Shortages of Glucagon-Like Peptide-1 (GLP-1) receptor agonists

Workshop report

1 July 2024

Contents

Introduction

Shortages of medicines containing glucagon-like peptide-1 (GLP-1) receptor agonists have been affecting EU Member States since 2022 and are expected to continue in the near future.

They are critical shortages subject to monitoring activities by EMA's Executive Steering Group on Shortages and Safety of Medicinal Products (MSSG).

The causes of the shortages are complex and include an increase in demand linked with manufacturing capacity constraints.

The demand reflects the increasing role that GLP-1 receptor agonists play in the treatment of diabetes as well as in obesity. There is also interest in using the medicines off-label for cosmetic weight loss in people without obesity or with overweight without health-related problems.

Member States have been taking tailored measures to control the use of these medicines within their national healthcare systems. Industry is taking action to increase manufacturing capacity and streamline processes. EMA and the EU medicines regulatory network have been closely monitoring shortages of GLP-1 receptor agonists and have taken actions through the Medicine Shortages SPOC WP and the MSSG. On 12 June 2024 the MSSG adopted recommendations to all stakeholders regarding these shortages.[1] These include a call to industry and Member States to reinforce the already ongoing activities, as well as a call to healthcare professionals and patients to use the medicines within the national approved uses. In addition, the MSSG called for a workshop with all stakeholders to:

- Clarify the needs and challenges of the different stakeholder groups in the context of shortages of GLP-1 receptor agonists.
- Share experiences of ongoing activities to mitigate and prevent shortages of GLP-1 receptor agonists.
- Identify novel solutions to mitigate and prevent the shortages of these medicines.
- Strengthen cooperation amongst all stakeholders and improve coordination of activities.
- Discuss and agree on key messages for communication and how to best reach target audiences.

The workshop took place on 1 July 2024 and participants included healthcare professionals, patient and consumer advocates, representatives of relevant marketing authorisation holders, as well as representatives from different European and international regulatory bodies.

[1] Recommendations of the Executive Steering Group on Shortages and Safety of Medicinal Products on shortage of Glucagon-Like Peptide-1 (GLP-1) receptor agonists https://www.ema.europa.eu/en/documents/other/mssg-recommendations-shortage-glucagon-peptide-1-glp-1-receptor-agonists_en.pdf

Place in therapy and impact of shortages

Key messages

- GLP-1 receptor agonists are key medicines in the treatment of diabetes and obesity with benefits that extend beyond lowering HbA1C levels and weight loss.
- Shortages of the medicines have a significant public health impact and can lead to disease worsening, side effects, patient anxiety and stress for healthcare providers.
- The use of GLP-1 receptor agonists is increasing for their authorised uses. In addition, there is also concern about the unapproved use of these medications for cosmetic weight loss.
- During times of shortage, prioritisation guidelines are needed to allocate treatment fairly to people living with diabetes or obesity.
- The guidelines should be developed together with citizens and patients and consider medical needs of all patients.

GLP-1 receptor agonists are key medicines in the treatment of diabetes and obesity. They act in the same way as the natural hormone GLP-1 produced in the gut thereby increasing the amount of insulin in the pancreas and suppressing glucagon production. They also reduce appetite and increase satiety leading to weight loss. Some GLP-1 receptor agonists[2] are therefore also indicated in the treatment of obesity, a chronic disease with limited pharmacological treatment options and a major risk factor for a range of other chronic medical conditions, including type 2 diabetes, cardiovascular disease, depression and certain cancers. GLP-1 receptor agonists have been shown to reduce inflammation and improve cell survival. This leads to benefits that go beyond lowering HbA1c levels (an indicator of how well the blood glucose is controlled) and weight loss, including reducing systolic blood pressure and albuminuria, preserving kidney function and reducing the risk of metabolic liver disease. They also reduce the risk of cardiovascular disease and cardiovascular events and may even have neuroprotective effects. Considering the beneficial effects and the manageable side effects of these medicines many people living with diabetes and/or obesity may take advantage of a treatment with a GLP-1 receptor agonist. During the workshop it was also highlighted that the newest generation of GLP-1 receptor agonists that are taken weekly are now more commonly used than medicines of the older generation that are taken daily.

Workshop participants highlighted the need for gathering and analysing relevant data and developing adequate models to accurately predict future demand and inform manufacturing capacity as an important part of shortage management. In Italy alone the use of GLP-1 receptor agonists for diabetes treatment has increased from 5 % to 30 % over the last few years.[3]

For obesity, stakeholders highlighted that treatment options are limited; GLP-1 receptor agonists are the mainstay of pharmacotherapy and bariatric surgery plays an important role in treatment of obesity.

[2] The approved indications for GLP-1 receptor agonists may vary and the product information should be consulted.
[3] https://aemmedi.it/wp-content/uploads/2024/05/240514_Annali_AMD_A4_SINGOLE.pdf

Obesity is described by WHO as a chronic complex disease defined by excessive fat deposits that can impair health.[4] Obesity can lead to increased risk of type 2 diabetes, heart disease and cancer. It can affect bone health, reproduction and many other organs. To reduce the risk of these complications, treatment should be approached in the same way as other chronic diseases.

In addition to the growing use of these medicines in their authorised indications there is also interest for so-called "cosmetic" weight loss in people without obesity or people with overweight who do not have weight-related health problems. This use has been mentioned frequently in news outlets and social media and adds further pressure on supplies, worsening existing shortages. Social media discussions related to the use of GLP-1 receptor agonists for cosmetic weight loss are not limited to certain regions in the world and emphasise the global dimension of the challenge. EMA's preliminary analysis of social media listening (the process of monitoring, tracking, and analysing social media channels to gain insights into what people are saying about a particular topic) found that online discussions on this topic are dominated by discussions on the medicines' effectiveness for weight loss including personal experiences, discussions on known side effects (e.g. gastro-intestinal side effects and muscle loss) and also other potential safety issues (e.g unintended pregnancy). Discussion on pricing and affordability are also present on the social media platforms. Online sales are often advertised through social media and criminal activities in this area have been reported with a risk of falsified products entering the market with serious consequences for public health (see EMA alert[5]).

There was broad agreement amongst stakeholders that these medicines should not be used for cosmetic weight loss for which none of these medicines are authorised. This is particularly important during a shortage situation to ensure that patients who need the medicines can get them.

Since diabetes and obesity are both chronic diseases GLP-1 receptor agonists are intended for long-term treatment. However, shortages will lead to interruptions in treatment which will result in a loss of benefits leading to an increase of glucose levels and weight gain as well as an increased risk of cardiovascular and renal complications. If GLP-1 receptor agonists are not available due to a shortage, patients may have to be switched to other therapies which could be less efficacious leading to disease worsening and additional healthcare costs, more side effects, making people less likely to adhere to treatment or making them lose confidence in their treatment. Finally, any interruption in treatment can cause anxiety and uncertainty for patients and add to the workload of healthcare professionals who spend significant time in changing prescriptions and finding alternatives. A representative of community pharmacists highlighted that in 2023, pharmacists spent on average almost 10 hours a week trying to find alternatives for medicines in shortage.[6] Handling shortages adds a significant administrative burden on top of the daily work of healthcare providers. However, it is not just the added workload and stress that pharmacists and other healthcare providers face, but also the confrontation they may face from patients when they cannot dispense the medicines prescribed due to a shortage.

During the workshop, it was highlighted that GLP-1 receptor agonists play an important part in the treatment of obesity but they are not the optimal choice for every person. In general practice, an integrated prevention and management plan that involves dietary changes and increased physical activity is still considered to be a cornerstone in the management of obesity.

[4] https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight

[5] EMA alerts EU patients and healthcare professionals to reports of falsified Ozempic pens

[6] https://www.pgeu.eu/wp-content/uploads/2024/01/PGEU-Medicine-Shortages-Report-2023.pdf

Prioritisation guidelines are important to manage limited supply and ensure fair allocation during shortages. These should be drawn up together with organisations representing people living with diabetes or obesity and relevant healthcare professional organisations.

Affordability was highlighted by some stakeholders as a key aspect in the discussion on availability of these medicines.

Stakeholders representing patients and healthcare professionals have pointed out that the high cost of GLP-1 receptor agonists in general and the lack of reimbursement for obesity treatments are currently limiting the use of these medicines for people with obesity. This means that the population that could potentially benefit from GLP-1 receptor agonists is wider than those who are currently being treated. o improve access, industry and policymakers should make these medicines available at affordable prices to all patients who could benefit from them. The authorisation of generic medicines in the coming years will help expand access to treatment within healthcare budgets. However, the authorisation of generics for second and third generation GLP-1 receptor agonists is not expected in the short term.

Mitigation measures

Key messages

- EMA and the EU medicines regulatory network have been closely monitoring shortages of GLP-1 receptor agonists and have taken actions through the MSSG, Medicine Shortages SPOC WP and at national level.
- Member States have implemented tailored measures to control the supply of these medicines within their national healthcare systems.
- Measures to control distribution and supplies are complemented by industry action on increasing manufacturing capacity and streamlining processes.
- Implementation and dissemination of the recommendations issued by the MSSG are key for further tackling the shortages.
- Efforts made to increase supplies need to be complemented with strategies focusing on prevention and lifestyle measures.

Measures from EMA and Member States

Since 2022 EMA and the EU regulatory network have been closely monitoring these shortages through the new governance structures and tools set up by Regulation (EU) 2022/123:[7]

- EMA's Executive Steering Group on Shortages and Safety of Medicinal Products (MSSG),[8] which is an executive body that coordinates urgent actions within the EU to manage

[7] Regulation (EU) 2022/123 of the European Parliament and of the Council of 25 January 2022 on a reinforced role for the European Medicines Agency in crisis preparedness and management for medicinal products and medical devices: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2022:020:TOC

[8] https://www.ema.europa.eu/en/about-us/what-we-do/crisis-preparedness-management/executive-steering-group-shortages-medicinal-products

medicine supply issues in a public health emergency or major event and also leads on activities related to preparedness for crises. This includes issuing recommendations on actions to be taken at EU level relating to critical medicine shortages and the quality, safety and efficacy of medicines;

- Its working party, the Medicines Shortages Single Point of Contact working party (SPOC WP)[9], which is responsible for monitoring and gathering data that will inform the actions of the MSSG. In a crisis situation, the SPOC WP is responsible for identifying critical medicines that require close supply and demand monitoring. Outside crisis situations, the SPOC WP is also responsible for monitoring the supply of medicines to identify any shortages. The SPOC WP consists of experts dealing with supply issues at the national medicines agencies in EU/EEA Member States and is, therefore, closely linked to the supply chain actors in the Member States including distributors and healthcare systems.

The MSSG and SPOC working party have closely monitored the shortages of GLP-1 receptor agonists and facilitated actions such as the redistribution of stocks among EU Member States to avoid stocks running out and patients not getting the medicines they need. SPOC WP and the MSSG held regular meetings with the marketing authorisation holders (MAHs) to gain a full oversight of the market situation, by closely monitoring and coordinating mitigation actions. Companies have also benefitted from flexibilities in the evaluation of individual regulatory applications to ease the shortage situation. EMA has been holding regular meetings with its international counterparts to foster a global understanding of the situation and exchange best practices. It does so through the Drug Shortages Global Regulatory Working Group, an international forum of medicine regulators and the World Health Organization, established to share information about relevant shortages of medicines with a global impact and actions taken in each jurisdiction to mitigate the impacts of these shortages.

In addition, EU Member States have implemented tailored measures to control the supply of these medicines within their national healthcare systems. Several examples were presented at the workshop on how Member States have successfully controlled the supply of GLP-1 receptor agonists.

In **Belgium**, measures have been introduced to limit prescribing of GLP-1 receptor agonists to specific categories of patients and conditions. Of note, these allow some off-label use for the treatment of obesity for the following patients:

- Type 2 diabetes patients,
- Patients with obesity with a BMI of ≥ 35kg/m² (first prescription by endocrinologist),
- Patients with obesity with a BMI of ≥ 30kg/m² in combination with at least one weight-related comorbidity (first prescription by endocrinologist),
- Patients currently being treated with a GLP-1 analogue for obesity who were eligible at the start of their treatment,
- Patients receiving these medicines in the context of a clinical trial.

The latest guidelines have been established through a royal decree. In addition, any exports of GLP-1 receptor agonists now require prior authorisation from the regulatory authorities.

[9] https://www.ema.europa.eu/en/committees/working-parties-other-groups/medicines-shortages-single-point-contact-spoc-working-party

In **Czechia**, there was significant media attention surrounding the off-label use of some GLP-1 receptor agonists, and analysis of e-prescription records indicated that up to 40% of prescriptions were not reimbursed, indicating likely off-label use. To mitigate the shortages, the national competent authority applied export bans and foreign batch approvals. Additionally, restrictions were put in place through the Czech e-prescription system to limit prescriptions to diabetes by selected specialists, with a maximum prescription limit of three months at the recommended therapeutic dose. With these restrictions in place the percentage of non-reimbursed prescriptions was nearly eliminated.

In **Italy**, shortages of a GLP-1 receptor agonist were mitigated through the control of off-label prescribing via a distribution model used for critical medicines known as "Distribuzione per conto" (DPC), whereby there is no free distribution, and the respective MAH implements a quota system. Regional authorities obtain medicine packs directly from the MAH and distribute them to pharmacies for dispensing to patients with a reimbursable medical prescription for on-label indications.

In **Norway**, the shortage of Ozempic was initially mitigated by importing foreign or unauthorised packages. However, this led to significant costs for the healthcare system as the price of foreign packages was seven times higher than the cost of Norwegian packages. The cost was further compounded by the long duration of this shortage and the growing patient group using Ozempic. The Norwegian Medical Products Agency issued guidance and statements against off-label prescribing of Ozempic. However, this was not sufficient to reduce off-label prescribing and the Norwegian agency had to introduce additional measures to control prescriptions, reduce national healthcare expenses, and ensure that patients who need the treatment have access. The measures include the need for doctors to make requests to the Norwegian Health Economics Administration (HELFO) for individual patients to start Ozempic, removing reimbursement for foreign packages, and asking pharmacies to only supply 4 weeks at a time to patients with diabetes who are eligible for reimbursement.

Within the SPOC WP the mitigation measures taken by individual Member States were mapped and this mapping was the basis for the recommendations adopted by the MSSG on 12 June 2024. The MSSG makes recommendations for all stakeholders and asks Member States to consider, jointly with marketing authorisation holders, introducing measures to control and optimise the distribution of these medicines. Member States are also encouraged (together with experts and learned societies for both diabetes and obesity) to develop guidelines to facilitate prioritisation of patients who have the greatest need for these medicines.

The MSSG recommends marketing authorisation holders to increase manufacturing capacity and to continue engaging with regulatory authorities to ensure coordination. In addition, promotional activities are highlighted, and the MSSG asks marketing authorisation holders of GLP-1 receptor agonists to ensure that the messages they use to promote these medicines are approved by regulatory authorities, in accordance with national law. Claims made by companies in the context of such activities should align with rational medicine use and public health goals.

The MSSG is also appealing to healthcare professionals and members of the public to follow its key recommendations.

For healthcare professionals, the recommendations are a reminder that any use outside of the approved indication of the individual medicines is considered off-label, and that this use will aggravate existing shortages. These medicines should only be prescribed in line with their authorised use, taking into account relevant national and therapeutic guidelines.

GLP-1 receptor agonists are not approved and should not be used for weight loss in people who do not have obesity or who are overweight without weight-related health problems. Healthcare professionals who are approached by patients without underlying health problems, should consider discussing appropriate lifestyle changes instead.

For patients and members of the public, it is important to remember that GLP-1 receptor agonists are prescription medicines and should only be used under medical supervision. Like all medicines, they have side effects. They should be prescribed by and taken under the supervision of a doctor, who can help determine the risks and benefits for individual patients. Using these medicines without medical supervision is dangerous.

Patients who are already being treated with GLP-1 receptor agonists should contact their doctor if their prescribed medicine is not available. The doctor will look at available options and may select another treatment as necessary.

To gain a comprehensive overview of how these medicines are used in real life, the MSSG has agreed to carry out a study based on real world data (via Darwin EU:[10] The Darwin EU study on drug utilisation studies on GLP-1 agonists[11]). The study aims to provide characteristics of patients who are being prescribed GLP-1 receptor agonists and information on how prescribing practices have changed over the past 10 years including comparative prescribing trends with other medicines used in diabetes and obesity management as well as patterns of off-label use. This will help to better understand the drivers of the demand for GLP-1 receptor agonists.

Actions taken by the marketing authorisation holders

Representatives from Elli Lilly (marketing authorisation holder for Trulicity and Mounjaro) and Novo Nordisk (marketing authorisation holder for Ozempic, Rybelsus, Wegovy, Saxenda and Victoza) highlighted that despite significant investment in manufacturing expansion, intermittent shortages are continuing due to the unprecedented high demand for their GLP-1 receptor agonists. Novo Nordisk stated that it has increased production capacity and invested in expanding global capacity through acquisitions and partnerships. Elli Lilly stated that it is also making significant investments to improve and increase its manufacturing capacity around the world, which include the acquisition of a new facility in Limerick, Ireland, and a production facility in Germany and, based on their forecasts, it expects increased resilience in 2025.

However, increasing production is complex as it involves stepping up many different production steps such as those involving the active ingredient, filling capacity, packaging. In addition to increasing production capacity, both companies are exploring ways to maximise medicine delivery solutions and devices, as well as potential scalability options. They are also looking into the development of new GLP-1 receptor agonists in oral formulations, which could help alleviate the shortages in the future. However, accurately predicting and forecasting long-term demand for these medicines remains a challenge.

Sanofi highlighted that their GLP-1 receptor agonist (Lyxumia) is a first generation GLP-1 receptor agonist indicated for the treatment of type 2 diabetes and requiring once daily administration. In comparison to second and third generation GLP-1 receptor agonists its effects on weight and Hb1AC are modest. The medicine currently has a small market share and is not affected by a shortage. The company will however continuously monitor demand and supply and current forecasts do not predict a shortage in 2024.

[10] https://www.ema.europa.eu/en/about-us/how-we-work/big-data/real-world-evidence/data-analysis-real-world-interrogation-network-darwin-eu
[11] https://catalogues.ema.europa.eu/node/4124/administrative-details

The international perspective

Despite differences in the regulatory frameworks between EU/EEA countries and other jurisdictions there are many synergies in the management of shortages. Regular exchanges with international regulators have helped EMA to learn and adapt existing practices.

In the United States, FDA's measures to address shortages are similar to the measures that MSSG has at its disposal[12] These include reaching out to manufacturers of alternative medicines to increase supply and regulatory discretion to release products that do not meet current FDA-approved specifications. If the FDA identifies any safety issues with a product, they may require additional safety measures to be put in place. For instance, they might mandate additional testing to mitigate any potential risks.

FDA can also expedite the regulatory review, to prevent or mitigate medicine shortages. The potential importation of product is an option of last resort to assist with a shortage situation.

In the context of the shortages of GLP-1 receptor agonists, communication activities have been key: the FDA has communicated regularly with marketing authorisation holders regarding their current and projected supply and demand, published updated availability information every two weeks or more frequently on their website, and responded to public inquiries with up-to-date availability information. The FDA also participates in working groups, workshops, and meetings with international regulatory counterparts to discuss supply situations and best practices for addressing shortages.

Communication

Key messages

- While communication is key to shortage management in providing information to stakeholders, alone it is not enough to bring about behavioural change and has to be complementary to other mitigation measures.
- The MSSG recommendations reinforce that GLP-1 receptor agonists should be used in line with their authorised indications and applicable national guidance.
- All stakeholders have a role to play in helping to disseminate a clear, concise and consistent message.
- Discussions on social media can lead to misinformation and there have been concerns about potential promotion of medicines.

Consumer representatives call for more regulation of online discussions and promotional activities by companies to protect health consumers. Promotional activities for medicines during shortages have to be carefully considered. Communication is central to shortage management and is also playing a key role in the management of the shortages of GLP-1 receptor agonists. It helps ensure that all stakeholders are informed about a shortage and its impact, allowing them to take necessary actions to mitigate the effects. Effective communication also helps prevent

[12] MSSG Toolkit on recommendations on tackling shortages of medicinal products: https://www.ema.europa.eu/en/documents/other/mssg-toolkit-recommendations-tackling-shortages-medicinal-products_en.pdf

panic buying and hoarding, which can exacerbate the shortage, as well as promote transparency and accountability in the management of shortages.

EMA's communication activities on GLP-1 receptor agonists included publishing individual shortage catalogue entries[13] to inform patients and healthcare professionals of the shortages. In addition, Direct Healthcare Professional Communications were issued and published for selected GLP-1 receptor agonists.

Leading up to the MSSG recommendations EMA carried out a detailed analysis in Q4 2023 of the national supply and availability situation, mitigation actions and communication activities. The shortages have been part of national communication campaigns which aimed to reinforce national guidance and often also to reduce off-label use. The message in the communication campaigns varied and did not always include a call for action. The impact of communication activities has not been measured in most Member States, but off-label use remained an issue.

This analysis was one of the building blocks for the recommendations for actions to all stakeholders issued by the MSSG.

The MSSG recommendations were adopted on 12 June 2024 by EMA with a press release and an accompanying press briefing to amplify the messages through media engagement and also to reach directly individual patients and healthcare professionals through national media outlets.

The workshop highlighted that all stakeholders have a role to play to manage and subsequently end the shortage of GLP-1 receptor agonists. The dissemination of clear, concise and consistent messages is key in this process. Stakeholders provided their support for disseminating the messages through their channels (including the organisations' websites with an e-learning platform, social media platforms like LinkedIn, a scientific journal, newsletters and guidelines for educating professionals on diabetes and obesity management). However, they also called for more information materials, consistent messages and a framework for collaboration to address these shortages which should be drawn up in conjunction with them.

The session highlighted principles of good communication, such as clarity and consistency, the role of media as an important channel to promote messages and the interaction and dialogue needed with all stakeholders. It also highlighted the limitations of communication and the need for communication to be used in conjunction with other measures leading to changes in behaviour.

Communication also played a key role for non-EU regulators. Health Canada has an integrated communication strategy in place, using tools such as a public website for shortage reporting, multi-stakeholder calls, and supply notices to provide full details about the shortage with recommendations for patients and healthcare professionals. For GLP-1 receptor agonist shortages, Health Canada convened also an expert group including pharmacists, family physicians, endocrinologists as well as patient organisations representing patients with diabetes and obesity. The expert group developed the following recommendations:

- do not start new patients on these medicines that are in shortage, unless there are no suitable alternatives and there's a clinical reason to do so;
- consider prescribing an alternative medicine for patients taking one of these medicines that are in shortage, as a continuous supply can't be guaranteed;

[13] EMA public information on shortages: https://www.ema.europa.eu/en/human-regulatory-overview/post-authorisation/medicine-shortages-availability-issues/public-information-medicine-shortages

- conserve the existing supply for patients who are stabilized and have no other treatment options.

Much debate around the use of GLP-1 receptor agonists has arisen on social media. Limited research in the United States suggests a significant increase in public interest around the use for cosmetic weight loss, raising concerns about worsening existing shortages and the need for more education. [14, 15, 16] EMA's social media listening confirmed that discussions related to the use of GLP-1 receptor agonists for weight loss are also prevalent on social media platforms in the EU.

The debate on social media brings new challenges as social media platforms are often conduits to amplify mis - and disinformation. It also presents regulatory agencies with new challenges as they have to engage with a younger audience that is not familiar with regulatory or health topics. As a result, there is a need to adapt communication strategies to effectively inform and educate the public on regulatory and health-related issues across social media platforms. EMA's social media listening found that the on-line discussion is dominated by people belonging to different age groups (25 to 34 years of age and 55 to 64 years of age). EMA has therefore used a combination of social media tools to target the different age groups (LinkedIn and Instagram) in its promotion of the MSSG recommendations.

The workshop highlighted the role and responsibility of industry in promotion of medicines even during shortages. Concerns were raised by consumer representatives that promotion of medicines to healthcare professionals undermine the concept of rational use of medicines as they may lead to more prescriptions, higher costs for health systems and patients, and deviations from guidelines. They also highlighted concerns about indirect pharmaceutical promotion to patients through disease awareness campaigns. While such campaigns are allowed in the EU as long as they comply with the guidance applicable, consumer representatives highlighted the risk that there may be indirect promotion of medicines due to potential sharing of campaigns e.g. with the United States where different rules around promotion apply. Additionally, there are concerns that these campaigns may be designed in a way that leads to inaccurate self-diagnosis by patients. This could result in unnecessary use of medications or an incorrect choice of medication. Moreover, social media was highlighted as a platform that increases the reach and potential impact of such campaigns, highlighting the need for regulatory action to protect consumers. Industry representatives highlighted that they take their role in educating patients seriously and disease awareness campaigns are an important part of this activity. Whereas industry highlighted the strict rules in place to ensure education and information are balanced, consumer representatives called for more regulatory action to reduce marketing practice during shortages with more educational material from regulators.

[14] Basch et al 2023: corresponding author: Descriptive analysis of TikTok videos posted under the hashtag #Ozempic

[15] Basch et al 2017: corresponding author is J. Yin: An exploratory assessment of weight loss videos on YouTube™

[16] Han et al 2023: corresponding author is Sarah Sorice-Virk: Public Interest in the Off-Label Use of Glucagon-like Peptide 1 Agonists (Ozempic) for Cosmetic Weight Loss: A Google Trends Analysis

Closing remarks

This workshop provided an effective forum for stakeholders from across the EU/EEA to reflect collectively on the ongoing shortages of GLP-1 receptor agonists, and to identify additional activities to manage the situation.

It brought valuable insights on how medicine shortages affect public health and what implications they have for people living with diabetes or obesity. The workshop also reflected on the impact that shortages have on healthcare professionals and the additional pressures they are exposed to in finding alternatives.

Everyone has a role to play and workshop participants gave their commitment for further concrete actions to ensure that these medicines become readily available again to those who need them the most.

Participants called for guidelines on prioritising patients during shortages and to ensure that treatments are allocated fairly and efficiently across patient populations. The guidelines must be inclusive and provide for both people with obesity and those with diabetes. They must be drawn up in collaboration with healthcare professionals and patients with diabetes and obesity to ensure that the patients' needs are fully considered and that they can be implemented in clinical practice.

There was consensus that using these medicines for cosmetic weight loss should be discouraged to ensure that patients who need them most can access them during shortages.

Communication was identified as critical in management of shortages, and there is a need to increase the reach to patients and healthcare professionals. Stakeholders committed to promoting and disseminating clear and consistent messages to ensure the recommendations of the MSSG will reach the target audience and counterbalance some of the misleading information circulating on social media and to promote the responsible use of these medicines.

Some stakeholders call for more regulation of online discussions and promotional activities by companies to protect consumers' health. Promotional activities for medicines during shortages have to be carefully considered.

The discussions and agreements reached during the workshop have laid groundwork for further continued collaboration. EMA will continue this open dialogue through the various mechanisms already in place to work towards improving availability of these key medicines for patients

Glossary

EC	European Commission
EMA	European Medicines Agency
HMA	Heads of Medicines Agencies
MAH	Marketing authorisation holder
MSSG	Executive Steering Group on Shortages and Safety of Medicinal Products
NCA	National Competent Authority
SPOC WP	Medicines Shortages Single Point of Contact Working Party

More information

More about the MSSG

Under its new mandate (Regulation on EMA's Reinforced Role (Regulation (EU) 2022/123), EMA has new responsibilities to monitor critical medicines shortages that might lead to a crisis situation. The MSSG was set up to ensure a robust response to medicine supply issues caused by major events or public health emergencies. The members of the MSSG include representatives of EU Member States, one representative of the European Commission, one EMA representative, as well as an observer from EMA's Patients' and Consumers' Working Party (PCWP) and an observer from EMA's Healthcare Professionals' Working Party (HCPWP).

For more information about EMA's responsibilities in monitoring and mitigating medicine and medical device shortages under Regulation (EU) 2022/123, see Crisis preparedness and management.

More about the SPOC WP

The SPOC working party is responsible for monitoring and reporting events that could affect the supply of medicines in the EU. It provides recommendations to EMA's Executive Steering Group on Shortages and Safety of Medicinal Products (MSSG) on all matters related to the monitoring and management of medicines shortages and other availability issues affecting human and veterinary medicines.

More about the medicines and shortages

GLP-1 receptor agonists are either authorised for the treatment of diabetes (Bydureon and Byetta; Lyxumia; Trulicity; Ozempic and Rybelsus and Victoza) or weight management under certain conditions (Saxenda, Wegovy) or for both indications (Mounjaro).

The medicines act in the same way as GLP-1 (a natural hormone in the body), by increasing the amount of insulin that the pancreas releases in response to food. This helps with the control of blood glucose levels. They also appear to regulate appetite by increasing a person's feelings of fullness, while reducing their food intake, hunger and cravings.

GLP-1 receptor agonists are either single component or combination products. Only single component products are in the scope of the MSSG recommendations. The below table reflects information on the availability and ongoing shortages of the GLP-1 receptor agonists in scope of the MSSG recommendations:

Medicine	Indication	Affected by shortages
Bydureon (exenatide)	adults and children from 10 years of age who have type 2 diabetes	No
Byetta (exenatide)	adults with type 2 diabetes	Yes
Lyxumia (lixisenatide)	adults with type 2 diabetes	Yes
Mounjaro (tirzepatide)	• type 2 diabetes that is not satisfactorily controlled • adults who have obesity (BMI >/= 30 kg/m^2) or overweight (BMI between 27 and 30 kg/m^2) and have weight-related health problems.	No
Ozempic (semaglutide)	adults with type 2 diabetes	https://www.ema.europa.eu/en/documents/shortage/ozempic-semaglutide-supply-shortage_en.pdf
Rybelsus (semaglutide)	adults with type 2 diabetes	Shortage started in 2023 and was resolved in January 2024. https://www.ema.europa.eu/en/documents/shortage/shortage-rybelsus-semaglutide-supply-shortage_en.pdf
Saxenda (liraglutide)	• adults who have obesity (BMI >/= 30 kg/m^2) or overweight (BMI between 27 and 30 kg/m^2) and have weight related health problems • adolescents from 12 years of age with obesity (BMI >/= 30 kg/m^2) who weigh > 60 kg	https://www.ema.europa.eu/en/documents/shortage/saxenda-liraglutide-supply-shortage_en.pdf
Trulicity (dulaglutide)	adults and children from 10 years of age who have type 2 diabetes	https://www.ema.europa.eu/en/documents/shortage/trulicity-dulaglutide-supply-shortage_en.pdf
Victoza (liraglutide)	adults and children from 10 years of age with type 2 diabetes.	https://www.ema.europa.eu/en/documents/shortage/victoza-liraglutide-supply-shortage_en.pdf
Wegovy (semaglutide)	See Saxenda	No

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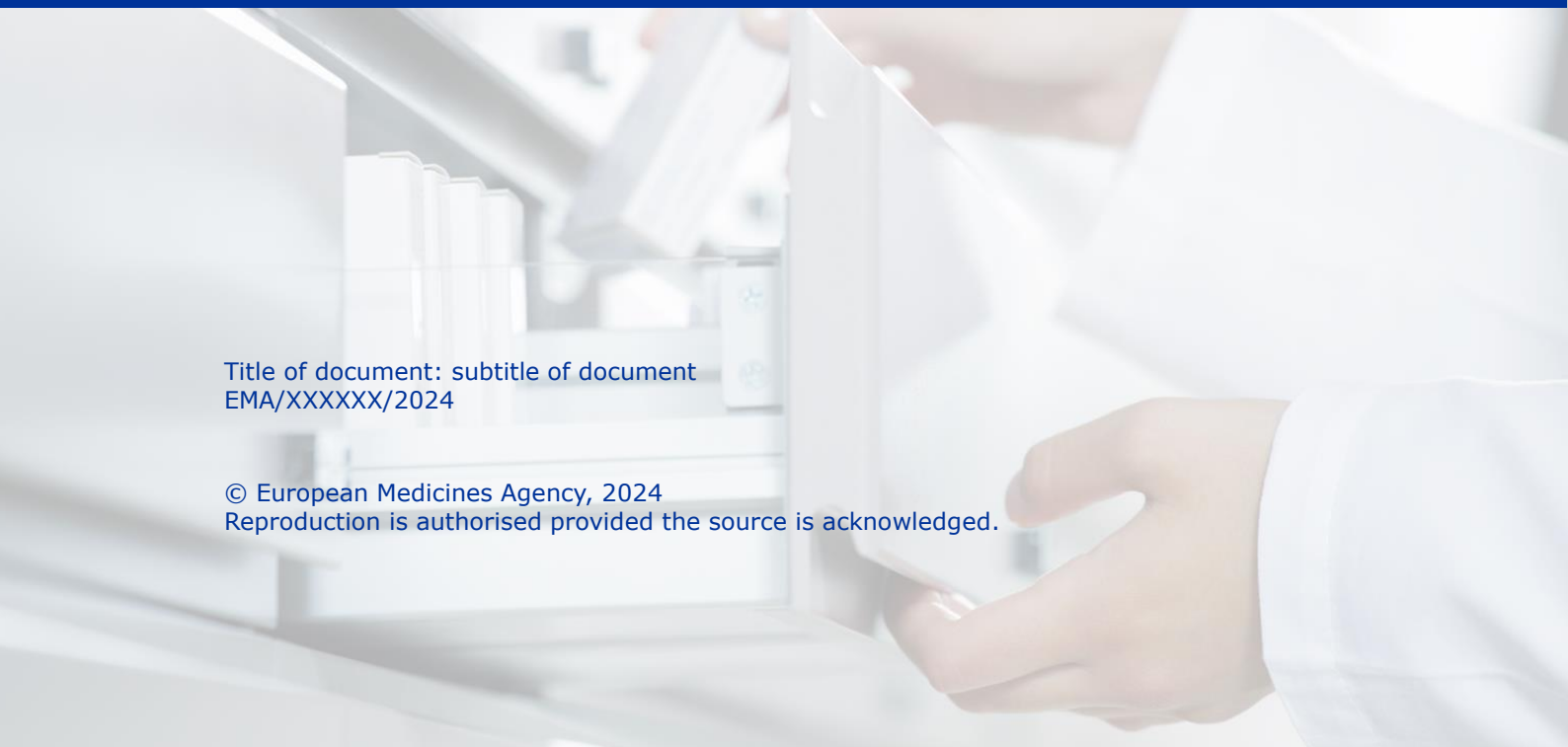

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