SHORTAGE: **Oxycodone 5mg/5ml oral solution**	**Anticipated re-supply date:** 31 July 2023 **Actions for prescribers** **Actions** Clinicians should: • review patients to determine if oxycodone 5mg/5ml oral solution is still the most suitable therapy • consider prescribing immediate release oxycodone capsules for patients who can swallow solid dosage forms and are on a regime comprising 5mg or 10mg doses, ensuring that the patient is not intolerant to any of the excipients and is counselled on the appropriate dose (see Supporting information below) • consider prescribing morphine-based products as an alternative agent, if clinically appropriate • reserve stock of oxycodone 5mg/5ml oral solution for patients where doses such as 2.5mg or 7.5mg cannot be made up easily with capsules and alternatives are not considered suitable • consider prescribing unlicensed oxycodone oral solution/suspension only where the immediate release capsules or other licensed opioid analgesics are not appropriate. Prescribers should work with local pharmacy teams to ensure orders are placed within appropriate time frames as lead times may vary (see supporting information below); and • if the above options are not considered appropriate, advice should be sought on alternative pain management options from team who initiated oxycodone liquid. **Alternatives** Oxycodone 5mg/5ml oral solution from other manufacturers remains available but will not be able to support increased demand. **Solid dosage forms** Oxycodone 5mg and 10mg immediate release capsules remain available. **Liquid formulations** Other liquid formulations of opioids, such as morphine, remain available. **Unlicensed oxycodone liquid** A number of Specials manufacturers are able to produce unlicensed oxycodone 5mg/5ml oral suspension (including sugar free formulations). Where the above options are not suitable, unlicensed imports of oxycodone 5mg/5ml oral solution may be sourced, lead times vary. **For considerations and background please see here .**

SHORTAGE: **Imiquimod (Aldara 5% and Zyclara 3.75%) cream**	**Anticipated re-supply date:** Aldara 5% cream 250mg sachets (Viatris UK Healthcare Ltd) 11 August 2023 Zyclara 3.75% cream 250mg sachets (Viatris UK Healthcare Ltd) 1 December 2023 **Actions for prescribers:** NHS Provider Trust Pharmacy Procurement teams should: • review local stock holding of Aldara 5% cream and Zyclara 3.75% cream, including stock being held at ward locations • estimate if they hold sufficient stock to meet the anticipated demand until the re-supply date; and • where there are insufficient stocks, the organisation should request mutual aid, facilitated by their Regional Pharmacy Procurement Specialist Where patients have insufficient supplies to last until the re-supply date, clinicians/prescribers should: • defer initiating new patients on Aldara 5% cream and Zyclara 3.75% cream until the shortage has resolved • where this is not appropriate, consider prescribing an alternative presentation or agent with reference to the licensed indication, ensuring that the patient is not intolerant to any of the excipients and is counselled on dosing and administration (see Clinical Information and Alternatives) • consider prescribing unlicensed products only where licensed alternatives are not appropriate, working with local pharmacy teams to ensure orders are placed within appropriate time frames as lead times may vary (see information below); and • if the above options are not considered appropriate, advice should be sought from specialists on management options **Alternatives** **For actinic (solar) keratosis** **Bascellex 50 mg/g cream (Imiquimod)** Indication: The topical treatment of clinically typical, nonhyperkeratotic, nonhypertrophic actinic keratoses on the face or scalp in immunocompetent adult patients when size or number of lesions limit the efficacy and/or acceptability of cryotherapy and other topical treatment options are contraindicated or less appropriate. **Solaraze 3% gel (Diclofenac sodium gel)** Indication: Treatment of actinic keratosis **Efudix 5% cream (Fluorouracil)** Indication – topical treatment of: • superficial pre-malignant and malignant skin lesions; • keratoses including senile, actinic and arsenical forms; • keratoacanthoma; • Bowen's disease; • superficial basal-cell carcinoma. • Fluorouracil produces a more marked inflammatory reaction than diclofenac sodium, but lesions resolve faster

	Actikerall 5mg/g + 100mg/g Cutaneous Solution (Fluorouracil with salicylic acid) Indication: Topical treatment of slightly palpable and/or moderately thick hyperkeratotic actinic keratosis (grade I/II) in immunocompetent adult patients. **Klisyri 10 mg/g ointment (Tirbanibulin)** Indication: Field treatment of non-hyperkeratotic, non-hypertrophic actinic keratosis (Olsen grade 1) of the face or scalp in adults. This is a new product and is subject to additional monitoring **For superficial basal cell carcinomas** **Efudix 5% Cream (Fluoruracil)** Indication – topical treatment of: • superficial pre-malignant and malignant skin lesions; • keratoses including senile, actinic and arsenical forms; • keratoacanthoma; • Bowen's disease; • superficial basal-cell carcinoma. • Deep, penetrating, or nodular basal cell and squamous cell carcinomas do not usually respond to Efudix therapy. It should be used only as a palliative therapy in such cases where no other form of treatment is possible **For anogenital warts** **Warticon Cream and Solution (Podophyllotoxin)** Indication: Topical treatment of condylomata acuminata affecting the penis or the external female genitalia. **Catephen 10% Ointment** Indication: Cutaneous treatment of external genital and perianal warts (condylomataacuminata) in immunocompetent patients from the age of 18 years Note: Condyline 0.5% solution (podophyllotoxin) has been discontinued so would has been removed as an alternative option for anogenital warts indication. **Other therapies** Cryotherapy or other forms of physical ablative therapy (e.g., surgery, laser treatment) may also be considered for anogenital warts, particularly for patients with a small number of low-volume warts, irrespective of type. **Unlicensed Imports** Where the above licensed alternatives are not suitable, unlicensed supplies may be sourced, lead times vary. **Clinical Information** **Imiquimod preparations** Aldara 5% Cream is licensed for the topical treatment of: • External genital and perianal warts (condylomata acuminata) in adults • Small superficial basal cell carcinomas (sBCCs) in adults • Clinically typical, nonhyperkeratotic, nonhypertrophic actinic keratoses on the face or scalp in immunocompetent adult patients when size or number of lesions limit the efficacy and/or acceptability of cryotherapy and other topical treatment options are contraindicated or less appropriate

	Zyclara 3.75% cream is licensed for the topical treatment of clinically typical, nonhyperkeratotic, nonhypertrophic, visible or palpable actinic keratosis of the full face or balding scalp in immunocompetent adults when other topical treatment options are contraindicated or less appropriate. *In the USA, imiquimod (Zyclara) 3.75% cream is approved to treat external genital and perianal warts/condyloma acuminata in patients 12 years or older. **Medicine Supply Notification Number** MSN/2023/010
SHORTAGE: **Paracetamol suppositories**	**Anticipated re-supply date:** Paracetamol 60mg suppositories 5 April 2024 Paracetamol 125mg suppositories 6 October 2023 Paracetamol 240mg suppositories 14 July 2023 Paracetamol 250mg suppositories 6 October 2023 **Actions** Where patients have insufficient supplies of paracetamol 125mg or 240mg suppositories to last until the re-supply date, clinicians and pharmacy teams should: • review patients to determine if this is still the most suitable therapy or whether alternative presentations of paracetamol (e.g., liquid) may be appropriate • consider prescribing paracetamol 120mg in place of 125mg suppositories during this time • consider prescribing paracetamol 250mg in place of 240mg suppositories until back in stock in July • consider prescribing paracetamol 240mg in place of 250mg suppositories from August; and • counsel patients regarding the change in strength of the suppositories Where patients have insufficient supplies of paracetamol 60mg suppositories to last until the re-supply date, and liquid formulation is not suitable, clinicians and pharmacy teams should: • consider prescribing paracetamol 120mg suppositories to be halved lengthwise (off-label use) to provide a 60mg dose, and ensure the carer is able to carry out this manipulation • write the prescription clearly to emphasise only half of a 120mg suppository should be administered, with the carer counselled on dosing and administration, and • if halving a 120mg suppository is not appropriate, consider whether a dose change to 80mg is appropriate, as unlicensed supplies of 80mg suppositories (indicated for use in children from the age of 3 months) may be sourced (see supporting information below).

	Consider prescribing unlicensed products only where the alternative approach outlined above is not appropriate. Prescribers should work with local pharmacy teams to ensure orders are placed within appropriate time frames as lead times may vary (see supporting information below), and if the above options are not considered appropriate, advice should be sought from specialists on management options. **Alternatives** **Licensed products** The following products remain available: • Paracetamol 120mg suppositories • Paracetamol 500mg and 1000mg suppositories (Typharm) **Unlicensed products** The following unlicensed paracetamol suppositories are available from specialists importers (please note there may be other companies that can also source supplies): **Paracetamol 60mg suppositories** • Alium • Orifarm **Paracetamol 80mg suppositories** • Mawdsleys **Paracetamol 125mg suppositories** • BAP Pharma • Mawdsleys • Orifarm **Paracetamol 240mg suppositories** • Mawdsleys **Paracetamol 250mg suppositories** • BAP Pharma • Mawdsleys • Orifarm **Supply summary** • Paracetamol 60mg suppositories are out of stock until w/c 1st April 2024. • Paracetamol 125mg suppositories are out of stock until October 2023. • Paracetamol 240mg suppositories are out of stock until w/c 10th July 2023. • Paracetamol 250mg suppositories will be out of stock from August 2023 until October 2023. **Clinical Information** Paracetamol suppositories are licensed for mild to moderate pain and pyrexia in children. The 60 mg suppositories are licensed for use in children aged up to 1 year. The 120mg and 240mg suppositories are licensed for 1 year and over. The dose difference between paracetamol 120mg and 125mg suppositories and between paracetamol 240mg and 250mg suppositories is negligible in context of the overall dosing schedule. The BNFc has no clinical or licensing concerns if switching between

	paracetamol 120mg and 125mg or between 240mg and 250mg suppositories. Halving suppository (off-label use) Distribution of the active substance is not always uniform in a suppository and there may be a greater concentration of drug in the tip therefore it is advisable to cut the suppository in half lengthwise. **Medicine Supply Notification** **MSN/2023/062**
SHORTAGE: **Estriol (Imvaggis) 0.03mg pessary**	**Anticipated re-supply date:** 21 July 2023 **Actions for prescribers:** Where patients have insufficient supplies to last until the re-supply date, prescribers should: • review patients to determine if this is still the most suitable therapy; • consider prescribing an alternative estriol vaginal product (or estradiol 10mcg vaginal tablets if alternative estriol products are not suitable), ensuring that the patient is not intolerant to any of the excipients, and is counselled on administration, dosing, and potential side effects (see supporting information below). **Alternatives** **Oestrogen containing vaginal HRT products:** Please note, the only indications included below are those that are in common with Imvaggis 0.03mg pessary. **Imvaggis 0.03mg pessary** Indication: Local treatment of vaginal symptoms of oestrogen deficiency in postmenopausal women. Active Ingredient: Estriol Strength: 0.03mg per pessary Dose per application: 0.03mg estriol Dosing instructions: During the first 3 weeks of treatment one pessary is administered daily. Thereafter a maintenance dose of 1 pessary twice a week is recommended. **Ovestin 1mg cream** Indication: Treatment of symptoms of vaginal atrophy due to oestrogen deficiency in postmenopausal women. Active Ingredient: Estriol Strength: 0.1% (1mg per 1g) Dose per application: 1 applicator dose (0.5g of cream) = 0.5mg estriol Dosing instructions: 1 application per day for the first weeks (maximally 4 weeks), followed by a gradual reduction, based on relief of symptoms, until a maintenance dosage (e.g.1 application twice a week) is reached. **Estriol 0.01% cream** Indication: Hormone replacement therapy for treatment of atrophic vaginitis and kraurosis in postmenopausal women. Active Ingredient: Estriol Strength: 0.01% (100micrograms per 1g)

	Dose per application: 1 applicator dose (5mL of cream) = 0.5mg estriol Dosing instructions: 1 application per day initially, followed by a dose of 1 application twice a week for maintenance. Excipients: include arachis oil and benzoic acid **Estradiol 10mcg vaginal tablet** Indication: Treatment of vaginal atrophy due to oestrogen deficiency in postmenopausal women Active Ingredient: Estradiol Strength: 10microgram per vaginal tablet Dose per application: 10microgram estradiol Dosing instructions: Initial dose: One vaginal tablet daily for two weeks. Maintenance dose: One vaginal tablet twice a week. **Considerations and background** **Clinical Information** Imvaggis 0.03mg pessary is licensed for local treatment of vaginal symptoms of oestrogen deficiency in postmenopausal women. Adverse effects reported by the manufacturers of intravaginal oestrogens include vulvovaginal discomfort, headache, abdominal pain, nausea and vomiting, and oestrogen-related adverse events (e.g. breast pain, postmenopausal bleeding). Patients should seek advice from prescriber If breakthrough bleeding or spotting occurs after switching treatment, or if they experience other side effects that do not subside. **Medicine Supply Notification Number** MSN/2023/041
SHORTAGE: **Diazepam 10mg/2.5ml rectal solution tube**	**Anticipated re-supply date:** 18 August 2023 **Actions for prescribers:** Where supply of diazepam 10mg/2.5ml rectal solution tubes are not available, clinicians should: • review patients and consider prescribing midazolam oromucosal solution which can support the market during this time, ensuring that the patient is not intolerant to any of the excipients and parent/carer is counselled on the appropriate dose and volume required, and advised on how to administer the dose • if midazolam oromucosal solution is not appropriate, consider prescribing diazepam 5mg/2.5ml rectal solution tubes to make up the dose required for the patient: – The parent or carer will need to be counselled on the number of rectal tubes to administer to make up the required dose and reminded that they will need to repeat this process for any subsequent doses • consider prescribing unlicensed diazepam 10mg/2.5ml rectal solution tubes only where licensed alternatives are not appropriate; and • if the above options are not considered appropriate, advice should be sought from specialists for individualised review and consideration of alternative management options. Ambulance service staff should: • use diazepam 5mg/2.5ml rectal solution tubes to make up the dose required for the patient.

	Alternatives: The following midazolam oromucosal solution pre-filled syringes remain available and can support an uplift in demand: • Midazolam 2.5mg/0.5mL oromucosal solution pre-filled syringes • Midazolam 5mg/1mL oromucosal solution pre-filled syringes • Midazolam 7.5mg/1.5mL oromucosal solution pre-filled syringes • Midazolam 10mg/2 mL oromucosal solution pre-filled syringes The following specialist importers have confirmed they can source unlicensed diazepam 10mg/2.5ml rectal solution tubes (please note there may be other companies that can also source supplies): • Orifarm
SHORTAGE: **Clarithromycin 125mg/5ml and 250mg/5ml oral suspension**	**Anticipated re-supply date :** 28 July 2023 **Actions for pharmacists** Where a prescription for clarithromycin 125mg/5ml or 250mg/5ml oral suspension is presented and cannot be fulfilled community pharmacists and dispensing doctors should: • supply an alternative clarithromycin preparation where available and according to the products specified in SSP053 or SSP054. • ensure the patients age, weight (where appropriate), cautions and exclusion criteria are taken into account when considering using an SSP; and • ensure patients/parents/carers are counselled regarding any switch in formulation including the appropriate dose and volume of the substitute product; • ensure the patient's prescriber and/or GP practice is notified when supplying a patient in accordance with any of these SSPs; and • if the patient is deemed ineligible or does not consent to receive an alternative product via the SSP, they should be promptly referred back to the prescriber. **Actions for prescribers** Remaining clarithromycin oral suspensions should be reserved for patients prescribed doses lower than clarithromycin 250mg as these doses cannot be substituted with the 250mg tablets. • Consider use of clarithromycin tablets in the first instance if suitable (see Supporting information below) • If clarithromycin tablets are not suitable, and clarithromycin is the most appropriate antibiotic, consider prescribing clarithromycin oral suspension, working with local pharmacy teams to understand availability; and • If the above options are unsuitable or unavailable, consider prescribing an alternative antibiotic taking into account any allergies and referring to local guidance.
SHORTAGE:	**Anticipated re-supply date:** 28 June 2024 **Actions**

Liraglutide (Victoza) 6mg/ml solution for injection	**See Shortage of GLP-1 receptor agonists used in the management of type 2 diabetes (semaglutide, dulaglutide, liraglutide, exenatide).** **Considerations and background** Supply overview There are very limited, intermittent supplies of all glucagon-like peptide-1 receptor agonists (GLP-1 RAs) licensed in the management of Type 2 Diabetes Mellitus (T2DM) • Supply is not expected to return to normal until at least mid-2024. • The supply issues have been caused by an increase in demand for these products for licensed and off-label indications. Prescribing available GLP-1 receptor agonists, available on the SPS website, will be regularly updated with the current supply situation. Medicine Supply Notification Number MSN/2023/061 ○
SHORTAGE: **GLP-1 receptor agonists used in the management of type 2 diabetes (semaglutide, dulaglutide, liraglutide, exenatide)**	**Anticipated re-supply date:** 28 June 2024 **Actions** See below for the full list of glucagon-like-peptide -1 receptor agonists (GLP-1 RAs) affected. Actions for clinicians until supply issues have resolved: • GLP-1 RAs should only be prescribed for their licensed indication. • Avoid initiating people with type 2 diabetes mellitus (T2DM) on GLP-1 RAs for the duration of the GLP1-RA national shortage. • Review the need for prescribing a GLP-1 RA agent and stop treatment if no longer required due to not achieving desired clinical effect as per NICE NG28. • Avoid switching between brands of GLP-1 RAs, including between injectable and oral forms. • Where a higher dose preparation of GLP-1 RA is not available, do not substitute by doubling up a lower dose preparation. • Where GLP-1 RA therapy is not available, proactively identify patients established on the affected preparation and consider prioritising for review based on the criteria below. • Where an alternative glucose lowering therapy needs to be considered, use the principles of shared decision making as per NICE guidelines in conjunction with the Clinical Guidance below. • Where there is reduced access to GLP-1 RAs, support people with type 2 diabetes to access to structured education and weight management programmes where available. • Order stocks sensibly in line with demand during this time, limiting prescribing to minimise risk to the supply chain whilst acknowledging the needs of the patient. **Considerations and background** **Supply Overview**

	• There are very limited, intermittent supplies of all GLP-1 RAs licensed in the management of T2DM. See full list of affected GLP-1 RAs below. • Supply is not expected to return to normal until at least mid-2024. • The supply issues have been caused by an increase in demand for these products for licensed and off-label indications. Prescribing available GLP-1 receptor agonists, available on the SPS website, will be regularly updated with the current supply situation. **Clinical Guidance** This guidance aims to support clinicians in choosing suitable alternative glucose lowering therapies to GLP-1 RAs during this period of national shortage. Clinical Guidance from the Primary Care Diabetes Society (PCDS) and Association of British Clinical Diabetologists (ABCD) should be used in conjunction with NICE NG28 Type 2 Diabetes in Adults: choosing medicines. When prescribing an alternative class of glucose lowering therapy, clinicians are advised to use medicines across the class evenly to mitigate the potential for further national shortages. This guidance does not override the responsibility of the clinician to make decisions appropriate to the circumstances of the individual, in consultation with them and their carers or guardians. Clinical supervision is essential for switching between a GLP-1 RA and any other treatment for diabetes to avoid detrimental glycaemic events. **Clinical Review** In most cases, the need to consider alternative glucose lowering therapy will arise when a person with T2DM established on GLP-1 RA therapy is unable to source their regular prescription. Should a particular preparation of GLP-1 RA be unavailable, clinical teams may want to proactively identify people with T2DM established on that preparation to help planning. Consider prioritising review for people with T2DM on the affected GLP-1 RA preparation where: • HbA1c greater than 86mmol/mol in the previous 3 to 6 months • HbA1c greater than 86mmol/mol prior to starting the GLP-1 RA • HbA1c not recorded in the previous 6 months • urine albumin creatinine ratio (uACR) greater than 30mg/mmol • self-monitoring glucose readings (or Continuous Glucose Monitoring, where available) are persistently above individualised target range **When is a GLP-1 RA normally recommended?** If triple therapy with metformin hydrochloride and two other oral drugs is tried and is not effective, or is not tolerated or contra-indicated, a GLP-1 RA may be considered as part of a triple therapy regimen by switching one of the other drugs for a GLP-1 RA. These should only be considered for patients who have:

- a BMI of 35 kg/m^2 or above (adjusted for ethnicity) and who also have specific psychological or medical problems associated with obesity; or
- a BMI lower than 35 kg/m^2 and for whom insulin therapy would have significant occupational implications or if the weight loss associated with GLP-1 RAs would benefit other significant obesity related comorbidities

GLP-1 RA therapies with proven cardiovascular benefit (such as liraglutide) should be considered in patients with established cardiovascular disease.

After six months, the GLP-1 RAs should be reviewed and only continued if there has been a beneficial metabolic response (a reduction of at least 11 mmol/mol [1.0%] in HbA1c and a weight loss of at least 3% of initial body-weight).

Insulin should only be prescribed in combination with a GLP-1 RA under specialist care advice and with ongoing support from a consultant-led multidisciplinary team.

Please refer to Clinical Guidance developed by the Primary Care Diabetes Society (PCDS) and Association of British Clinical Diabetologists (ABDC)

Clinical Expertise sought from Hannah Beba[1], Ketan Dhatariya[2], Jane Diggle[3], Clare Hambling[4], Nicola Milne[5], Philip Newland-Jones[6]

1. Consultant Pharmacist, Diabetes, Primary Care Diabetes Society
2. Consultant in Diabetes & Endocrinology and Chair, Association of British Clinical Diabetologists
3. Diabetes Advance Nurse Practitioner and Co-Vice Chair Primary Care Diabetes Society
4. General Practitioner and Chair, Primary Care Diabetes Society
5. Diabetes Specialist Nurse, Primary Care Diabetes Society
6. Consultant Pharmacist, Diabetes & Endocrinology, University Hospital Southampton NHSFT

GLP-1 RAs affected

Semaglutide injection

- Ozempic 0.25 mg solution for injection in pre-filled pen
- Ozempic 0.5mg solution for injection in pre-filled pen
- Ozempic 1mg solution for injection in pre-filled pen

Indication:

Type 2 diabetes mellitus as monotherapy (if metformin inappropriate), or in combination with other antidiabetic drugs (including insulin) if existing treatment fails to achieve adequate glycaemic control

Semaglutide tablets

- Rybelsus 3mg tablets
- Rybelsus 7mg tablets
- Rybelsus 14mg tablets

Indication:

Oral GLP-1 RA licensed for the treatment of adults with insufficiently controlled type 2 diabetes mellitus as an adjunct to diet and exercise:

- as monotherapy when metformin is considered inappropriate due
  to intolerance or contraindications

	• in addition to other medicinal products for the treatment of diabetes. **Dulaglutide** • Trulicity 0.75 mg solution for injection in pre-filled pen • Trulicity 1.5 mg solution for injection in pre-filled pen • Trulicity 3 mg solution for injection in pre-filled pen • Trulicity 4.5 mg solution for injection in pre-filled pen **Indication:** Type 2 diabetes mellitus as monotherapy (if metformin inappropriate). Type 2 diabetes mellitus in combination with other antidiabetic drugs (including insulin) if existing treatment fails to achieve adequate glycaemic control. **Liraglutide** • Victoza 6mg/ml solution for injection in prefilled pen **Indication:** Type 2 diabetes mellitus as monotherapy (if metformin inappropriate), or in combination with other antidiabetic drugs, (including insulin) if existing treatment fails to achieve adequate glycaemic control. • Saxenda 6mg/ml solution for injection in prefilled pen **Indication:** Adjunct in weight management [in conjunction with dietary measures and increased physical activity in individuals with a body mass index (BMI) of 30 kg/m^2 or more, or in individuals with a BMI of 27 kg/m^2 or more in the presence of at least one weight-related co-morbidity. **Exenatide** • Byetta 5micrograms/0.02ml solution for injection 1.2ml pre-filled pens • Byetta 10micrograms/0.04ml solution for injection 1.2ml pre-filled pens • Bydureon 2mg/0.85ml prolonged-release suspension for injection 1.2ml pre-filled pens **Indication:** Type 2 diabetes mellitus in combination with other antidiabetic drugs (including insulin) if existing treatment fails to achieve adequate glycaemic control
SHORTAGE: **Cycloserine 250mg capsules**	**Anticipated re-supply date :** 4 August 2023 **Actions for prescribers:** NHS Provider Trust pharmacy procurement teams and any outsourced partners should work with clinical teams (including specialist teams from Respiratory and Infectious disease) to: • review current stock holding of cycloserine 250mg capsules • consider prescribing unlicensed imports of either cycloserine 250mg capsules or terizidone 250mg tablets based on local preferences and availability for newly initiated patients or patients with insufficient supplies to complete their treatment course (see supporting information below)

- consider switching to use an alternative medicine, where unlicensed imports of either cycloserine or terizidone are not considered appropriate (see supporting information below)
- ensure patients are appropriately monitored and counselled regarding any changes to their medicines and where to seek advice if needed (see supporting information below)

Alternatives

The only other alternative to cycloserine is terizidone (group B) which is a derivative of cycloserine.

A group C drug (as per WHO regimen) can be added in place of cycloserine, however, this may not be as efficacious.

Unlicensed Imports

The following specialist importers have confirmed they can source unlicensed cycloserine 250mg capsules – please note there may be other companies that can also source supplies:

- Alium Medical
- BAP Pharma
- Clinigen
- Smartway
- Target Healthcare Ltd

The following specialist importers have confirmed they can source unlicensed terizidone 250mg tablets – please note there may be other companies that can also source supplies:

- BAP Pharma
- Clinigen
- Durbin
- Mawdsleys
- Target Healthcare Ltd
- Smartway

Prescribers should work with local pharmacy teams to ensure orders are placed within appropriate time frames as lead times may vary.

Summary

- TB treatments are prescribed and supplied via secondary care specialist and pharmacy teams. The actions required are therefore focussed on NHS Provider Trusts.
- Primary care, including health and justice and community pharmacy colleagues should be aware of this shortage. If they are approached by patients about it, they should refer the patient to the secondary care team for review.

Supporting information

Clinical Recommendations on alternatives

British Thoracic Society, expert advice:

- Cycloserine is indicated for treatment of multi-drug resistant tuberculosis (MDR TB) and is included as one of the first line drugs in the World Health Organisation (WHO) regimen within group B. Therefore, all patients should be offered cycloserine as part of the treatment regimen when a new diagnosis of MDR TB is made.
- The only other alternative to cycloserine is terizidone (group B) which is a derivative of cycloserine.

	• Terizidone is a structural analogue that is a combination of two cycloserine molecules. It is thought to undergo hydrolysis of imine groups in terizidone to cycloserine and para-phthalate. • Terizadone is not currently licensed in the UK. Unlicensed imports have been sourced. • Cycloserine and terizidone are considered to be interchangeable and therapeutically equivalent but monitoring cycloserine levels is advised as there may be differences in bioavailability and doses may need to be adjusted. Advice regarding monitoring requirements can be accessed via TB Drug Monographs cycloserine and TB Drug Monographs terizidone. • A group C drug (as per WHO regimen) can be added in place of cycloserine, however, this may not be as efficacious. • Therefore, the recommendation is that unlicensed supplies of either cycloserine or terizidone should be used as the initial alternative option before choosing another agent. • The choice between cycloserine and terizidone should depend on clinician and patient preference and ability of local pharmacy to source either medicine via importers. **Guidance on ordering and prescribing unlicensed imports** Any decision to prescribe an unlicensed medicine must consider the relevant guidance and NHS Trust or local governance procedures. Please see the links below for further information: • The supply of unlicensed medicinal products, Medicines and Healthcare products Regulatory Agency (MHRA) • Professional Guidance for the Procurement and Supply of Specials, Royal Pharmaceutical Society (RPS) • Prescribing unlicensed medicines, General Medical Council (GMC) **Medicine Supply Notification Number** MSN/2022/103
SHORTAGE: **Semaglutide (Ozempic and Rybelsus) presentations**	**Anticipated re-supply date** 28 June 2024 **Medicines affected** Medicine Anticipated re-supply date Ozempic 0.5mg/0.37ml solution for injection 1.5ml pre-filled pens (Novo Nordisk Ltd) 1 pre-filled disposable injection – Ozempic 1mg/0.74ml solution for injection 3ml pre-filled pens (Novo Nordisk Ltd) 1 pre-filled disposable injection – Ozempic 0.25mg/0.19ml solution for injection 1.5ml pre-filled pens (Novo Nordisk Ltd) 1 pre-filled disposable injection – Rybelsus 3mg tablets (Novo Nordisk Ltd) – Rybelsus 7mg tablets (Novo Nordisk Ltd) –

	Show all 6 medicines affected **Actions** See Shortage of GLP-1 receptor agonists used in the management of type 2 diabetes (semaglutide, dulaglutide, liraglutide, exenatide). **Considerations and background** **Supply overview** There are very limited, intermittent supplies of all glucagon-like peptide-1 receptor agonists (GLP-1 RAs) licensed in the management of Type 2 Diabetes Mellitus (T2DM) • Supply is not expected to return to normal until at least mid-2024. • The supply issues have been caused by an increase in demand for these products for licensed and off-label indications. Prescribing available GLP-1 receptor agonists, available on the SPS website, will be regularly updated with the current supply situation. **Medicine Supply Notification Number** MSN/2023/061
SHORTAGE: **Dulaglutide (Trulicity) 0.75mg, 1.5mg, 3mg and 4.5mg solution for injection devices**	**Anticipated re-supply date:** 3 June 2024 **Medicines affected** Medicine Anticipated re-supply date Trulicity 0.75mg/0.5ml solution for injection pre-filled pens (Eli Lilly and Company Ltd) – Trulicity 1.5mg/0.5ml solution for injection pre-filled pens (Eli Lilly and Company Ltd) – Trulicity 3mg/0.5ml solution for injection pre-filled pens (Eli Lilly and Company Ltd) – Trulicity 4.5mg/0.5ml solution for injection pre-filled pens (Eli Lilly and Company Ltd) – **Actions** See Shortage of GLP-1 receptor agonists used in the management of type 2 diabetes (semaglutide, dulaglutide, liraglutide, exenatide). **Considerations and background** **Supply overview** There are very limited, intermittent supplies of all glucagon-like peptide-1 receptor agonists (GLP-1 RAs) licensed in the management of Type 2 Diabetes Mellitus (T2DM) • Supply is not expected to return to normal until at least mid-2024. • The supply issues have been caused by an increase in demand for these products for licensed and off-label indications. Prescribing available GLP-1 receptor agonists, available on the SPS website, will be regularly updated with the current supply situation. **Medicine Supply Notification Number** MSN/2023/061
SHORTAGE:	**Anticipated re-supply date:** 30 October 2024

Bismuth subsalicylate (Pepto-Bismol)	**Medicines affected** Medicine Anticipated re-supply date Bismuth subsalicylate 17.5mg/1ml oral suspension sugar free 30 October 2024 Bismuth subsalicylate 262.5mg chewable tablets sugar free 30 October 2024 **Alternatives** Alternative medicines for acid reflux, indigestion, diarrhoea and nausea remain available.
DISCONTINUATION: **Acetylcholine chloride (Miochol-E) 20 mg powder and solvent for solution for intraocular irrigation vials**	**Discontinuation** 31 July 2023 **Medicines affected** Miochol-E 20mg powder and solvent for solution for intraocular irrigation vials (Bausch & Lomb UK Ltd) **Alternatives** Miphtel 20mg powder and solvent for solution for intraocular irrigation ampoules will continue to remain available and can meet the increase in demand. **Considerations and background** **Clinical Information** Acetylcholine powder is reconstituted with the solvent provided to make a 1% solution. The solution is used for intraocular irrigation in the anterior chamber of the eye during surgery. It is used to obtain rapid and complete miosis after delivery of the lens in cataract surgery as well as in penetrating keratoplasty, iridectomy and other anterior segment surgery where rapid complete miosis is required.
SHORTAGE: **Aspirin Suppositories**	**Discontinuation date:** 4 August 2023 **Actions** **Clinicians should** • review all patients on aspirin suppositories and switch patients to oral therapy if possible; • consider using an alternative licensed medication(s) where a switch to oral therapy is not possible; • prescribe appropriate Specials or unlicensed imports where the above actions are not considered appropriate (see information below). **Alternatives** Use oral therapy if possible. Consider an alternative licensed medication where oral therapy is not possible. Use specials or unlicensed imports where licensed alternatives are not considered appropriate (see information below) **Considerations and background** **Clinical Information**

	Aspirin suppositories are licensed for the treatment of mild to moderate pain, pyrexia due to colds and influenza, and musculoskeletal pain and inflammation. They are also used off-label for their antiplatelet effect (e.g., after a stroke or MI) in patients who cannot swallow oral medicines, including those who do not have an enteral feeding tube in situ. **Specials** The following companies have indicated they can supply specials of aspirin suppositories (please note, there may be other companies that can manufacture supplies): • Mandeville Medicines • PCCA **Unlicensed imports** The following importer companies have indicated they can source supplies of aspirin suppositories (please note, there may be other companies that can also source supplies): • Alium Medical Pharma • Smartway Pharma • UL Global • Target • Mawdsleys Any decision to prescribe an unlicensed medicine must consider the relevant guidance and NHS Trust or local governance procedures. Please see the links below for further information: • The supply of unlicensed medicinal products, Medicines and Healthcare products Regulatory Agency (MHRA); • Professional guidance for the procurement and supply of specials, Royal Pharmaceutical Society (RPS); and • Prescribing unlicensed medicines, General Medical Council (GMC). Please see the following links for further information: • SmPC aspirin 150mg suppositories • SmPC aspirin 300mg suppositories **Medicines Supply Notification Number** MSN/2022/004
SHORTAGE: **Amiodarone 300mg/10ml solution for injection pre-filled syringes**	**Anticipated re-supply date:** 31 August 2023 **Actions** NHS provider Trust and ambulance service pharmacy procurement teams and clinical teams alongside medication safety officers and local resuscitation committees should: • review local stock holding of amiodarone 300mg/10ml solution for injection/infusion in a pre-filled syringe • conduct a local risk assessment to ensure appropriate safeguards are in place to utilise amiodarone 150mg/3ml solution for injection ampoules in place of syringes in all clinical settings including use in emergency resuscitation • produce appropriate guidance to support clinical staff who may need to administer amiodarone in an emergency setting

	• consider reserving remaining supplies of amiodarone 300mg/10ml solution for injection/infusion in a pre-filled syringe for use in clinical areas deemed most high risk from the local risk assessment • produce supporting documentation to facilitate local implementation of the switch such as a checklist to ensure adequate communication of the supply issue, local auditing, and sensible distribution of existing supplies **Alternatives** Amiodarone 150mg/3ml solution for injection ampoules remain available and can support an uplift in demand.
SHORTAGE: **Tacrolimus (Dailiport) 5mg modified-release capsules**	**Anticipated re-supply date:** 15 September 2023 **Actions** NHS provider Trust pharmacy procurement teams in affected regions, working with the appropriate clinical specialists and their local pharmacy homecare lead should: • ensure no new patients are initiated on Dailiport (tacrolimus) 1mg, 2mg, 3mg and 5mg prolonged-release hard capsules until the issue is resolved • review local stock holding of Dailiport (tacrolimus) 5mg prolonged-release hard capsules and ensure remaining supplies are reserved for use in patients already initiated on this brand • prescribe and dispense Daliport (tacrolimus) 1mg and 2mg prolonged-release hard capsules where there is insufficient supply of the 5mg strength to maintain established patients on this brand • ensure patients who are switched to Daliport (tacrolimus) 1mg and 2mg prolonged-release hard capsules understand how to make up dosage using these lower strength capsules **Alternatives** • Dailiport (tacrolimus) 1mg and 2mg prolonged-release hard capsules **ONLY** remain available and can support a full uplift in demand for patients already established on Dailiport (tacrolimus) 5mg prolonged-release hard capsules • Dailiport (tacrolimus) 3mg prolonged-release hard capsules remain available but are **unable** to support any uplift in demand • Advagraf (tacrolimus) 1mg, 2mg, 3mg and 5mg prolonged-release capsules remain available and can support an uplift in demand. • alternate brands of tacrolimus immediate release (Adoport and Prograf) capsules remain available
SHORTAGE: **Estradiol (Progynova TS) 100micrograms/24hours transdermal patches**	**Anticipated re-supply date:** 8 September 2023 **Medicines affected**

	Progynova TS 100micrograms/24hours transdermal patches (Bayer Plc) 8 September 2023 **Actions** For patients with insufficient supplies of estradiol (Progynova TS) 100micrograms/24hours transdermal patches: • community pharmacists may supply FemSeven (estradiol) 100mcirograms/24hours transdermal patches in accordance with the Serious Shortage Protocol (SSP) for Progynova TS 100micrograms/24hours patches for eligible patients (see Supporting Information); • pharmacists must ensure that the patient's prescriber and/or GP practice is notified when supplying a patient in accordance with this SSP; and • if the patient is deemed ineligible or does not consent to receive an alternative product via the SSP, they should be referred to the prescriber to establish if ongoing treatment is required and switch to an alternative hormone replacement therapy (HRT), taking into consideration wider supply issues. **Alternatives** FemSeven (estradiol) 100mcirograms/24hours transdermal patches remain available and can support a full uplift in demand. **Considerations and background** **Supporting Information** An SSP for Estradiol (Progynova TS) 100microgram/24hours patches was issued on 28/03/2023. DHSC will continue to provide updates on HRT stock availability on the Medicine Supply Tool and designated 'Prescribing available HRT products' page on the Specialist Pharmacy Service (SPS) website. **Medicines Supply Notification Number** MSN/2023/035
SHORTAGE: **Irinotecan hydrochloride 330mg/ 220ml and 360mg/ 240ml bags**	**Anticipated re-supply date:** Irinotecan 330mg/220ml infusion bags (Sun Pharmaceutical Industries Europe B.V.) 29 July 2023 Irinotecan 360mg/240ml infusion bags (Sun Pharmaceutical Industries Europe B.V.) 29 July 2023 **Actions** NHS provider Trust pharmacy procurement teams, Aseptic units and their local Medication Safety Officer should: • assess current stock holding of irinotecan hydrochloride 330mg/ 220ml bags and 360mg/ 240ml bags to ensure current stock levels are correctly recorded in pharmacy systems • consider placing orders of irinotecan hydrochloride 330mg/ 220ml bags and 360mg/ 240ml bags from commercial compounders where there are insufficient supplies during this period (see Supporting Information); or • consider in-house aseptic preparation of irinotecan hydrochloride 330mg/ 220ml and 360mg/ 240ml bags for the duration of this shortage, ensuring work systems including

	appropriate documentation and worksheets are updated to support this **Alternatives** The following suppliers can provide a full uplift in demand with the following vials sizes. **Accord** Irinotecan 1000mg/50ml vials **Consilient** Irinotecan 40mg/ 2ml, 100mg/5ml, 300mg/15ml vials **Fresenius Kabi** Irinotecan 100mg/5ml, 300mg/15ml, 500mg/25ml vials **Pfizer** Campto (Irinotecan) 40mg/ 2ml ,100mg/5ml, 300mg/15ml vials **Seacross Pharmaceuticals LTD** Irinotecan 100mg/5ml, 300mg/15ml vials

SHORTAGE:
Pilocarpine hydrochloride 4% eye drops
	Anticipated re-supply date: 14 July 2023
	Actions
	NHS Provider Trust pharmacy procurement teams, ophthalmology teams and primary care prescribers should:
	• review patients on pilocarpine 4% eye drops for open angle glaucoma or ocular hypertension and establish if they have sufficient supplies until the resupply date. If patients require further supplies:
	  ○ consider prescribing pilocarpine 1% or 2% eye drops and adjusting the frequency to control the intraocular pressure; or
	  ○ consider other therapies if appropriate (such as prostaglandins, betablockers, alpha agonists and carbonic anhydrase inhibitors) to control intraocular pressure;
	• refer to the Royal College of Ophthalmology guidelines on the management of acute angle closure glaucoma and treat all patients (irrespective of eye colour) with a stat dose of pilocarpine 2% eye drops (along with other treatments as laid out in the guideline);
	• consider prescribing unlicensed (specials) pilocarpine 4% preservative free eye drops if the options above are not suitable (see Supporting Information); and
	• review patients prescribed pilocarpine 4% eye drops off-label as treatment for dry mouth in palliative care settings and consider prescribing pilocarpine 5mg tablets, which are licensed for xerostomia (see Supporting Information).
	Alternatives
	Licensed alternatives
	Alternative strengths of pilocarpine 1% and 2% eye drops remain available and will be able to support increased demand.
	For off-label use of the 4% drops in the treatment of xerostomia (dry mouth) in palliative care, pilocarpine 5mg tablets are available and are licensed for this indication.
	Unlicensed alternatives

	Specials of pilocarpine 4% preservative free eye drops are available if the licensed alternatives are not suitable. **Supporting information** Primary glaucoma is classified according to appearance of the iridocorneal angle. Aqueous humour drains mainly via the trabecular meshwork, in the iridocorneal angle. Depending on whether the iris is, or is not, occluding the angle, two variants are termed primary angle closure glaucoma (PACG) and primary open angle glaucoma (POAG) respectively. Pilocarpine eye drops are licensed for the treatment of: • chronic simple glaucoma • acute (closed angle) glaucoma alone, or in conjunction with other agents to decrease intra-ocular pressure prior to surgical treatment • miosis to counteract the effects of cycloplegic or mydriatic eye drops. There is no other topical miotic licensed in the UK for the treatment of glaucoma. In the treatment of open angle glaucoma, the dosage is usually one or two drops every six hours. The strength of the preparation and the frequency of use are determined by the severity of the condition and the response to treatment. When used prior to surgery for acute attacks of closed-angle glaucoma, the dosage is one drop every five minutes until miosis is obtained. To overcome weaker mydriatics, the normal dosage is one drop every five minutes until the effect is counteracted. **Acute angle closure glaucoma** Recent guidance from the Royal College of Ophthalmologists on the management of acute angle glaucoma recommends the use of a stat dose of 2% pilocarpine (along with other treatments) before performing laser treatment. It notes that although there are known differences in the behaviour of the iris between blue-eyed patients of Caucasian descent and brown-eyed patients of Asian and African descent, no race-specific management pathways have been developed or proven in objective research. **Primary open angle glaucoma and ocular hypertension** CKS guidance on the management of primary open angle glaucoma and ocular hypertension suggests that pilocarpine is one of a number of options that can be switched to or added in after first-line treatment is unsuccessful or not tolerated, but there are no recommendations on strength of product. It recommends that for acute angle closure crisis where immediate admission is not possible, one drop of 2% pilocarpine should be used for patients with blue eyes and one drop of 4% for those with brown eyes. This recommendation is based on guidance from the College of Optometrists, which acknowledges this is supported by low level of evidence. In practice, some clinicians may start patient on pilocarpine 2% and if it does not control the intraocular pressure, move to the 4% drops, and some may determine strength based on eye colour. Other clinicians are of the opinion that 4% eye drops may not be as well

	tolerated, may cause headaches and are not necessarily more effective than 2% eye drops. **Use in palliative care** Pilocarpine 4% eye drops are included in the Palliative Care Formulary (PCF) as an off-label treatment for dry mouth, particularly after radiotherapy for head and neck cancer. It is used as an alternative to pilocarpine tablets 5mg (3 drops of 4% solution contain 6mg of pilocarpine) as it is less costly, but the PCF notes the eye drops appear to be less effective and are not always acceptable to patients. **Medicines Supply Notification Number** MSN/2022/107
SHORTAGE: **Sulfasalazine 250mg/5ml oral suspension sugar free**	**Anticipated re-supply date:** 6 October 2023 **Actions** Where patients have insufficient supplies to last until the re-supply date, prescribers should: • consider prescribing non-enteric coated sulfasalazine 500mg tablets, which are scored, and so can be split to facilitate administration of whole dose, noting that halving the tablet to deliver 250mg dose or crushing the tablets and dispersing in water to deliver a part dose, would be an unlicensed manipulation (see Supporting Information below); • review patients taking doses that are not in increments of 250mg to consider a dose adjustment to increments of 250mg, where possible; • counsel patients on the benefits of using a pill splitter (which can be purchased from a pharmacy or other retail outlets) to ensure a dose as close to 250mg as possible could be obtained, if the decision is taken to halve the tablet; • if above options are not appropriate, consider prescribing unlicensed sulfasalazine 250mg/5ml oral suspension available from Specials manufacturers (see Supporting Information below). **Alternatives** **Licensed alternatives** Sulfasalazine 500mg non-enteric coated tablets remain available. **Unlicensed alternatives** The following Specials manufacturers have currently confirmed they can manufacturer sulfasalazine 250mg/5ml oral suspension (please note, there may be other companies that can also manufacture): • IPS Pharma • Nova Labs • Rokshaw **Supporting information** Non-enteric coated sulfasalazine 500mg tablets are scored to facilitate administration of the tablet as two halves in patients who may find it difficult to swallow the tablet whole. Halving the tablet to deliver a 250 mg dose would be an unlicensed manipulation. If the patient cannot swallow the half tablet, it could be crushed and mixed

	in 15 to 30 mL water or soft foodstuff and swallowed. This is also an unlicensed manipulation. **Information about halving tablets** A recently published systematic review of the concerns regarding tablet splitting concluded that with the exception of sustained-release tablets, which should not be split, and excepting those older people who may struggle to split tablets based on physical limitations, there is little evidence to support tablet-splitting concerns. The halving of tablets to ease administration, to deliver a 250mg dose or the crushing tablets and dispersing in water to deliver a part dose, falls outside of the product licence and therefore, prescribers must consider relevant guidance and NHS Trust or local governance procedures as well as consulting with the patient or their carer. **Guidance on ordering and prescribing unlicensed medicines** Any decision to prescribe an unlicensed medicine must consider the relevant guidance and NHS Trust or local governance procedures. Please see the links below for further information: • The supply of unlicensed medicinal products, Medicines and Healthcare products Regulatory Agency (MHRA) • Professional Guidance for the Procurement and Supply of Specials, Royal Pharmaceutical Society (RPS) • Prescribing unlicensed medicines, General Medical Council (GMC) **Medicines Supply Notification Number** MSN/2022/110
SHORTAGE: **Methylphenidate prolonged-release tablets**	**Anticipated re-supply date:** 28 July 2023 **Medicines affected** Xenidate XL 27mg tablets (Viatris UK Healthcare Ltd) 28 July 2023 **Actions** Where patients have insufficient supplies to last until the re-supply date, clinicians should: • consider prescribing alternative bioequivalent brands (see clinical information) that are available, ensuring that the patient is not intolerant to any of the excipients; • counsel patients to reassure them that Delmosart, Xaggitin XL and Xenidate XL tablets have a similar release profile to Concerta XL (see clinical information); and • reassure patients that any changes to their prescription will be short-term and for the duration of the supply issue only, and they have the option to switch back to their original brand once the supply issue is resolved or continue the brand they have been switched to. **Alternatives** The following branded generics remain available for the presentations listed below **Methylphenidate hydrochloride 18 mg prolonged-release tablet** • Concerta XL 18mg prolonged-release tablets • Xaggitin XL 18mg prolonged-release tablets

	• Delmosart 18mg prolonged-release tablets • Xenidate XL 18mg prolonged-release tablets **Methylphenidate hydrochloride 27 mg prolonged-release tablet** • Delmosart 27mg prolonged-release tablets • Xaggitin XL 27mg prolonged-release tablets • Concerta XL 27mg prolonged-release tablets **Methylphenidate hydrochloride 36 mg prolonged-release tablet** • Concerta XL 36mg prolonged-release tablets • Xenidate XL 36mg prolonged-release tablets • Delmosart 36mg prolonged-release tablets • Xaggitin XL 36mg prolonged-release tablets **Methylphenidate hydrochloride 54mg prolonged-release tablet** • Concerta XL 54mg prolonged-release tablets • Delmosart 54mg prolonged-release tablets • Xaggitin XL 54mg prolonged-release tablets • Xenidate XL 54mg prolonged-release tablets
SHORTAGE: **Estradiol valerate/medroxyprogesterone acetate (Indivina) 1mg/2.5mg tablets**	**Anticipated re-supply date:** 25 August 2023 **Medicines affected** Anticipated re-supply date Indivina 1mg/2.5mg tablets (Orion Pharma (UK) Ltd) 84 tablet 3 x 28 tablets 25 August 2023 **Actions** Prescribers should: • not initiate patients on Indivina 1mg/2.5mg tablets; • consider prescribing an alternative continuous combined HRT product containing estradiol 1mg but a different progestogen component to Indivina, ensuring that the patient is not intolerant to any of the excipients and is counselled on the appropriate dose (see Supporting Information below) • consider prescribing unlicensed products only where licensed alternatives are not appropriate. Prescribers should work with local pharmacy teams to ensure orders are placed within appropriate time frames as lead times may vary (see clinical information below). **Alternatives** The following alternative oral continuous combined hormone replacement therapies remain available and will be able to support increased demand: • Femoston Conti (estradiol 1mg/ dydrogesterone 5mg) tablets • Kliovance (estradiol 1mg/ norethisterone 500mcg) tablets • Bijuve (estradiol 1mg / progesterone 100 mg) capsules Where the above alternatives are not suitable, unlicensed supplies may be sourced, lead times vary. **Considerations and background** **Clinical Information** The British Menopause Society (BMS) provides guidance from clinical experts on switching to alternative continuous combined HRT product. In this, BMS does acknowledge “The equivalence data included in this practical guide were based on a combination of

	pharmacokinetics, clinical trials and clinical experience. The dose equivalents included are subject to significant individual variations in absorption and metabolism." When switching patients to an alternative HRT product, prescribers will consider symptom control, side effect profiles, breakthrough bleeds etc. The BMS also provides advice on managing side effects of oestrogen and progestogens where the options for progestogen side effects are: change the type of progestogen, reduce the dose if available, change the route of administration, alter the duration. **Unlicensed Imports** The following specialist importers have confirmed they can source unlicensed Indivina 1mg/2.5mg tablets (please note there may be other companies that can also source supplies): • Target Healthcare **Guidance on ordering and prescribing unlicensed imports** Any decision to prescribe an unlicensed medicine must consider the relevant guidance and NHS Trust or local governance procedures. Please see the links below for further information: • The supply of unlicensed medicinal products, Medicines and Healthcare products Regulatory Agency (MHRA) • Professional Guidance for the Procurement and Supply of Specials, Royal Pharmaceutical Society (RPS) • Prescribing unlicensed medicines, General Medical Council (GMC) **Medicines Supply Notification Number** MSN/2023/034
SHORTAGE: **Oxcarbazepine (Trileptal) 300mg and 600mg tablets**	**Anticipated re-supply date:** 14 July 2023 **Medicines affected** Anticipated re-supply date Trileptal 300mg tablets (Novartis Pharmaceuticals UK Ltd) 14 July 2023 Trileptal 600mg tablets (Novartis Pharmaceuticals UK Ltd) 14 July 2023 **Actions** **For primary care:** Where patients on Trileptal brand of tablets have insufficient supply to last until the re-supply date, clinicians/prescribers should: • identify patients on this brand for treatment of epilepsy and prioritise this group of patients for any remaining stock when issuing prescriptions, liaising with community pharmacy to establish availability • identify patients using this brand for off-label treatment of trigeminal neuralgia and prescribe the generic tablets in order to preserve supply of Trileptal for patients with epilepsy • for patients with epilepsy, if Trileptal brand tablets are not available and a switch is made to the generic product, monitor patients for adverse effects and worsening seizure control • reassure patients switched to a generic that they are receiving the same drug at the same dose, and to report any side effects (and/or loss of seizure control if used for epilepsy) after the switch; and

	• if the above options are not considered appropriate, advice should be sought from specialists on management options **For secondary care:** • ensure no new patients are initiated on Trileptal brand of tablets until the shortage has resolved • consider prescribing generic oxcarbazepine 150mg, 300mg and 600mg tablets **Alternatives** Generic oxcarbazepine 300mg and 600mg tablets remain available and will be able to support increased demand. Oxcarbazepine (Trileptal) 150mg tablets and generic oxcarbazepine 150mg tablets remain available but cannot support the increase in demand. Oxcarbazepine (Trileptal) 60mg/ml oral suspension remains available but cannot meet an increase in demand.
SHORTAGE: **Vigabatrin 500mg tablets**	**Anticipated re-supply date:** 10 July 2023 **Medicines affected** Anticipated re-supply date Sabril 500mg tablets (Sanofi) 10 July 2023 **Actions** **Actions for primary and secondary care:** Where patients have insufficient supplies to last until the re-supply date, all healthcare professionals in primary and secondary care who prescribe or dispense vigabatrin tablets should: • consider prescribing vigabatrin (Sabril) 500mg granules in the interim, ensuring that the patient is not intolerant to any of the excipients, is counselled that the dose remains unchanged, and is provided with advice on how to reconstitute the granules (see Supporting Information below) • advise patients to report any loss in seizure control and side effects after the switch; and • if the above options are not considered appropriate, seek advice from specialists on management options. **Alternatives** Vigabatrin (Sabril) 500mg granules remain available and can support a full uplift in demand. **Supporting information** **<u>Clinical Information</u>** Vigabatrin (Sabril) is licensed in combination with other antiepileptic medicines for the treatment of patients with resistant partial epilepsy with or without secondary generalisation, where all other appropriate medicinal product combinations have proved inadequate or have not been tolerated. It is also licensed as monotherapy in the treatment of infantile spasms (West's syndrome). No direct correlation exists between plasma concentration and efficacy; duration of effect is dependent on the rate of GABA transaminase resynthesis rather than the concentration of vigabatrin in the plasma.

	It is classified by the MHRA as a Category 3 antiepileptic agent, in that essentially, there is complete absorption after oral administration, dose-response curves for efficacy and safety are not steep, and therapeutic Index is not narrow. <u>Administration guidance and advice for vigabatrin granules</u> • Vigabatrin (Sabril) tablets and granules have identical licensed indications and dosing. • The granules are dissolved in half a glass of cold water or soft drink e.g. juice or milk. • The MHRA guidance on switching antiepileptic drugs notes differences between alternative products (e.g. packaging, appearance, and taste) may be perceived negatively by patients and/or carers, and may lead to dissatisfaction, anxiety, confusion, dosing errors, and reduced adherence. This should be taken into consideration when counselling patients switching to the granules.
SHORTAGE: **Micronised Progesterone (Utrogestan) 100mg capsules**	**Anticipated re-supply date:** 29 December 2023 **Medicines affected** Anticipated re-supply date Utrogestan 100mg capsules (Besins Healthcare (UK) Ltd) 29 December 2023 **Actions** Prescribers should consider prescribing quantities of 2 months or less for new and existing patients. Where patients present with a prescription for more than 2 months' supply of micronised progesterone (Utrogestan) 100mg capsules: • pharmacists should consider utilising SSP 056 to limit supply to a maximum of 2 months, where appropriate, providing stock is available, and advising patients on the current supply situation; • inform the patient's GP that supply of a smaller quantity has been made to ensure the patient's next prescription is provided sooner than expected; and • where supplies are unavailable, refer patients back to prescribers to consider alternative hormone replacement therapies; or • consider the use of unlicensed progesterone 100mg capsules. **Alternatives** Alternative licensed hormone replacement therapies remain available. The following specialist importers have also confirmed they can source unlicensed progesterone 100mg (Utrogest) capsules (please note there may be other companies that can also source supplies): • Alium Medical • Mawdsley's Unlicensed • Target Healthcare **Considerations and background** **Summary**

	There are intermittent supplies of micronised progesterone (Utrogestan) 100mg capsules until late 2023, resulting in brief periods every month when this product will be unavailable. To ensure that all patients have access to treatment, a Serious Shortage Protocol (SSP) has been issued on 19/05/2023 to limit the quantity of Utrogestan capsules supplied to patients to 2 months. **Medicine Shortage Notification** MSN/2023/052
SHORTAGE: **Bleomycin 15,000unit powder for solution for injection vials**	**Anticipated re-supply date:** 14 July 2023 **Medicines affected** Anticipated re-supply date Bleomycin 15,000unit powder for solution for injection vials (Accord Healthcare Ltd) 14 July 2023 **Actions** **Actions for pharmacy teams** Consider ordering unlicensed imports of bleomycin 15,000IU injection within good time since lead times are variable. **Alternatives** **Unlicensed imports** Unlicensed imports of bleomycin injection are available. The following specialist importers have currently confirmed they can source unlicensed bleomycin 15,000IU injection (please note, there may be other companies that can also source supplies): • Alium Medical • Ascot Labs • Clinigen • Durbin PLC • Mawdsley's Unlicensed • Smartway Pharma • Target Healthcare Ltd • UL Global Pharma • Waymade PLC • WEP Clinical • MedFind UK **Considerations and background** **Supply position** Kyowa Kirin has discontinued Bleo-Kyowa injection. Accord is currently out of stock. Considerations • The strength of any imports of bleomycin from the US is described and labelled as 15 USP units • 15 USP units of bleomycin are equivalent to 15,000 IU of bleomycin • Differences in nomenclature exist between the US and the UK **Ordering and prescribing unlicensed imports** Any decision to prescribe an unlicensed medicine must consider the relevant guidance and NHS Trust or local governance procedures. Please see the links below for further information. • Prescribing unlicensed medicines, General Medical Council (GMC)

	• The supply of unlicensed medicinal products, Medicines and Healthcare products Regulatory Agency (MHRA) • Professional guidance for the Procurement and Supply of Specials, Royal Pharmaceutical Society
All Serious Shortage Protocols (SPP's) can be found: https://www.nhsbsa.nhs.uk/pharmacies-gp-practices-and-appliance-contractors/serious-shortage-protocols-ssps **Shortage update taken from SPS Medicines Supply Toolkit on 06th July 2023. Information provided by DHSC and NHSEI Medicines Supply Teams and published on Specialist Pharmacy Services Medicines Supply Tool. Not formally reviewed by NHS Kent and Medway Medicines Optimisation. Practices are encouraged to register for access to the SPS website https://www.sps.nhs.uk/ and access this tool directly in real time.**	