SHORTAGE: **Rifampicin 150mg capsules**	**Anticipated re-supply date:** 29.12.23 **Actions for prescribers:** Primary care prescribers should: • consider prescribing rifampicin 100mg/5ml oral suspension, where appropriate. **Alternatives:** Rifampicin 100mg/5ml oral suspension. This can support an uplift in demand. Rifampicin 300mg capsules remain available. The following specialist importers have confirmed they can source unlicensed rifampicin 150mg capsules (please note there may be other companies that can also source supplies): • Alium Medical • Durbin • Mawdsleys • Q Med Pharma • Tanner Pharma **Considerations and background** **Supporting Information** Rifampicin is licensed for the treatment of tuberculosis, prophylaxis of meningococcal meningitis in close contact adult and paediatric patients, prophylaxis of Haemophilus influenzae type b disease in close contacts, and other infections including, brucellosis, legionnaires disease, leprosy, and serious staphylococcal infections. A 150mg rifampicin capsule is equivalent to 7.5ml of the oral suspension. For TB, the 450 mg daily dose is recommended for patients weighing up to 50 kg, which is equivalent to 22.5ml of the oral suspension. For DOT, a supervised regimen for patients with TB, those weighing up to 50 kg receive a dose of 600 mg three times a week. This is an alternative regimen using the 300 mg capsules. **Medicines Supply Notification** MSN/2023/104 **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)
SHORTAGE: **Hydrocortisone 0.5% cream** **(Essential Generics Ltd)**	**Anticipated re-supply date**: 26.01.24 **Alternatives:** Hydrocortisone 0.5% ointment remains available and can support a full uplift in demand.
SHORTAGE: **Estradiol valerate 1mg/ Medroxyprogesterone acetate 5mg (Indivina) tablets**	**Anticipated re-supply date:** 12.01.2024 **Actions** Prescribers should: • not initiate patients on Indivina 1mg/5mg tablets • consider prescribing an alternative continuous combined hormone replacement therapy (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 Supporting information below) **Alternatives** Alternative oral continuous combined HRT • Estradiol 1mg/ Dydrogesterone 5mg (Femoston Conti) tablets • Estradiol 1mg/ Norethisterone 500mcg (Kliovance) tablets • Estradiol 1mg / Progesterone 100 mg (Bijuve) capsules **Considerations and background** **Supporting information** 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. **Clinical Information** The British Menopause Society (BMS) provides guidance from clinical experts on switching to alternative continuous combined HRT products. 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. The following specialist importers have confirmed they can source unlicensed Indivina 1mg/5mg tablets (please note there may be other companies that can also source supplies): • Alium • Target **Medicine Supply Notification** **MSN/2023/084** **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) **Links** • British Menopause Society HRT preparations and equivalent alternatives • HRT- Practical Prescribing
SHORTAGE: **Voractiv (rifampicin 150 mg, isoniazid 75 mg, pyrazinamide 400 mg, ethambutol 275mg) tablets**	**Anticipated re-supply date:** End Jan 2024 **Please follow link for further information. Prescribed by specialist service.**
SHORTAGE:	**Anticipated re-supply date :** 28.06.2024

Olatuton (Octreotide) 10mg, 20mg and 30mg powder and solvent for prolonged-release suspension for injection	**Actions for prescribers:** See SPS link for actions for secondary care pharmacy procurement teams, working with the appropriate clinical specialists and their local pharmacy homecare lead and for homecare providers. **Alternatives:** Sandostatin LAR (octreotide) 10mg, 20mg 30mg powder and solvent for suspension for injections remain available and can support a full uplift in demand. Sandostatin LAR injections will be offered via a Novartis manufacturer sponsored homecare scheme from the 20th February 2023 exclusively via the homecare company, Pharmaxo UK. **Considerations and background** **Summary** • Supplies of Olatuton® (octreotide) 10mg, 20mg 30mg powder and solvent for prolonged-release suspension for injection are limited and will be unavailable long-term from February 2023 **Supporting information** Pharmaxo, Alcura and Lloyds Pharmacy Clinical Homecare are the current homecare providers for Olatuton10mg, 20mg, 30mg powder and solvent for prolonged-release suspension for injection. Pharmaxo, Alcura and LPCH have sufficient capacity to offer face to face and/or remote nurse led injection training and/or administration to all patients requiring extra support under an NHS funded service. Novartis are offering a sponsored homecare medicines service exclusively via Pharmaxo UK Limited. Novartis have issued a Dear Healthcare Professional Letter regarding the initiation of Sandostatin sponsored homecare medicines service Teva have issued a Dear Healthcare Professional Letter and Patient Letter regarding the issue affecting Olatuton 10mg, 20mg, 30mg powder and solvent for prolonged-release suspension for injection. **Medicine Supply Notification Number** MSN/2022/111**U** **Links** • **Octreotide 10mg, 20mg 30mg powder and solvent for prolonged release suspension for injection BNF** • **Olatuton (Octreotide) 10mg, 20mg 30mg powder and solvent for prolonged release suspension for injection SmPC** • **Sandostatin LAR (octreotide) 10mg, 20mg 30mg powder and solvent for suspension for injection SmPC**
SHORTAGE: Supply returning **Microgynon 30 ED tablets**	**Anticipated re-supply date:** 08.12.23 **Actions for prescribers:** **Clinicians should:** • Prescribe alternative brands of oral contraceptives that provide ethinylestradiol 30mcg and levonorgestrel 150mcg providing appropriate counselling to ensure the patient understands the difference between the ED regimen and the 21-day cycle regimen • If the above option is unsuitable and it is considered necessary to prescribe an ED presentation, prescribe an alternative contraceptive which comes as ED packs ensuring that the patient is not intolerant to any of the excipients **Alternatives** Alternative ethinylestradiol 30mcg and levonorgestrel 150mcg preparations (21-day pack) available: • Ambelina 150microgram/30microgram tablets • Elevin 150microgram/30microgram tablets • Levest 150/30 tablets

	• Maexeni 150microgram/30microgram tablets • Microgynon 30 tablets • Rigevidon tablets Alternative ED preparations: • Logynon ED • Femodene ED **Considerations and background** **Alternative ED preparations:** • Logynon ED involves taking ethinylestradiol 30mcg and levonorgestrel 150mcg on days 1-6 and days 12-21 but on days 7-11 the tablets contain ethinylestradiol 40mcg rather than 30mcg. Placebo tablets are provided for days 22-28 • Femodene ED contains 30mcg of ethinyloestradiol but the tablets contain gestodene instead of levonorgestrel. A switch to this oral contraceptive would seem more problematic as it may be associated with a slightly higher risk of VTE in the short-term at least and therefore should only be viewed as a 3rd line option in managing this shortage.
SHORTAGE: **Co-trimoxazole 40mg/200mg/5ml oral suspension sugar free**	**Anticipated re-supply date :** 02.02.2024 **Actions for prescribers:** All clinicians/prescribers should: consider prescribing co-trimoxazole 80mg/400mg/5ml oral suspension, which is able to support the market during this time, ensuring that the patient is not intolerant to any of the excipients, and is counselled on the appropriate dose and volume required (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 Supporting Information below); if the above options are not considered appropriate, advice should be sought from specialists on management options. **Alternatives** Co-trimoxazole **80mg/400mg/5ml** oral suspension is licensed for use in children aged >12 to <18 years and adults **Unlicensed imports** The following specialist importers have confirmed they can source unlicensed co-trimoxazole 40mg/200mg/5ml oral suspension sugar free (please note there may be other companies that can also source supplies): • Alium • Genetech • Mawdsleys • Orifarm • Target **Considerations and background** **Summary** Co-trimoxazole 40mg/200mg/5ml oral suspension sugar free is out of stock until early February 2024. Co-trimoxazole 80mg/400mg/5ml oral suspension remains available and can support increased demand Where this is not suitable, unlicensed supplies of co-trimoxazole 40mg/200mg/5ml oral suspension sugar free may be sourced, lead times vary **Supporting information** **Clinical Information**

	Co-trimoxazole **40mg/200mg/5ml** oral suspension sugar free is licensed for use in children aged 12 years and under (infants [>6 weeks to <2 years old] and children [>2 to <12 years old]). Co-trimoxazole **80mg/400mg/5ml** oral suspension is licensed for use in in children aged >12 to <18 years and adults. Co-trimoxazole 80mg/400mg/5ml oral suspension contains different excipients (see below) to co-trimoxazole 40mg/200mg/5ml oral suspension sugar free and may not be as palatable for some children. Patients with rare hereditary problems of fructose intolerance, glucose-galactose malabsorption or sucrose-isomaltase insufficiency should not take this medicine. However, in other patients, it may be considered for off-label use, once it is confirmed that the patient is not intolerant to any of the excipients, and patient/carer is counselled on the appropriate dose and volume required. **NOTE: 5ml of co-trimoxazole 40mg/200mg suspension = 2.5ml of co-trimoxazole 80mg/400mg suspension.** **Excipients specific to each presentation** Co-trimoxazole **40mg/200mg/5ml** oral suspension sugar free: • Sorbitol solution 70% (non crystallising) (E420 ii) • Sodium Carmellose • Sodium Benzoate (E211) • Flavour, Banana 81.605P Co-trimoxazole **80mg/400mg/5ml** oral suspension: • Syrup or sucrose • Sodium carboxymethylcellulose (E467) • Ammonium glycyrrhizinate • Star Anise Oil **Medicine Supply Notification Number** MSN/2023/103 **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) **Links** • **SmPC - Co-trimoxazole 40mg/200mg/5ml oral suspension** • **SmPC - Co-trimoxazole 80mg/400mg/5ml oral suspension** • **BNF – Co-trimoxazole**
SHORTAGE: **Lisdexamfetamine (Elvanse) capsules**	**Anticipated re-supply date :** 24.11.23 (70mg caps), 12.01.24 (30mg caps), 05.01.24 (40mg caps). Elvanse 20mg, Elvanse 50mg and Elvanse Adult 30mg capsules are back in stock. **Actions for prescribers:** A National Patient Safety Alert was issued on the 27 September 2023 for the shortage of methylphenidate prolonged-release capsules and tablets, lisdexamfetamine capsules, and guanfacine prolonged-release tablets. Please refer to the National Patient Safety Alert for information and advice. **Alternatives** The following specialist importers have confirmed they can source unlicensed imports of lisdexamfetamine (Vyvanse) capsules (please note there may be other companies that can also source supplies and lead times vary):

	• Alium • Target **Considerations and background** **Supply overview** DHSC will continue to provide updates on stock availability on the Medicine Supply Tool and designated 'Prescribing available medicines to treat ADHD' page on the Specialist Pharmacy Service (SPS) website. **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) **Links** • **SmPC Lisdexamfetamine**
SHORTAGE: **Levomepromazine 25mg and 50mg tablets** **(Morningside Healthcare Ltd)**	**Anticipated re-supply date :** 08.12.23 (25mg), 05.01.24 (50mg) **Actions for prescribers:** Where supply of generic levomepromazine 25mg tablets are unavailable, clinicians should: • consider prescribing the branded levomepromazine (Nozinan) 25mg tablets. Where supply of generic levomepromazine 50mg tablets are unavailable, clinicians should: • consider prescribing the branded levomepromazine (Nozinan) 25mg tablets; • counsel patients on the requirement to take two tablets to make a 50mg dose for those patients who are usually prescribed levomepromazine 50mg tablets; • if the above is not appropriate, consider prescribing Levomepromazine (Levorol) 5mg/ml oral solution, **taking into consideration any cautions and contraindications** (see Supporting Information). **Alternatives** • Levomepromazine (Nozinan) 25mg tablets remain available from Neuraxpharm UK Limited and are able to fully support demand. Stock is available via Phoenix and Alliance Healthcare. • Levomepromazine (Levorol) 5mg/ml oral solution remains available from Galvany Pharma Limited and are able to support with covering demand. Hospitals can order from either Alloga UK or Alliance Healthcare. Retail/community pharmacies can order from Alliance Healthcare. **Considerations and background** **Supporting Information** **Clinical Information** Levomepromazine oral solution is contraindicated in children and adolescents under 16 years old. The oral solution has cautions linked to its excipients and therefore prescribers would need to ensure patients do not have liver or renal impairment before prescribing this medicine: • Benzyl alcohol – this medicine contains 0.03 mg of benzyl alcohol in each 1 ml of oral solution. It may cause allergic reactions. High volumes should be used with caution and only if necessary,

	especially in patients with liver or kidney impairment because of the risk of accumulation and toxicity (metabolic acidosis). • Propylene glycol – this medicine contains 150.95 mg of propylene glycol in each 1 ml of oral solution. Medical monitoring is required in patients with impaired renal or hepatic functions because various adverse events attributed to propylene glycol have been reported such as renal dysfunction (acute tubular necrosis), acute renal failure and liver dysfunction. While propylene glycol has not been shown to cause reproductive or developmental toxicity in animals or humans, it may reach the foetus and was found in milk. As a consequence, administration of propylene glycol to pregnant or lactating patients should be considered on a case by case basis. **Links** • **BNF Levomepromazine** • **SmPC Nozinan 25 mg tablets** • **SmPC Levorol 5 mg/ml oral solution**
SHORTAGE: **Estradiol (Estradot) 25micrograms/24 hours, 37.5micrograms/24 hours and 100micrograms/24 hours transdermal patches**	**Anticipated re-supply date:** 01.12.23 **Actions for prescribers** **For patients with insufficient supplies of:** **Estradiol (Estradot) 25micrograms/24hours transdermal patches:** Clinicians should consider prescribing Evorel or Estraderm MX 25micrograms/24hours patches, ensuring the patient is counselled on the change in brand at the point of supply. If the above options are not appropriate or patients have previously had intolerances to Evorel or Estraderm MX patches, refer the patient to their specialist where applicable, establish if ongoing treatment is required and switch to an alternative available hormone replacement therapy (HRT). **Estradiol (Estradot) 37.5micrograms/24hours transdermal patches:** Clinicians should consider prescribing Evorel or Estraderm MX 25micrograms/24hours patches, advising patients to cut a patch in half (off-label use) and apply one and a half patches to provide a 37.5micrograms/24hours dose. The remaining half can be put back into the packet for the next dose. Ensure the patient is able to carry out this manipulation (see Supporting Information). Clearly annotate the prescription to emphasise the dose i.e. one and a half patches of the Evorel or Estraderm MX 25micrograms/24hours are to be applied and ensure the patient understands dosing and administration. Patients should be counselled on the change in brand and how to deliver 37.5mcriogram dose at the point of supply. If the above options are not appropriate or patients have previously had intolerances to Evorel or Estraderm MX patches, refer the patient to their specialist where applicable, establish if ongoing treatment is required and switch to an alternative available hormone replacement therapy (HRT). **Estradiol (Estradot®) 100micrograms/24hours transdermal patches:** Community pharmacists may supply an equivalent strength of Evorel or Estraderm MX 100micrograms/24hours transdermal patches in accordance with the SSP for eligible patients (see Supporting information below). Pharmacists must ensure that the patient's prescriber and/or GP practice is notified when supplying a patient in accordance with this SSP. Patients should be counselled regarding the switch in brand at the point of supply. If the above options are not appropriate or patients have previously had intolerances to Evorel or Estraderm MX patches, refer the patient to the prescriber/specialist to establish if ongoing treatment is required and considering prescribing an alternative available hormone replacement therapy (HRT).

	Alternatives Alternative brands of estradiol patches (Evorel and Estraderm MX) are available and can support a full uplift in demand. **A Serious Shortage Protocol (SSP) for Estradiol (Estradot) 100micrograms/24hours transdermal patches was issued on 21/08/2023.** **Considerations and background** **Medicine Supply Notification Number** **MSN/2023/082** **Links** • **SmPC Estradot patches** • **SmPC Evorel patches** • **SmPC Estraderm MX patches** • **British Menopause Society – HRT preparations and equivalent alternatives** • **British Society for Paediatric endocrinology and Diabetes patient information leaflet - guidance on cutting Evorel and Estraderm MX patches** • **SSP Estradiol (Estradot) 100microgram/24hours transdermal patches** • **CKS: Menopause- Hormone replacement therapy**
SHORTAGE: **Atomoxetine capsules and oral solution**	**Anticipated re-supply date:** 17.11.23 **Actions for prescribers:** **Primary and secondary care:** Clinicians/prescribers in primary and secondary care should: • proactively identify any patients on atomoxetine presentations; • contact patients to establish how much supply they have left; and • liaise with the patient's specialist team for advice on management options. **Specialist teams** Specialist teams should: • ensure no new patients are initiated on atomoxetine presentations until the shortage is resolved • support primary care clinicians seeking advice for patients currently taking atomoxetine presentations , including provision of individualised management plans, where required; and • offer alternatives in line with NICE ADHD guidance NG87 where required. Where the above options are not considered appropriate, supplies of unlicensed atomoxetine capsules may be sourced. Contact should be made with local pharmacy teams to ensure orders are placed within appropriate time frames as lead times may vary (see clinical information below). **Alternatives** Other strengths of atomoxetine capsules remain available but in insufficient quantities to meet increased demand. Refer to the following link for further information on the availability of methylphenidate prolonged release tablets, **Unlicensed imports** The following specialist importers have confirmed they can source unlicensed atomoxetine capsules (please note there may be other companies that can also source supplies and lead times vary): • Alium • BAP Pharma • Qmed Pharma • Target **Considerations and background**

	Supply summary Atomoxetine 10, 18, 40, 60, 80 and 100mg capsules are currently in stock. Atomoxetine (Strattera) 4mg/ml oral solution is currently in stock. Atomoxetine 25mg capsules remain unavailable. **Clinical information** Stimulants such as lisdexamfetamine or methylphenidate are recommended first-line treatments for attention deficit hyperactivity disorder (ADHD). Treatment with non-stimulants (e.g. atomoxetine or guanfacine) are an option in patients who are intolerant to both methylphenidate and lisdexamfetamine, or who have not responded to separate 6-week trials of both drugs (NICE ADHD guidance NG87). These treatments must be initiated by a specialist in the treatment of ADHD. Atomoxetine selectively inhibits pre-synaptic noradrenaline reuptake and is licensed for the treatment of ADHD in children aged 6 years and older, in adolescents, and in adults. In the paediatric population up to 70 kg body weight, atomoxetine should be initiated at a total daily dose of approximately 0.5 mg/kg and dose titrated upwards after a minimum of 7 days. according to clinical response and tolerability. The recommended maintenance dose is approximately 1.2 mg/kg/day. For paediatric population over 70 kg, the initial dose is 40mg for minimum of 7 days followed by upwards dose titration. The recommended maintenance dose is 80mg. In adults, atomoxetine is initiated at 40 mg for a minimum of 7 days prior to upward dose titration and the recommended maintenance daily dose is 80 mg to 100 mg. Guanfacine, a selective alpha2A-adrenergic receptor agonist, is licensed for the treatment of ADHD in children and adolescents aged 6-17 years for whom stimulants are not suitable, not tolerated or have been shown to be ineffective. Use of atomoxetine and guanfacine in children aged 5 years as per NICE guidance is off label, as is the use of guanfacine in adults, which should not be initiated without advice from a tertiary ADHD service. Patients on atomoxetine should be periodically reviewed in line with NICE guidance. **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) **Links** • **Atomoxetine capsules SmPC** • **BNF: Attention deficit hyperactivity disorder** • **NICE guideline [NG87]: Attention deficit hyperactivity disorder: diagnosis and management**
SHORTAGE: **Cefalexin 250mg tablets**	**Anticipated re-supply date:** 17.02.24 **Actions for prescribers:** Where cefalexin 250mg tablets are unavailable prescribers should: • consider prescribing an alternative formulation of cefalexin, see below a list of alternative cefalexin products that can cover demand during the issue with cefalexin 250mg tablets. **Alternatives** The following products remain available and can support during this time:

	• Cefalexin 250mg capsules • Cefalexin 125mg/5ml oral solution • Cefalexin 250mg/5ml oral solution
SHORTAGE: **Carbomer '980' 0.2% eye drops** **Viscotears 2mg/g liquid gel (Bausch & Lomb UK Ltd)** **Artelac Nighttime 0.2% eye gel (Bausch & Lomb UK Ltd)** **GelTears 0.2% gel (Bausch & Lomb UK Ltd)**	**Anticipated re-supply date:** 12.01.24 **Alternatives:** Alternative carbomer '980' eye drops and eye gels remain available – See BNF link below **Links** • **BNF Carbomer 980 eye drops / eye gels**
SHORTAGE: **Midazolam (Epistatus) 2.5mg/0.25ml and 10mg/1ml oromucosal solution pre-filled oral syringes**	**Anticipated re-supply date:** 01.12.23 (10mg/1ml), 01.03.24 (2.5mg/0.25ml) **Actions for prescribers:** **Until the shortage resolves, prescribers should:** • not initiate new patients on Epistatus 2.5mg/0.25ml or 10mg/1ml oromucosal solution pre-filled oral syringes and • consider prescribing midazolam (Buccolam or the generic) 2.5mg/0.5ml or Buccolam 10mg/2ml oromucosal solution pre-filled oral syringes where appropriate, ensuring that the parent/carer is advised on the change in volume being administered, counselled on how to administer the dose, and shown the patient information leaflet (see Supporting Information below) **Alternatives** • Buccolam 2.5mg/0.5ml oromucosal solution pre-filled oral syringes • Buccolam 10mg/2ml oromucosal solution pre-filled oral syringes • Midazolam (generic) 2.5mg/0.5ml oromucosal solution pre-filled oral syringes **Considerations and background** **Supporting Information** **Clinical information** Epistatus is indicated for the treatment of prolonged, acute, convulsive seizures. The 2.5mg/0.25ml strength is licensed for use in infants between 3-6 months of age in the hospital setting and the 10mg/1ml for use in children and adolescents from age 10 years to < 18 years. Buccolam/generic midazolam oromucosal solution pre-filled oral syringes 2.5mg/0.5ml and 10mg/2ml are licensed for the same indication and age groups as Epistatus but are formulated in twice the volume of Epistatus and also differ in administration technique. It is good practice to prescribe midazolam oromucosal solution by brand name and express strength in both milligrams and millilitres **Please note an MHRA medicine recall was issued for Epistatus 2.5mg oromuscosal solution, pre-filled syringes on 30th August 2023.** **Medicine Supply Notification Number** MSN/2023/086 **Links** • **SmPCs: Midazolam oromucosal solution** • **BNFc: Repeated or cluster seizures, prolonged seizures, and status epilepticus** • **BNF Midazolam** • **Patient Information Leaflet: Buccolam** • **SmPCs and PILs: generic midazolam oromucosal solution**

SHORTAGE: **Liraglutide (Victoza) 6mg/ml solution for injection**	**Anticipated re-supply date:** 06.01.25 **Actions for prescribers:** A National Patient Safety Alert was issued on the 18 July 2023 for the shortage of GLP1 RA medicines. Please refer to the National Patient Safety Alert for information and advice on alternatives.
SHORTAGE: **Methylphenidate prolonged-release tablets**	**Anticipated re-supply date:** For Xenidate XL 27mg – 30.11.23 **Medicines affected** Medicine Anticipated re-supply date Xenidate XL 27mg tablets (Viatris UK Healthcare Ltd) 30 November 2023 Xaggitin XL 18mg tablets (Ethypharm UK Ltd) 1 February 2024 Xaggitin XL 36mg tablets (Ethypharm UK Ltd) 1 February 2024 **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** DHSC will continue to provide updates on stock availability on the Medicine Supply Tool and designated 'Prescribing available medicines to treat ADHD' page on the Specialist Pharmacy Service (SPS) website. **Considerations and background** **Supply overview** Xaggitin XL 18mg tablets are out of stock. Xaggitin XL 36mg tablets are due to go out of stock on 17 November 2023. **Clinical Information** Methylphenidate is a central nervous stimulant available in the UK in various licensed immediate, modified-release, oral, and solid dosage forms. It is a schedule 2 controlled drug, licensed for the treatment of attention deficit hyperactivity disorder (ADHD) in children aged over 6 years and adolescents and is the usual first line treatment for this condition for both children and adults. All the modified-release methylphenidate preparations include an immediate-release component as well as an extended-release component. This allows for rapid onset of action while avoiding the need to take further doses during the day to maintain effect. The biphasic release profiles of these products, however, are not all equivalent and contain different proportions of the immediate-release and modified-release component. The BNF states that different versions of modified-release preparations may not have the same clinical effect. To avoid confusion between these different formulations of methylphenidate, prescribers should specify the brand to be dispensed.

	Of the modified-release preparations, Delmosart, Xaggitin XL and Xenidate XL tablets have been approved based on bioequivalence data compared to Concerta XL tablets. Thus, these generic brands have been granted replicate marketing authorisation to Concerta XL on the basis that they have satisfied the criteria for equivalent release profile for the reference Concerta XL product. Please see the links below for further information. **Links** • **Concerta XL prolonged-release tablets SmPC** • **Delmosart prolonged-release tablets SmPC** • **Xaggitin XL prolonged-release tablets SmPC** • **Xenidate XL prolonged-release tablets SmPC** • **NICE guideline for attention deficit hyperactivity disorder** • **Extended-release methylphenidate: A review of the pharmacokinetic profiles of available products**
SHORTAGE: **Exenatide (Byetta) 10microgram/0.04ml solution for injection**	**Anticipated re-supply date:** 04.12.23 **Actions for prescribers** A National Patient Safety Alert was issued on the 18 July 2023 for the shortage of GLP1 RA medicines. Please refer to the National Patient Safety Alert for information and advice on alternatives. **Alternatives** DHSC will continue to provide updates on GLP-1 RA's stock availability on the Medicine Supply Tool and designated 'Prescribing available GLP-1 receptor agonists' page on the SPS website.
SHORTAGE: **Paracetamol Suppositories**	**Anticipated re-supply date:** Paracetamol 60mg suppositories -5 April 2024, Paracetamol 125mg suppositories -27 May 2024, Paracetamol 250mg suppositories - 3 June 2024. **Actions for prescribers** Where patients have insufficient supplies of paracetamol 125mg 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 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)
- Paracetamol 240mg suppositories

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 250mg suppositories

- BAP Pharma
- Mawdsleys
- Orifarm

Considerations and background

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 now in stock.
- 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

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) **Links** • **BNFc paracetamol** • **SmPC paracetamol suppositories**
SHORTAGE: **Lidocaine 1% and 2% with adrenaline 100micrograms/20ml**	**Anticipated re-supply date:** Xylocaine 1% with adrenaline is out of stock with resupply expected in late April 2024. Xylocaine 2% with adrenaline is out of stock with resupply expected in late May 2024. **Actions for prescribers:** **General Practice and other sites that use Xylocaine 1% and 2% with adrenaline 100micrograms/20ml should:** • note the available alternative products (see alternatives); and • consult the Medicines Information department at their local NHS Trust for advice where required. **Alternatives** **Alternative local anaesthetic with adrenaline products** Due to the fixed dose of adrenaline in the alternative products, clinicians should be aware of the risk of administering a larger dose of adrenaline than intended. Lidocaine 0.5% with adrenaline 1:200,000 10ml ampoule Supplier – Torbay Supply – Out of stock. Resupply date end November 2023. Unlicensed product. Lidocaine 1% with adrenaline 1:200,000 10ml ampoule Supplier -Torbay. Supply – Out of stock. Resupply date early December 2023. Unlicensed product. Lidocaine 2% with adrenaline 1:200,000 10ml ampoule Supplier – Torbay. Supply – Out of stock. Resupply date end November 2023. Unlicensed product. Bupivacaine 0.25% with adrenaline 1:200,000 10ml ampoule Supplier – Advanz. Supply – In stock. Bupivacaine 0.5% with adrenaline 1:200,000 10ml ampoule Supplier – Advanz. Supply – In stock. Lidocaine 1% with adrenaline 1:200,000 injection Supplier – Specialist Importers. Supply – Unlicensed product. See below. Lidocaine 2% with adrenaline 1:200,000 injection Supplier – Specialist Importers. Supply – Unlicensed product. See below. **Unlicensed imports** The following specialist importers have confirmed they can source unlicensed lidocaine 1% or 2% with adrenaline 1:200,000 injection. Lead times may vary (please note, there may be other companies that can also source supplies): • Durbin PLC – 1% and 2% • Mawdsley's Unlicensed – 1% and 2%

	• Orifarm – 1% and 2% • Smartway Pharma – 1% • Target Healthcare – 1% and 2% **Considerations and background** **Guidance on 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 • Prescribing unlicensed medicines, General Medical Council (GMC)
SHORTAGE: Bisacodyl (Dulcolax) 5mg suppositories	**Anticipated re-supply date:** 22.12.23 **Actions for prescribers** Where patients have insufficient supplies to last until the re-supply date, clinicians should: • review patients to determine if this is still the most suitable therapy and route of administration • contact your local pharmacy to confirm availability of alternative rectal laxatives, and consider prescribing the alternative if this route is deemed necessary • when prescribing bisacodyl suppositories for bowel clearance or radiological procedures consult local guidelines or the unit conducting the procedure for use of alternative agent • consider prescribing unlicensed bisacodyl 5mg suppositories from special-order manufacturers, 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 supporting information below) and • if the above options are not considered appropriate, advice should be sought from specialists on management options **Alternatives** The following special-order manufacturers have currently confirmed they can manufacturer bisacodyl 5mg suppositories (please note there may be other companies that can also source supplies): • Eaststone • Target Glycerol 2g (children's size) suppositories remain available but are unable to support any increased demand. Relaxit enemas are out of stock without a current resupply date. Micralax micro enemas remain available but can only partially support any uplift in demand. **Considerations and background** **Supporting Information** Bisacodyl is a stimulant laxative. The 5mg suppositories are licensed for use in children aged 4 to 10 years for: • Treatment of constipation, either chronic or of recent onset, whenever a stimulant laxative is required • Bowel clearance before surgery or radiological investigation. Replacement of the evacuant enema in all its indications To note: Bisacodyl 10mg suppositories are licensed for use in children over 10 years of age. They cannot be halved accurately and must not be used in this way. **MSN Number**

	MSN/2023/099 **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) **Links** • **SmPC: Bisacodyl 5mg suppositories** • **BNFC: Constipation** • **CKS: Management of constipation in children** • **NICE guideline: Constipation in children and young people: diagnosis and management**
SHORTAGE: **Benzoyl peroxide 3% / Clindamycin 1% (Duac Once Daily) gel**	**Anticipated re-supply date:** 1.12.23 **Alternatives** The following products for use in people with mild to moderate acne remain available: • Adapalene 0.1% / benzoyl peroxide 2.5% (Epiduo) gel • Adapalene 0.3% / benzoyl peroxide 2.5% (Epiduo) gel • Benzoyl peroxide 5% gel • Benzoyl peroxide 5% / Clindamycin 1% gel Links • Management of acne vulgaris in primary care • BNF - Benzoyl peroxide with clindamycin • SmPC - Epiduo • SmPC - Benzoyl peroxide gel
SHORTAGE: **Reboxetine (Edronax) 4mg tablets**	**Anticipated re-supply date:** 17.11.23 **Actions for prescribers** **Clinicians in primary and secondary care:** • Should not initiate new patients on reboxetine (Edronax) 4mg tablets until the shortage has resolved. • Use unlicensed imports (see details below) where available until the resupply date **Where an import is not readily available:** • In secondary care, where there are insufficient stocks, request mutual aid, facilitated by Regional Pharmacy Procurement Specialist. • In primary care, if stock is unavailable, consider referring the patient back to the initiating hospital specialist where stock may still be available. This should be checked before a referral is made. • If there are insufficient supplies, prescribers in primary and secondary care should consider switching to an alternative antidepressant (with noradrenergic properties) such as lofepramine or venlafaxine, if not contra-indicated or previously tried. • If stopping or switching to alternative treatment, national guidance on tapering (see below) should be followed, involving the patient so that a shared decision can be reached on the preferred treatment options **Alternatives** **Guidance on ordering and prescribing unlicensed imports**

	The following specialist importer has confirmed they can source unlicensed reboxetine 4mg tablets (please note there may be other companies that can also source supplies): • Mawdsleys • Target Healthcare **Considerations and background** **Summary** Reboxetine (Edronax) 4mg tablets are out of stock from mid-August until mid-November Unlicensed imported stock is available. If local stock holding, imported stock and mutual aid cannot meet anticipated demand until the re-supply date, alternative antidepressants with noradrenergic properties should be considered. **Supporting information** Reboxetine, a noradrenaline reuptake inhibitor, is licensed for the acute treatment of depressive illness/major depression and for maintaining clinical improvement in patients initially responding to treatment. **Stopping medication** If it is considered appropriate to stop antidepressants, the Royal College of Psychiatrists have issued guidance on stopping antidepressants (see link below). **Medicine Supply Notification Number** MSN/2023/073 **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) **Links** • **BNF: Reboxetine** • **SmPC: Edronax 4mg Tablets** • **NICE (NG15): Medicines associated with dependence or withdrawal symptoms: safe prescribing and withdrawal management for adults** • **Stopping Antidepressants; Royal College of Psychiatrists**

SHORTAGE:
Acetazolamide (Diamox SR) 250mg modified-release capsules
	Anticipated re-supply date: 29.12.23
	Actions for prescribers
	For patients with insufficient supplies, clinicians should consider:
	• deferring initiating any new patients on acetazolamide (Diamox SR) 250mg modified-release capsules until the supply issue is resolved.
	• prescribing acetazolamide immediate release 250mg tablets and monitoring patients after the switch (see clinical information);
	• If acetazolamide immediate release 250mg tablets are not appropriate, consider prescribing one of the following unlicensed medicines:
	  ○ acetazolamide SR 250mg capsules (imported)
	  ○ acetazolamide oral suspension (various strengths available)
	Alternatives
	Acetazolamide immediate release 250mg tablets remain available and can support an uplift in demand.
	Unlicensed Imports

The following specialist importer(s) have currently confirmed availability of unlicensed acetazolamide SR 250mg capsules (please note, there may be other companies that can also source supplies):

- Smartway

Specials

The following companies have indicated they can supply specials of acetazolamide oral suspension in various strengths (please note, there may be other companies that can manufacture supplies):

- Eaststone Specials
- IPS Pharma
- Nova Labs
- PCCA Ltd
- Quantum Pharmaceutical
- Rokshaw Ltd

Considerations and background

Clinical Information

Acetazolamide is a carbonic anhydrase inhibitor. In the eye, it decreases the secretion of aqueous humour and results in a drop of intraocular pressure.

Acetazolamide (Diamox SR) modified-release capsules are a sustained release formulation designed to obtain a smooth and continuous clinical response. This formulation is licensed for the treatment of glaucoma and is administered at a dose of 250-500mg daily.

The licensed dose in glaucoma of acetazolamide immediate release tablets is 250-1000mg per 24 hours, usually in divided doses (plasma half-life of acetazolamide ~ 4 hours).

Advanz Pharma has advised that for glaucoma, patients on acetazolamide (Diamox SR) 250mg modified-release capsules twice daily could possibly be switched to acetazolamide 250mg tablets four times daily. This conversion is based simply on the maximum licensed dose of each formulation and would be at the discretion of the prescriber, as there are no bioequivalence studies comparing the two formulations.

The following data provided by the manufacturer from a single dose study of tablets and modified-release capsules may be helpful when making a dosing decision:

Formulation	Onset (hours)	Peak (hours)	Duration (hours)
Immediate release tablet	1	1-4	8-12
Modified release capsule	2	3-6	18-24

Modified-release capsules may be better tolerated than the equivalent dose of immediate release tablets, possibly due to the avoidance of high peak levels.

Alternatively, oral suspension specials are available in various strengths. If the liquid is used, dosing will be as for the immediate release tablets, with the aforementioned caveats.

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/2023/033

	Links • BNF Acetazolamide • SmPC acetazolamide (Diamox SR) 250mg modified release capsules • SmPC acetazolamide 250mg immediate release tablets
SHORTAGE: Betamethasone valerate 0.1% cream and 0.1% ointment	**Anticipated re-supply date:** 26.01.24 **Actions for prescribers** Where supply of betamethasone valerate 0.1% cream and 0.1% ointment is unavailable, clinicians should consider prescribing mometasone furoate 0.1% cream or 0.1% ointment. **Alternatives** Mometasone furoate 0.1% cream and 0.1% ointment remain available. **Considerations and background** **Summary** There are intermittent gaps in supply of betamethasone valerate 0.1% cream and 0.1% ointment until late January 2024. **Supporting Information** **Clinical information** Betamethasone valerate 0.1% and Mometasone furoate 0.1% are both potent topical corticosteroids. **Links** • SmPC Betamethasone cream • SmPC Betamethasone ointment • SmPC Mometasone cream • SmPC Mometasone ointment • BNF Topical Corticosteroids
SHORTAGE: Hydrocortisone 0.1% cream	**Anticipated re-supply date:** 26.01.24 **Alternatives** Hydrocortisone 1% cream remains available. **Considerations and background** **Supporting Information** **Clinical Information** The Dermacort SmPC states that clinical studies have confirmed that 0.1% Dermacort is equivalent to 1.0% hydrocortisone cream BP/BPC. Both 0.1% and 1.0% hydrocortisone are classed as mildly potent topical corticosteroids. Potency of a topical corticosteroid preparation is a result of the formulation as well as the corticosteroid. **Links** • SmPC Dermacort Hydrocortisone Cream • SmPC Hydrocortisone cream • BNF Topical corticosteroids
DISCONTINUATION: Oxybutynin 3mg tablets	**Discontinuation date:** 26.10.23 **Actions for prescribers** **Actions** Prescribers should review patients to determine if this is the most suitable therapy and where appropriate consider prescribing an alternative oral oxybutynin presentation (see Alternatives). **Alternatives** The following oral oxybutynin presentations remain available: • Oxybutynin 2.5mg tablets • Oxybutynin 5mg tablets • Oxybutynin 5mg modified release tablets • Oxybutynin 10mg modified release tablets

	• Oxybutynin 2.5mg/5ml oral solution • Oxybutynin 5mg/5ml oral solution **Links** • **BNF - Oxybutynin Hydrochloride** • **BNFc - Nocturnal enuresis in children** • **SmPC - Oxybutynin**
SHORTAGE: **Lamotrigine 5mg dispersible tablets**	**Anticipated re-supply date:** 16.02.24 **Actions for prescribers** **Clinicians should:** **Primary Care / Secondary Care:** • review patients to ascertain who should be prioritised for any remaining stock of lamotrigine 5mg dispersible tablets, including those who have an intolerance to excipients in the suspension, or who would have difficulty measuring out a dose of the suspension • consider prescribing unlicensed lamotrigine 5mg/5ml or 25mg/5ml oral suspension, available from Specials manufacturers (see Supporting information below), ensuring patients/carers are counselled on the dose/volume required • if the above-mentioned options are not appropriate, consider prescribing unlicensed lamotrigine 5mg dispersible tablets. 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) • reassure patients that whatever they are switched to, they are receiving the same drug at the same dose, and to report any side effects or loss of seizure control, after the switch and • if none of above are considered appropriate, advice should be sought from specialists on management options **Secondary Care only:** • where there is insufficient stock, and where clinical judgement determines that a patient should remain on a particular manufacturer's product, liaise with pharmacy to request mutual aid, facilitated by their Regional Pharmacy Procurement Specialist **Alternatives** **Licensed products** Limited stock of branded lamotrigine (Lamictal) 5mg dispersible tablets remain available, these should be used for priority patients as specified above. **'Specials'** The following Specials manufacturers have currently confirmed they can manufacturer lamotrigine 5mg/5ml and 25mg/5ml oral suspension (please note, there may be other companies that can also manufacture): • Eaststone • Lexon • Nova • Rokshaw Laboratories **Unlicensed imports** Lamotrigine 5mg dispersible/chewable tablets are available from Mawdsley's, lead times may vary (please note there may be other companies that can also source supplies) **Considerations and background** **Summary** • Generic lamotrigine 5mg dispersible tablets are out of stock until mid-February 2024 • Branded lamotrigine (Lamictal) 2mg and 5mg dispersible tablets remain available but cannot fully support the gap in the market

	• A number of Specials manufacturers are able to produce unlicensed lamotrigine 5mg/5ml and 25mg/5ml oral suspension (including sugar-free formulations) • Where the above options are not suitable, unlicensed supplies of lamotrigine (Lamictal) 5mg dispersible tablets may be sourced, lead times vary **Supporting information** Lamotrigine is licensed for the treatment of epilepsy and prevention of depressive episodes in patients with bipolar disorder. It is a category 2 antiepileptic drug so the need for continued supply of a particular manufacturer's product should be based on clinical judgement and consultation with patient and/or carer, taking into account factors such as seizure frequency and treatment history, as well as patient/carer-related factors, including their negative perceptions about alternative products. The dispersible tablets may be chewed or dispersed in a small volume of water or swallowed whole with a little water. The administration of partial quantities of the dispersible tablets is not recommended. The standard tablets are not available in low strengths. **Medicine Supply Notification Number** MSN/2023/100 **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) **Links** • **SmPC - Lamotrigine 5mg dispersible tablets** • **SmPC - Lamictal® dispersible tablets**
SHORTAGE: **Minoxidil 2.5mg tablets**	**Anticipated re-supply date:** 30.11.23 **Actions for prescribers** When the 2.5mg tablet is not available, clinicians should consider prescribing minoxidil 5mg tablets (supplied by Roma Pharmaceutical Ltd.) that are scored and can be divided into equal doses, in accordance with the SmPC. A change in prescription will be required to use the 5mg tablets. **Alternatives** **Licensed alternative** Limited supplies of minoxidil 2.5mg tablets from Pfizer ltd remain available. Minoxidil 5mg tablets remain available from Roma Pharmaceutical Ltd and Pfizer Ltd (see considerations and background). **Considerations and background** Roma Pharmaceutical Ltd's minoxidil 5 mg tablets are licenced to be divided into equal doses of 2.5mg, users should be counselled to discard the remaining half tablet. Pfizer Ltd's minoxidil 5mg tablets are not licenced to be divided. **Links** • **SmPC: Minoxidil 2.5mg tablets** • **SmPC: Minoxidil 5mg tablets (Roma Pharmaceutical Ltd)** • **SmPC: Minoxidil 5mg tablets (Pfizer Ltd)** • **BNF: Treatment Summary**

SHORTAGE: **Pethidine 50mg tablets**	**Anticipated re-supply date**: 05.01.24 **Alternatives** The following specialist importers have confirmed they can source unlicensed Pethidine 50mg tablets (please note there may be other companies that can also source supplies): • BAP Pharma • Mawdsleys **Considerations and background** **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 ○ Prescribing unlicensed medicines, General Medical Council (GMC)
SHORTAGE: **Norditropin (somatropin) Flexpro 10mg/1.5ml, 15mg/1.5ml and Norditropin (somatropin) NordiFlex 5mg/1.5ml, 10mg/1.5ml and 15mg/1.5ml solution**	**Anticipated re-supply date:** 3.11.23 **Actions for prescribers** **Actions for GP surgeries:** GP surgeries who prescribe Norditropin should: • proactively identify all patients on these products and refer them to their specialist prescribing centre for review and switching to Omnitrope **Alternatives** Omnitrope (somatropin) 5mg/1.5ml, 10mg/1.5ml and 15mg/1.5ml solution for injection cartridges remain available and will be able to support a full increase in demand during this time If Omnitrope® is not an appropriate alternative, other products containing somatropin remain available however switching to these alternatives may involve switching formulation and dosing regimen so clinicians and providers should ensure the patients and their carer are counselled appropriately on the new formulation and dose. **Considerations and background** **Supply Overview** • Norditropin (somatropin) Flexpro 5mg, 10mg and 15mg pens will be in limited supply until further notice. • Norditropin (somatropin) NordiFlex 5mg, 10mg and 15mg pens will be out of stock for the remainder of 2023. • Omnitrope (somatropin) 5mg/1.5ml, 10mg/1.5ml and 15mg/1.5ml solution for injection cartridges remain available and will be able to support a full increase in demand during this time • Sciensus and Alcura have the capacity to offer virtual device training for all switched patients. • Other alternative somatropin products remain available but may require a change in formulation and/or dosing regimen. **Clinical Information** Both Norditropin and Omnitrope contain somatropin, therefore no change in clinical monitoring requirements is anticipated following a switch. Omnitrope cartridges are administered with the SurePal injection device. There are three types of SurePal for use with the three strengths of cartridges (5 mg, 10 mg and 15 mg). Clinicians and providers should ensure that patients and their carers are counselled on use of the new device.

	Medicines Supply Notification Number MSN/2023/001U **Links** • **SmPC Norditropin** • **SmPC Omnitrope** • **BNF Somatropin**
SHORTAGE: **Disopyramide 100mg capsules**	**Anticipated re-supply date:** 15.12.23 **Actions for prescribers** **Prescribers and pharmacy teams should:** • identify patients prescribed disopyramide 100mg capsules and establish if they have sufficient supply to last until the resupply date; and • reserve remaining supply of 100mg disopyramide capsules for these patients with insufficient supply. Where licensed disopyramide 100mg capsules are unavailable: • consider prescribing unlicensed imports of disopyramide 100mg capsules, taking into account lead times; • if the above option is not possible due to lag time in obtaining supply, convert patients to disopyramide 250mg prolonged release tablets at same total daily dose, if the formulation allows, or as close a dose as possible, and titrate dose as needed (see Supporting information); • where licenced (parallel import) disopyramide 250mg prolonged release tablets are unavailable, consider prescribing unlicensed imports, taking into account lead times; and • seek advice from cardiology specialists on management of unstable patients or patients newly started on treatment, or where there is uncertainly or concern about switching formulation and or/dose conversion. For patients commencing treatment with disopyramide, prescribers should: • not prescribe 100mg capsules until the shortage has resolved and consider initiating patients on disopyramide 250mg prolonged release tablets; and • if the above option is unsuitable, consider prescribing unlicensed imports of disopyramide 100mg capsules, taking into account lead times. Patients should be counselled on any change in formulation and/ or dose change and advised to report adverse effects and/or recurrence of symptoms after switching. **Alternatives** **Parallel imports:** • Limited supply of disopyramide 100mg capsules are available and can partially cover the demand for the 100mg capsules. • Disopyramide 250mg modified release tablets remain available and can fully cover the demand for the 250mg MR tablets for the duration of the shortage. Orders can be placed directly with the following suppliers: • DrugsRUs Limited – via DrugsRUs Limited by contacting Veer@drugsrus.co.uk **Unlicensed imports:** The following specialist importer companies have confirmed they can source unlicensed disopyramide 100mg capsules (please note there may be other companies that can also source supplies): • Alium

The following specialist importer companies have confirmed they can source unlicensed disopyramide 250mg tablets (please note there may be other companies that can also source supplies):

- Mawdsley

Considerations and background

Summary

- Disopyramide (Rythmodan)100mg capsules are out of stock until mid-December 2023.
- Disopyramide (Rythmodan) 250mg prolonged release tablets are out of stock until mid-December 2023 but parallel imports remain available and can fully cover demand.
- Limited stock of parallel imports of disopyramide 100mg are available and can partially cover demand for 100mg capsules.
- Unlicensed imports of disopyramide 100mg capsules and disopyramide 250mg prolonged release tablets have been sourced, lead times vary (see Supporting information).

Supporting information

Clinical Information

Disopyramide is licensed for the treatment of cardiac arrhythmias, with dose adjusted according to response. In addition to the immediate release capsule formulation, it is also formulated as a prolonged release tablet. As disopyramide tends to be a last line antiarrhythmic agent, alternative treatment options are limited, and require specialist input.

Dosing information

Disopyramide

Half-life: 5 to 8 hours

Immediate release capsules (100 mg)

Licensed dose range: 300 mg to 800 mg daily in divided doses (usually every 6 to 8 hours)

Prolonged-release tablets (250 mg)

One side has a break-line and the tablets are licensed to be halved.
Licensed dose range: 250-375 mg (one to one and a half tablets) twice daily.

Switching

The total daily dose of the 100mg immediate release capsules should be converted to the closest equivalent dose of the prolonged release tablets, administered twice daily. A decision will have to be taken on whether to go under or above current dose for those patients on doses that cannot be exactly delivered by the prolonged release tablets. In practice, lower dose conversions are likely to be used and the dose titrated up as needed, based on response and tolerability.

Immediate release capsules total daily dose (mg)	**Prolonged release tablet dose regimens (mg)**	**Prolonged-release tablet total daily dose after switch (mg)**
300	125 BD or 250 am 125 pm	250 or 375
400	250 am 125 pm or 250 BD	375 or 500
500	250 BD	500
600	375 am 250 pm	625

	700	375 BD	750
	800	375 BD	750

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)

Links

- **Disopyramide presentations**
- **BNF disopyramide**

SHORTAGE:
Testosterone enantate 250mg/ml solution for injection ampoules

Anticipated re-supply date: 08.12.23
Actions for prescribers
NHS provider Trust pharmacy procurement teams and clinical teams should work together to review local stock holdings and where there is insufficient stock until the resupply date:

- review patients to determine if this is still the most suitable therapy;
- consider prescribing Sustanon, ensuring that the patient is not intolerant to any of the excipients (see Supporting Information below); and
- if the above options are not considered appropriate, advice should be sought from specialists on management options.

Alternatives
Sustanon 250mg/ml solution for injection ampoules contain a mix of testosterone propionate, phenylpropionate, isocaproate, decanoate remain available and can support increased demand during this period.
Considerations and background
Supporting Information
Licensed use:
Sustanon contains a mixture of testosterone salts decanoate, isocaproate, phenylpropionate and propionate. Sustanon and testosterone enantate are both licensed for testosterone replacement therapy for male hypogonadism when testosterone deficiency has been confirmed by clinical features and biochemical tests.
Switching products
Sustanon is contra-indicated in patients with allergy to peanuts or soya as it contains arachis oil. The allergy status of patients should be confirmed before initiating treatment with Sustanon. Sustanon is administered by deep intramuscular injection, whereas testosterone enantate is administered by intramuscular injection.
Medicine Supply Notification
MSN/2023/097
Links

- **BNF Testosterone enantate**
- **BNF testosterone propionate, phenylpropionate, isocaproate, decanoate**
- **SmPC Testosterone enantate**
- **SmPC Sustanon**

<table>
<tr>
<td>SHORTAGE:
Vokanamet (Canagliflozin 50mg / Metformin 1g tablets)</td>
<td>Anticipated re-supply date: 17.05.24
Actions for prescribers
Use alternative strength combination product when available. Note: a new prescription will be required to do this.
When the alternative combination product is not available, individual constituents will need to be prescribed separately
Alternatives
Parallel Imports
Limited stock of canagliflozin 50mg / metformin 1g (Vokanamet) tablets remain available, however this is likely to be exhausted before the expected resupply date.
Licenced alternatives
Canagliflozin 50mg / Metformin 850mg (Vokanamet) tablets remain available, although there is insufficient volume to cover the entire shortage period if used as the sole alternative to the Canagliflozin 50mg/ Metformin 1g tablets.
Canagliflozin 100mg and 300mg tablets remain available and there is sufficient volume to cover the shortage period.
Metformin tablets of all strengths remain available.
Links
• SmPC: Canagliflozin / Metformin tablets
• SmPC: Canagliflozin tablets
• BNF: Type 2 Diabetes treatment summary</td>
</tr>
<tr>
<td>DISCONTINUATION:
Pancrease HL gastro-resistant capsules</td>
<td>Discontinuation date: 10.11.23
Actions for prescribers:
Clinicians/prescribers should review patients currently prescribed Pancrease HL capsules and prescribe an alternative high strength pancreatin preparation, titrating dose according to symptoms, and ensuring patient is not intolerant to any of the excipients (See Supporting Information below).
Alternatives
Table 1: High strength pancreatin preparations enzyme content
<table>
<tr><th>Product</th><th>Protease units</th><th>Amylase units</th><th>Lipase units</th></tr>
<tr><td>Pancrease HL capsule</td><td>1250</td><td>22500</td><td>25000</td></tr>
<tr><td>Creon 25,000 capsule</td><td>1000</td><td>18000</td><td>25000</td></tr>
<tr><td>Nutrizyme 22 capsule</td><td>1100</td><td>19800</td><td>22000</td></tr>
</table>
Considerations and background
Summary
• Pancrease HL gastro-resistant capsules are being discontinued with stock expected to be exhausted by mid-November 2023
• Alternative high strength pancreatin preparations remain available and will be able to support increased demand
Supporting Information
Pancrease HL gastro-resistant capsules is a high strength pancreatin preparation licensed for exocrine pancreatic enzyme deficiency as in cystic fibrosis, chronic pancreatitis, post pancreatectomy, post gastro-intestinal bypass surgery (eg Billroth II gastroenterostomy), and ductal obstruction from neoplasm (eg of the pancreas or common bile duct).
Alternative high strength preparations include Creon 25,000 and Nutrizyme 22. The preparations differ slightly in the levels of enzymes (see Table 1). Prescribers may need to re-titrate the dose according to symptoms of maldigestion and malabsorption, as well as ensure there is no intolerance to</td>
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</table>

	excipients. Of note, Nutrizym 22 contains castor oil which may cause cause stomach upset and diarrhoea. **Links** • **SmPC - Pancrease HL Capsules** • **SmPC – Creon 25,000 capsule** • **SmPC – Nutrizyme 22 capsule** • **BNF - Pancreatin** • **BNF- Exocrine pancreatic insufficiency** • **Cystic Fibrosis Trust - Pancreatic enzyme supplement and cystic fibrosis**

SHORTAGE:
Azithromycin (Azyter) 15mg/g eye drops (0.25g unit dose, preservative free)
	Anticipated re-supply date: 10.11.23
	Actions for prescribers:
	Pharmacy, in consultation with clinicians/prescribers, should:
	• reserve existing stock of azithromycin (Azyter®)15mg/g eye drops for the treatment of trachomatous conjunctivitis
	  ○ where alternative antibiotics are unsuitable, suppliers of unlicenced imports of azithromycin 15mg/g eye drops (0.25g unit dose, preservative free have been identified and orders can be placed through them. Note: consider lead times for delivery; (see Supporting Information) and
	  ○ if the above options are not suitable, refer to genito-urinary medicine specialists for advice on alternative treatments (see Supporting Information)
	• for the treatment of purulent bacterial conjunctivitis or blepharitis, prescribers should consider an alternative antibiotic in line with local guidelines, ensuring patient is not intolerant to any excipients in the product prescribed
	Alternatives
	• Alternative topical and oral antibiotics remain available
	• The following specialist importers have confirmed they can source unlicensed azithromycin (Azyter) 15mg/g eye drops 0.25g unit dose preservative free (please note there may be other companies that can also source supplies):
	  ○ Mawdsleys
	  ○ Smartway
	Considerations and background
	Summary
	• Azithromycin (Azyter) 15mg/g eye drops are out of stock from mid-October to mid-November 2023
	• Alternative topical and oral antibiotics remain available
	• Where alternative antibiotics are unsuitable, unlicenced imports of azithromycin 15mg/g eye drops (0.25g unit dose, preservative free) can been sourced
	Supporting Information
	Azithromycin eye drops are licensed for the treatment of purulent bacterial conjunctivitis and trachomatous conjunctivitis caused by Chlamydia trachomatis in children (aged from birth to 17 years) and adults. One drop is administered in the conjunctival fornix twice a day for three days. It is also used off-label for the second line treatment of blepharitis.
	Treatment regimens for trachomatous conjunctivitis may comprise a combination of azithromycin eye drops and an oral antibiotic. Second line treatment option involves use of another oral antibiotic regimen, either as monotherapy, or in combination with the drops. The management of sexually transmitted eye infections should be carried out in conjunction with genito-urinary medicine specialists

	For purulent bacterial conjunctivitis and blepharitis, treatment guidelines recommend a number of alternative topical and/or systemic antibiotics. **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) **Links** • **CKS: Conjunctivitis - infective** • **CKS: Management of blepharitis** • **BNFC: Eye infections in neonates** • **College of Optometrists Guideline: Conjunctivitis, Chlamydial** • **College of Optometrists Guideline: Blepharitis** • **College of Optometrists Guideline: Conjunctivitis (bacterial)** • **College of Optometrists Guideline:Ophthalmia neonatorum**
SHORTAGE: **Capsaicin 0.075% (Axsain) and 0.025% (Zacin) cream**	**Anticipated re-supply date:** 06.01.25 **Actions for prescribers:** Where patients have insufficient supplies to last until the resupply dates, prescribers should: • refer to local and national treatment guidelines for choice of an alternative agent, taking into account treatments already tried, and reasons for being on a topical agent (see clinical information below); and • where topical capsaicin is still considered the most suitable therapy, consider prescribing unlicensed products where appropriate. Prescribers should work with local pharmacy teams to ensure orders are placed within appropriate time frames as lead times may vary (see alternatives below). **Alternatives** The following specialist importers have confirmed they can source unlicensed capsaicin 0.025% and 0.075% cream (please note there may be other companies that can also source supplies and lead times may vary): • Target Healthcare **Considerations and background** **Clinical Information** Axsain (capsaicin 0.075% cream) is licensed for the symptomatic relief of neuralgia associated with and following Herpes Zoster infections (post-herpetic neuralgia) after open skin lesions have healed, and the symptomatic management of painful diabetic peripheral polyneuropathy. Zacin (capsaicin 0.025% cream) is licensed for the symptomatic relief of pain associated with osteoarthritis. **Neuropathic pain** NICE guidance recommends oral therapies such as amitriptyline, duloxetine, gabapentin or pregabalin as initial treatment for neuropathic pain in the non-specialist settings; if the initial treatment is not effective or is not tolerated, one of the remaining three drugs should be offered, and switching again if the second and third drugs tried are also not effective or not tolerated. Use of capsaicin cream is supported as an option for people with localised neuropathic pain who wish to avoid, or who cannot tolerate, oral treatments.

	Osteoarthritis NICE guidance notes that there was some evidence showing that topical capsaicin reduces pain in knee osteoarthritis, but not hand osteoarthritis, and it has minimal adverse events. However, it is more expensive and topical NSAIDs were considered a better option. If topical medicines are ineffective or unsuitable, an oral NSAID is recommended, taking into account potential gastrointestinal, renal, liver and cardiovascular toxicity, and any risk factors the person may have, including age, pregnancy, current medication and comorbidities. Paracetamol or weak opioids are not recommended unless they are only used infrequently for short-term pain relief and all other pharmacological treatments are contraindicated, not tolerated or ineffective. Please refer to the links below for further information **Guidance on 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/2022/028 **Links** • **BNF Capsaicin** • **SmPC Capsaicin cream** • **BNF Neuropathic pain** • **BNF Osteoarthritis** • **NICE guideline [NG226]: Osteoarthritis** • **NICE Clinical guideline [CG173]: Neuropathic pain**

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 13th November 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.