the views of the carer if the service user agrees. Provide information and discuss the likely benefits and possible side effects of each drug, including:

- metabolic (including weight gain and diabetes)
- extrapyramidal (including akathisia, dyskinesia and dystonia)
- cardiovascular (including prolonging the QT interval)
- hormonal (including increasing plasma prolactin)
- other (including unpleasant subjective experiences). **[2009; amended 2014]**

1.3.6 How to use antipsychotic medication

1.3.6.1 Before starting antipsychotic medication, undertake and record the following baseline investigations:

- weight (plotted on a chart)
- waist circumference
- pulse and blood pressure
- fasting blood glucose, glycosylated haemoglobin (HbA_{1c}), blood lipid profile and prolactin levels
- assessment of any movement disorders
- assessment of nutritional status, diet and level of physical activity. **[2014]**

1.3.6.2 Before starting antipsychotic medication, offer the person with psychosis or schizophrenia an electrocardiogram (ECG) if:

- specified in the summary of product characteristics (SPC)
- a physical examination has identified specific cardiovascular risk (such as diagnosis of high blood pressure)

Bipolar disorder: assessment and management

NICE guideline

Starting antipsychotic medication

1.10.5 Before starting antipsychotic medication, measure and record the person's:

- weight or BMI
- pulse
- blood pressure
- fasting blood glucose or HbA_{1c}
- blood lipid profile.

Adapted from psychosis and schizophrenia in adults (NICE clinical guideline 178).

1.10.6 Before starting antipsychotic medication, offer the person an electrocardiogram (ECG) if:

- it is specified in the drug's summary of product characteristics (SPC) **or**
- a physical examination has identified a specific cardiovascular risk (such as hypertension) **or**
- there is a family history of cardiovascular disease, a history of sudden collapse, or other cardiovascular risk factors such as cardiac arrhythmia **or**
- the person is being admitted as an inpatient.

Evidence

Ongoing monitoring

Psychosis and schizophrenia in adults: prevention and management

NICE guideline

1.3.6.4 Monitor and record the following regularly and systematically throughout treatment, but especially during titration:

- response to treatment, including changes in symptoms and behaviour
- side effects of treatment, taking into account overlap between certain side effects and clinical features of schizophrenia (for example, the overlap between akathisia and agitation or anxiety) and impact on functioning
- the emergence of movement disorders
- weight, weekly for the first 6 weeks, then at 12 weeks, at 1 year and then annually (plotted on a chart)
- waist circumference annually (plotted on a chart)
- pulse and blood pressure at 12 weeks, at 1 year and then annually

- fasting blood glucose, HbA_{1c} and blood lipid levels at 12 weeks, at 1 year and then annually
- adherence
- overall physical health. **[2014]**

Bipolar disorder: assessment and management

NICE guideline

1.2.12 Ensure that the physical health check for people with bipolar disorder, performed at least annually, includes:

- weight or BMI, diet, nutritional status and level of physical activity
- cardiovascular status, including pulse and blood pressure
- metabolic status, including fasting blood glucose, glycosylated haemoglobin (HbA_{1c}) and blood lipid profile
- liver function
- renal and thyroid function, and calcium levels, for people taking long-term lithium.

1.2.13 Identify people with bipolar disorder who have hypertension, have abnormal lipid levels, are obese or at risk of obesity, have diabetes or are at risk of diabetes (as indicated by abnormal blood glucose levels), or are physically inactive, at the earliest opportunity. Follow the NICE guidelines on hypertension, lipid modification, prevention of cardiovascular disease, obesity, physical activity and preventing type 2 diabetes.

Assess & discuss risk factors: Weight gain

Weight Gain:

- Known side effect of antipsychotics, mood stabilisers & antidepressants
- Antipsychotic-naïve and FEP are more vulnerable to antipsychotic weight gain
- Weight gain is rapid during first few weeks
- Initial rapid weight gain is a strong indicator of long-term weight gain & obesity

Drug	Risk/extent of weight gain
Clozapine	**High**
Olanzapine	
Chlorpromazine	**Moderate**
Iloperidone	
Sertindole	
Quetiapine	
Risperidone	
Paliperidone	
Amisulpride	**Low**
Asenapine	
Brexpiprazole	
Aripiprazole	
Cariprazine	
Haloperidol	
Lurasidone	
Sulpiride	
Trifluoperazine	
Ziprasidone	

Assess & discuss risk factors: Diabetes

Diabetes:

- Greater risk in younger adults than in elderly
- FEP are prone
- Rapid weight gain & increase in triglycerides appear strong predictors

Degree of risk	Antipsychotic drug
High	Clozapine, olanzapine
Moderate	Quetiapine, risperidone, phenothiazines
Low	High-potency FGAs (e.g. haloperidol)
Minimal	Aripiprazole, amisulpride, brexpiprazole, cariprazine, asenapine, lurasidone, ziprasidone

Assess & discuss risk factors: Cardiac adverse effects

Cardiac adverse effects:

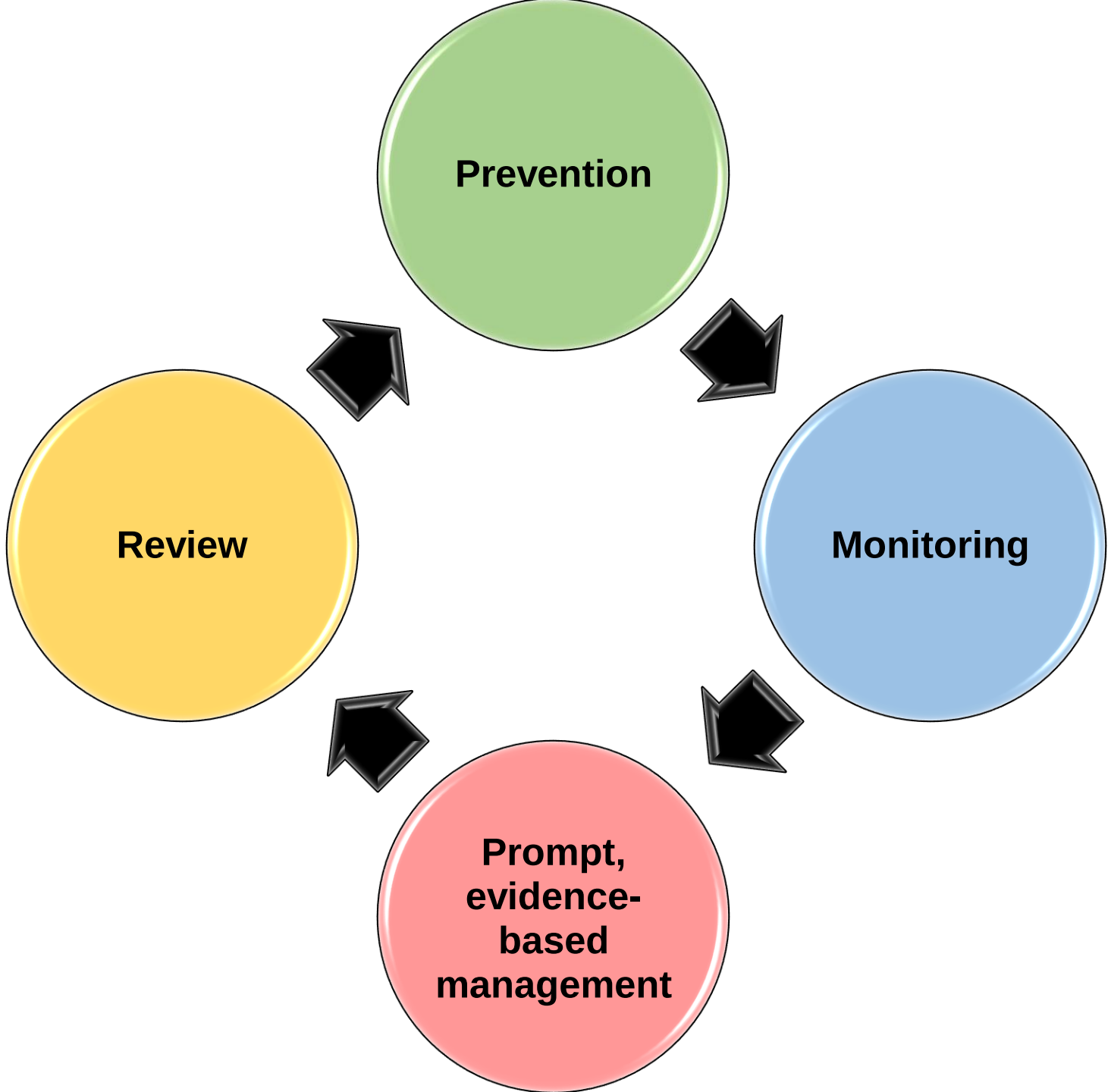
- Obesity, DM, dyslipidaemia, smoking, high alcohol intake, substance misuse, old age, ethnicity, eating disorders
- Qtc >500 msec
- Antipsychotics: rapid dose titration; high dose; >1 antipsychotic; clozapine (myocarditis)
- Antidepressants: tricyclics, venlafaxine, MAOIs

Shared decision making

'The choice of antipsychotic medication should be made ***by the service user and healthcare professional together****, taking into account the views of the carer if the service user agrees.* ***Provide information and discuss*** *the* ***likely benefits and possible side effects*** *of each drug….'*

(NICE)

What do patients & carers want?


Prevention
Monitoring
Prompt, evidence-based management
Review

Resources

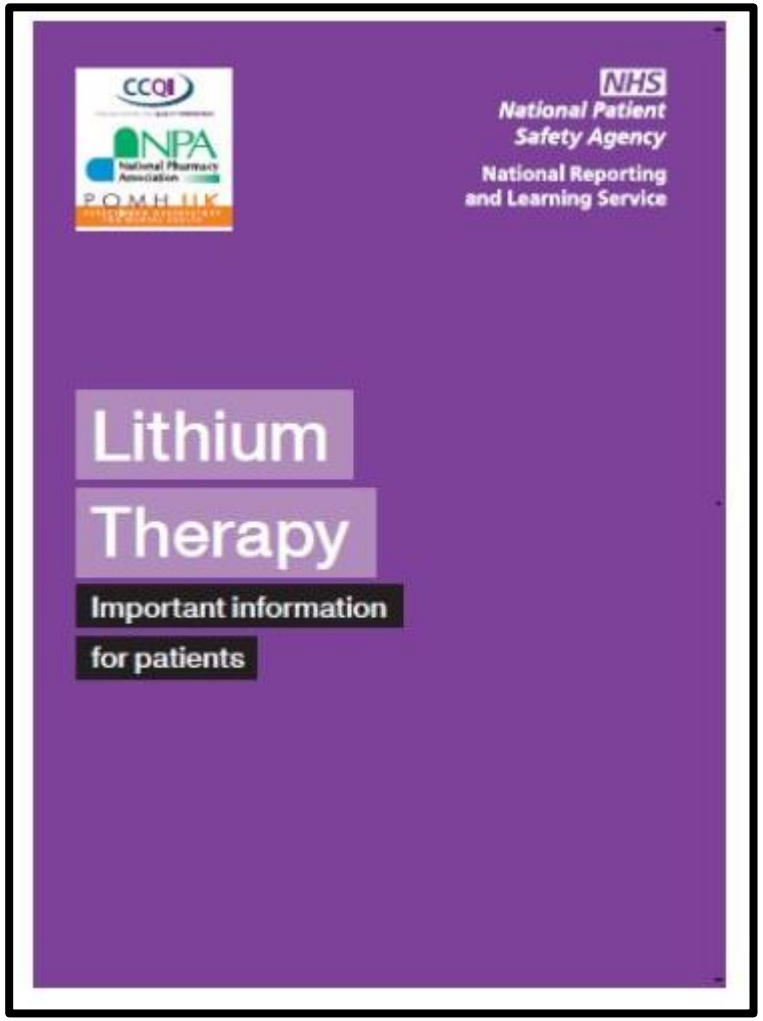
www.choiceandmedication.org

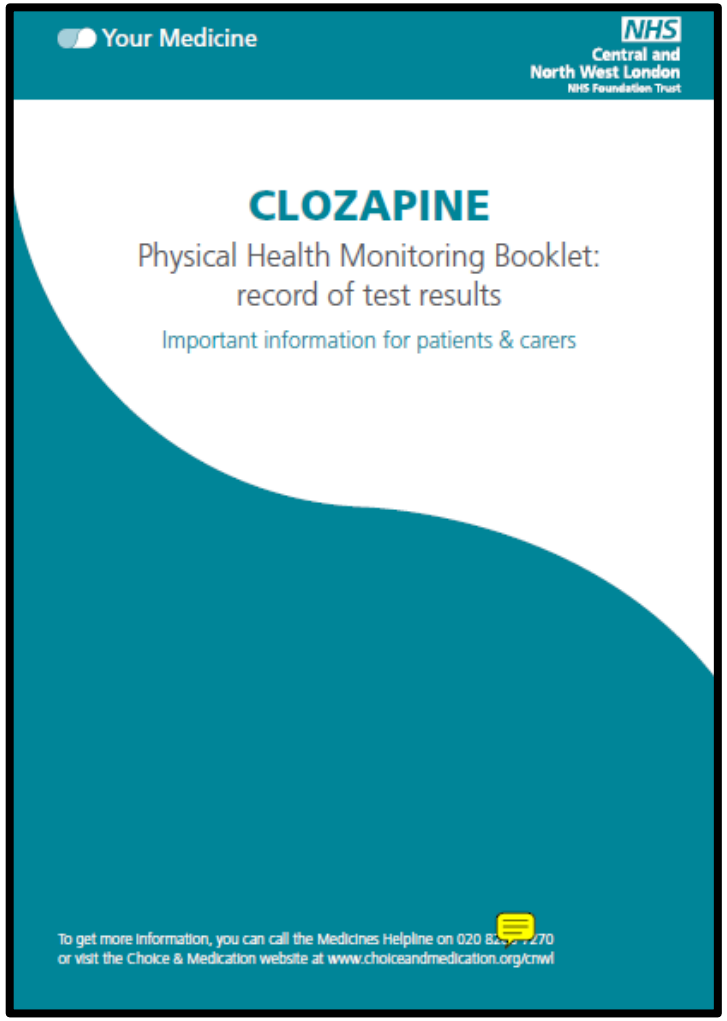
NHS Foundation Trust

A handy chart to help you compare the medicines to help the symptoms of psychosis (page 3 of 3)

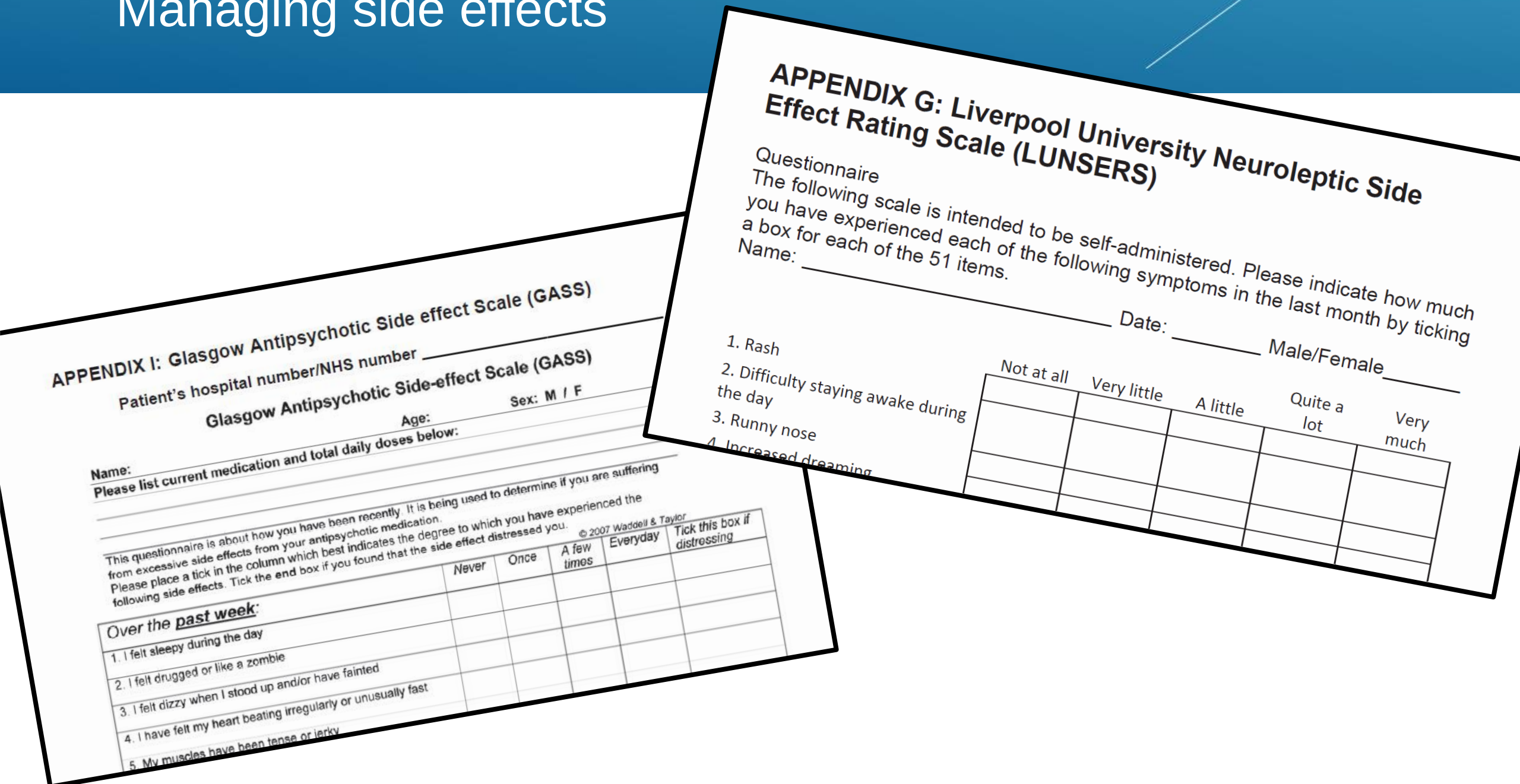
Medicine	Available as	Usual dose	How long it takes to work	Some of the main side effects *					How to stop it
				Feeling sleepy	Stiff muscles	Weight gain	Dry mouth	Sexual problems	
Dopamine-serotonin receptor blockers These mainly block dopamine receptors, some serotonin receptors and many other receptors									
Chlorpromazine	Tablets, liquid	75-300mg a day	Some effect in a few days, then builds over 3-4 weeks	●●●	●●	●●	●●	●●●	Gently over months or years, see introduction.
Levomepromazine	Tablets, liquid	100-200mg a day		●●●	●●	●●●	●●	●●	
Pericyazine	Tablets, liquid	75-300mg a day		●●●	●	●●●	●●●	●●	
Trifluoperazine	Tablets, liquid	5-15mg a day		●	●●●	●●	●	●●●	
Zuclopenthixol	Tablets	10-25mg a day							
	Long-acting injection (Clopixol®)	200-500mg every 2 weeks	Usually takes a week or so before it begins to work	●●	●●	●●●	●●	●●●	Blood levels slowly drop after the last dose. See introduction as well.
Flupentixol	Long-acting injection (Depixol®)	20-200mg every 2 weeks	Usually takes a week or so before it begins to work	●	●●	●●	●●	●●●	
	Tablets	6-18mg a day	Some effect in a few days, then builds over 3-4 weeks						Gently over months or years, see introduction.
Perphenazine (imported)	Tablets	12-24mg a day		●●	●●●	●●●	●	●●●	
Dopamine receptor blockers (mainly just block dopamine receptors)									
Haloperidol	Long-acting injection (Haldol Decanoate®)	50-200mg every four weeks	Usually takes a week or so before it begins to work	●	●●●	●●	●	●●●	Blood levels slowly drop after the last dose. See introduction as well.
	Tablets, liquid	5-18mg a day	Some effect in a few days, then builds over 3-4 weeks						Gently over months or years, see introduction.
Amisulpride	Tablets, liquid	400-800mg a day		●	●●	●	●	●●●	Gently over months or years, see introduction.
Sulpiride	Tablets, liquid	400-1600mg a day		●	●●	●●	●	●●●	
Fluphenazine decanoate (Modecate) (discontinued but still available). Long-acting injection		25-100mg every two weeks	Usually takes a week or so before it begins to work	●	●●●	●	●●	●●●	Blood levels slowly drop after the last dose. See introduction as well.
Pipothiazine palmitate (Piportil®) (discontinued but still available) Long-acting injection		25-100mg 2-4 weeks		●	●●	●●	●●	●●●	

Resources


CCQI
NPA
National Pharmacy Association
POMH UK
NHS
National Patient Safety Agency
National Reporting and Learning Service
Lithium Therapy
Important information for patients


Your Medicine
NHS
Central and North West London
NHS Foundation Trust
CLOZAPINE
Physical Health Monitoring Booklet: record of test results
Important information for patients & carers
To get more information, you can call the Medicines Helpline on 020
or visit the Choice & Medication website at www.choiceandmedication.org/cnwl

Managing side effects



APPENDIX I: Glasgow Antipsychotic Side effect Scale (GASS)

Patient's hospital number/NHS number _____

Glasgow Antipsychotic Side-effect Scale (GASS)

Name: Age: Sex: M / F

Please list current medication and total daily doses below:

This questionnaire is about how you have been recently. It is being used to determine if you are suffering from excessive side effects from your antipsychotic medication.
Please place a tick in the column which best indicates the degree to which you have experienced the following side effects. Tick the end box if you found that the side effect distressed you.

© 2007 Waddell & Taylor

Over the **past week**:	Never	Once	A few times	Everyday	Tick this box if distressing
1. I felt sleepy during the day					
2. I felt drugged or like a zombie					
3. I felt dizzy when I stood up and/or have fainted					
4. I have felt my heart beating irregularly or unusually fast					
5. My muscles have been tense or jerky					

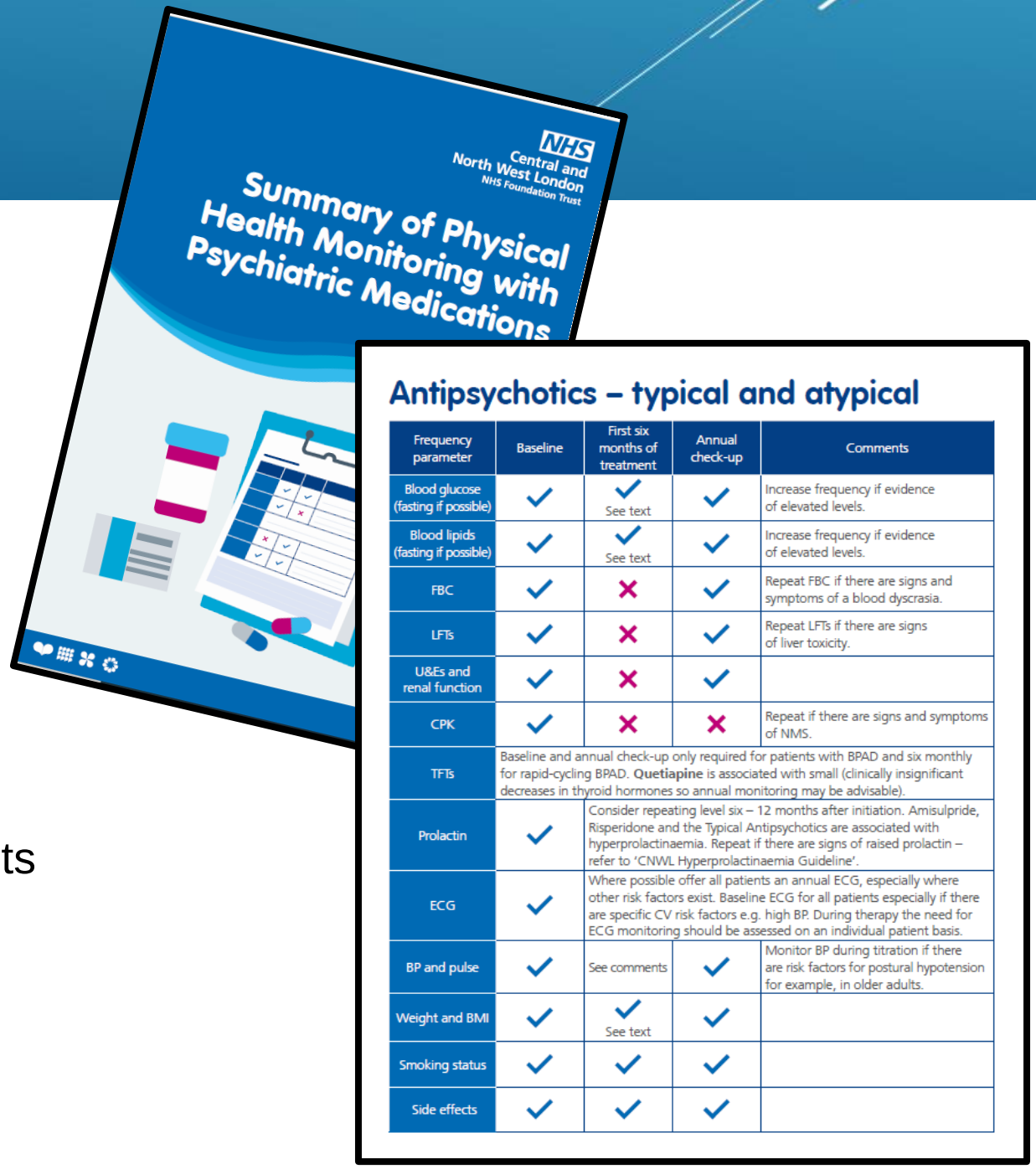
APPENDIX G: Liverpool University Neuroleptic Side Effect Rating Scale (LUNSERS)

Questionnaire
The following scale is intended to be self-administered. Please indicate how much you have experienced each of the following symptoms in the last month by ticking a box for each of the 51 items.
Name: _____ Date: _____ Male/Female _____

	Not at all	Very little	A little	Quite a lot	Very much
1. Rash					
2. Difficulty staying awake during the day					
3. Runny nose					
4. Increased dreaming					

Sharing Good Practice

- Trust Physical Health Strategy
- PH nurses on each ward
- PH Consultant Lead
- Coproduction
- Implemented Point of care testing & physical health monitoring within clozapine clinics
- Developed physical health monitoring booklets
- Data analytics tool Tableau®
- Hand held devices



Frequency parameter	Baseline	First six months of treatment	Annual check-up	Comments
Blood glucose (fasting if possible)	✓	✓ See text	✓	Increase frequency if evidence of elevated levels.
Blood lipids (fasting if possible)	✓	✓ See text	✓	Increase frequency if evidence of elevated levels.
FBC	✓	✗	✓	Repeat FBC if there are signs and symptoms of a blood dyscrasia.
LFTs	✓	✗	✓	Repeat LFTs if there are signs of liver toxicity.
U&Es and renal function	✓	✗	✓	
CPK	✓	✗	✗	Repeat if there are signs and symptoms of NMS.
TFTs	Baseline and annual check-up only required for patients with BPAD and six monthly for rapid-cycling BPAD. **Quetiapine** is associated with small (clinically insignificant decreases in thyroid hormones so annual monitoring may be advisable).			
Prolactin	✓	Consider repeating level six – 12 months after initiation. Amisulpride, Risperidone and the Typical Antipsychotics are associated with hyperprolactinaemia. Repeat if there are signs of raised prolactin – refer to 'CNWL Hyperprolactinaemia Guideline'.		
ECG	✓	Where possible offer all patients an annual ECG, especially where other risk factors exist. Baseline ECG for all patients especially if there are specific CV risk factors e.g. high BP. During therapy the need for ECG monitoring should be assessed on an individual patient basis.		
BP and pulse	✓	See comments	✓	Monitor BP during titration if there are risk factors for postural hypotension for example, in older adults.
Weight and BMI	✓	✓ See text	✓	
Smoking status	✓	✓	✓	
Side effects	✓	✓	✓	

Thanks for listening!
Any questions?

Breakout Session

Patient X is a 26-year-old Caucasian male who suffers from Paranoid Schizophrenia since 2019. Following a hospital admission, Patient X was stabilised on **Olanzapine 20mg OD** with good effect and discharged back to the community. He has been stable on the medication and has not required further hospital admissions. He is compliant with his psychotropic medication and engages well with his community mental health team.

You are seeing Patient X in your outpatient clinic. You are aware that NHS England recommends that patients suffering from serious mental illnesses should be offered a comprehensive cardiometabolic risk screen to prevent premature mortality.

What investigations would you request to complete a comprehensive cardiometabolic screen for Patient X?

Breakout Session

The results of patient X's cardiometabolic screen are as follows :

BMI	27.0
Blood Pressure	145/96
HbA1c	51
Blood Cholesterol	Within normal limits
Smoking Status	Smokes 15 cigarettes a day
QRisk 3	3.3%

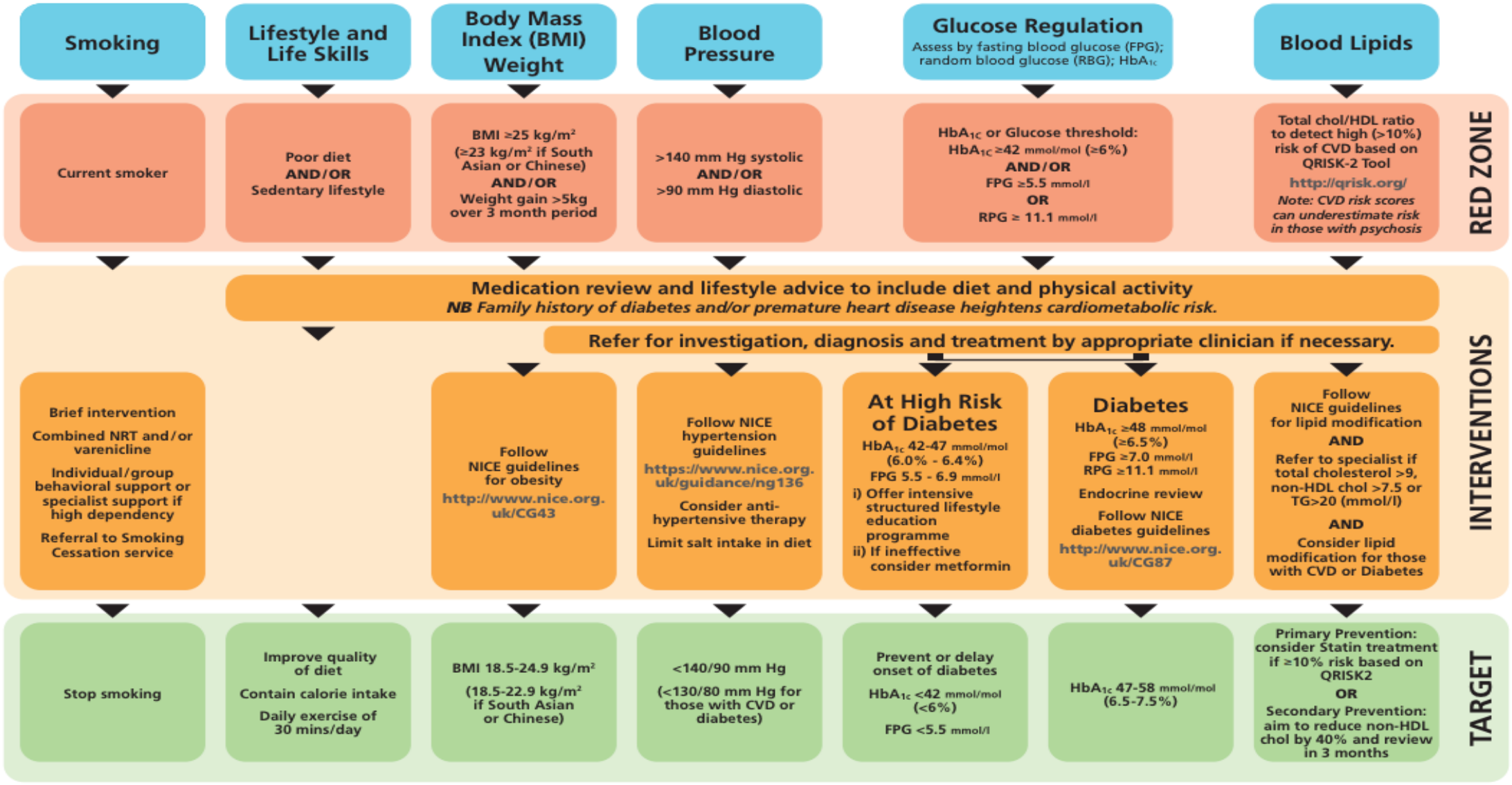
1. **Using the Lester Tool (next slide) as a guide, what interventions could you offer to Patient X to improve his cardiometabolic health?**

2. **What does a QRisk3 of 3.3% imply?**

Lester UK Adaptation | 2014 update

Positive Cardiometabolic Health Resource

An **intervention framework** for people experiencing **psychosis** and **schizophrenia**



FPG = Fasting Plasma Glucose | RPG = Random Plasma Glucose | BMI = Body Mass Index | Total Chol = Total Cholesterol | HDL = High Density Lipoprotein | TRIG = Triglycerides

https://www.rcpsych.ac.uk/docs/default-source/improving-care/ccqi/national-clinical-audits/ncap-library/rcp17056-lester-uk-adaptation-4pp-a4-leaflet_4_updated.pdf?sfvrsn=7bc177e9_2

QRISK3

qrisk.org/three/index.php

About you

Age (25-84): 26

Sex: (•) Male ( ) Female

Ethnicity: White or not stated

UK postcode: leave blank if unknown

Postcode:

Clinical information

Smoking status: heavy smoker (20 or over)

Diabetes status: type 2

Angina or heart attack in a 1st degree relative < 60? [ ]

Chronic kidney disease (stage 3, 4 or 5)? [ ]

Atrial fibrillation? [ ]

On blood pressure treatment? [ ]

Do you have migraines? [ ]

Rheumatoid arthritis? [ ]

Systemic lupus erythematosus (SLE)? [ ]

Severe mental illness?
(this includes schizophrenia, bipolar disorder and moderate/severe depression) [x]

On atypical antipsychotic medication? [x]

Are you on regular steroid tablets? [ ]

A diagnosis of or treatment for erectile disfunction? [ ]

Leave blank if unknown

Cholesterol/HDL ratio:

Systolic blood pressure (mmHg): 145

Standard deviation of at least two most recent systolic blood pressure readings (mmHg):

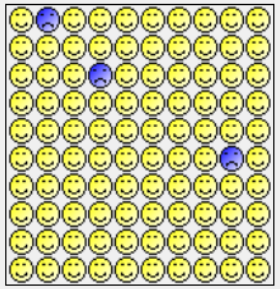
Body mass index

Your results

Your risk of having a heart attack or stroke within the next 10 years is:

3.3%

In other words, in a crowd of 100 people with the same risk factors as you, 3 are likely to have a heart attack or stroke within the next 10 years.



Risk of a heart attack or stroke

Your score has been calculated using estimated data, as some information was left blank.

Your body mass index was estimated as 28.3 kg/m^2.

How does your 10-year score compare?

Your score

Your 10-year QRISK®3 score	3.3%
The score of a healthy person with the same age, sex, and ethnicity*	0.1%
Relative risk**	30.7
Your QRISK®3 Healthy Heart Age***	49

* This is the score of a healthy person of your age, sex and ethnic group, i.e. with no adverse clinical indicators and a cholesterol ratio of 4.0, a stable systolic blood pressure of 125, and BMI of 25.

** Your relative risk is your risk divided by the healthy person's risk.

*** Your QRISK®3 Healthy Heart Age is the age at which a healthy person of your sex and ethnicity has your 10-year QRISK®3 score.