interventions including education and training, interprofessional communication and support, and digital technologies (incorporating clinical decision support).

Comprehensive therapeutic care involves the assessment of the utilization, quality, clinical appropriateness and ongoing cost of prescribed medications. An important skill of the modern prescriber is knowing when not to prescribe or indeed withdrawing inappropriate medication under supervision, with the goal of managing inappropriate polypharmacy and improving outcomes: the process of 'Deprescribing'.²

Modern practice requires prescribers to be able to provide holistic therapeutic care in a patient-centred approach. This can be challenging when patients are receiving care from a variety of specialists. The prescribing itself may be devolved to other colleagues (junior doctors or family practitioners) from the original decision maker. Communication and collaboration between healthcare practitioners and patients is essential if important pharmaceutical care guidance is followed according to best practice.

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3 WHAT TO DO ABOUT DIFFICULT HYPERTENSION?

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Hypertension is one of the most important risk factors for cardiovascular disease, which is a significant cause of morbidity and mortality worldwide. Resistant (or difficult) hypertension is thought to affect 1 in 6 patients with treated hypertension and carries an increased risk of death and cardiovascular disease. It is generally defined as uncontrolled clinic blood pressure (>140/90 mmHg) after treatment with three or more antihypertensives to include optimal doses of an ACE inhibitor (or an angiotensin receptor blocker), a calcium channel blocker and a diuretic. There are some factors that must be taken into account before a diagnosis of resistant hypertension can be made. 'Pseudo-resistant' hypertension can be caused by poor clinic blood pressure measurement technique, patient non-adherence to prescribed medication, patient intolerance to certain anti-hypertensive medications and white coat hypertension (where blood pressure appears high in the clinic but is controlled out-of-the-office on home or ambulatory measurements).

Pharmacological treatment of resistant hypertension is focused on the addition of fourth-line therapy and recent evidence supports the use of spironolactone. Lifestyle should be reviewed and patients encouraged to exercise regularly and lose weight, reduce their alcohol and sodium consumption and stop smoking. In patients who remain uncontrolled on optimal treatment, there are a number of alternative treatment options and surgical procedures which can be considered. However, the evidence supporting each of these is limited and in some cases, conflicting and therefore more prospective randomised controlled trials are required before any can be adopted into routine clinical practice.

4 DIAGNOSIS AND MANAGEMENT OF NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD)

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Non-alcoholic fatty liver disease (NAFLD) is a metabolic liver disease that includes a spectrum of liver disease extending from simple steatosis or non-alcoholic fatty liver (NAFL) to steatohepatitis (NASH), liver fibrosis and cirrhosis. NAFLD is also a risk factor for developing type 2 diabetes (T2DM) and cardiovascular disease. Patients with NASH may or may not have liver fibrosis, but the presence of advanced liver fibrosis not only increases the risk of cirrhosis and end stage liver disease but also markedly increases the risk of hepatocellular carcinoma.

The 'gold standard' diagnostic test for NAFLD is the liver biopsy but there are now a variety of non-invasive tests that can be used to diagnose and monitor the various stages of NAFLD and whilst none of these tests are perfect, each have their strengths and limitations that influences how they should be used in clinical practice.

The early stages of NAFLD, i.e. liver fat and inflammation (steatohepatitis) respond to lifestyle changes such as weight loss and increases in physical activity that are also important components of T2DM management; and the available evidence supports the importance of lifestyle change in people with NAFLD. However, such change is notoriously difficult to achieve, so safe and effective treatments are also required to prevent and treat NAFLD. The presentation will discuss the diagnosis and management of NAFLD, including key points of management from the recent UK NICE NAFLD Guidelines (ng49), Joint Societies European Guidelines and US Guidelines.

5 THERAPY FOR ASTHMA AND COPD

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A hundred years ago the main treatments for obstructive lung disease were adrenal gland extracts, herbally-derived sympathomimetic ephedrine and anticholinergics, such as atropine. There have been extraordinary advances in the pharmacological therapy of asthma and COPD, yet the major classes of therapy we use today are based on these original therapies – long-acting β_2 -agonists (LABA) derived from adrenaline and muscarinic receptor antagonists (LAMA) and inhaled corticosteroids (ICS) developed from the adrenal cortex hormone cortisol. Triple fixed-dose inhalers containing all 3 drugs have now been developed and are convenient for some patients. In asthma, by far the greatest advance has been the introduction of ICS for control of the underlying eosinophilic inflammation of the airways. Although ICS are effective in most patients, there is often very poor adherence as symptoms are intermittent. In a new strategy, instead of a short-acting β_2 -agonist, such as salbutamol, patients use a reliever inhaler containing a rapidly-acting LABA formoterol combined with an ICS. This provides much better control of asthma and is a simple strategy for most patients. At the other end of the spectrum, patients with eosinophilic severe asthma not controlled on conventional therapies may now be controlled with biologics,