

# Oral Rehydration Salts and Zinc: Market and Supply Update

UNICEF Supply Division

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## Oral Rehydration Salts and Zinc - Market and Supply Update September 2022

This update provides information on supply and demand for oral rehydration salts and zinc for 2019-2025. Despite these products being highly effective against diarrhoea and are readily available, demand through UNICEF remains very low. UNICEF advocates for countries to improve access and scale-up their use, as well as to adopt World Health Organization treatment guidelines to use oral rehydration salts and zinc and include products into their national essential medicine lists.

### 1. Summary

- Combination oral rehydration salts (ORS) and zinc treatment is a low-cost and effective solution to treat childhood diarrhoea, as it both reduces diarrhoeal episode symptom severity, duration, and prevents subsequent episodes from occurring. Globally, there are nearly 1.7 billion cases of childhood diarrhoeal disease annually. Yet, and despite the availability of a simple treatment, an estimated 525,000 under-five children still die annually of the disease.<sup>1</sup>
- An estimated 56 per cent of children suffering from diarrhoea do not receive treatment with ORS, and 93 per cent of children do not receive zinc.<sup>2</sup> Of those that do receive ORS and zinc treatment, compliance and adherence is a challenge. In order to improve compliance, manufacturers co-packaged ORS and zinc in accordance with World Health Organization (WHO) treatment protocol guidelines to improve patient adherence to the treatment regimen.
- UNICEF continues to support governments to scale-up the use of ORS and zinc by sourcing and promoting quality co-packaged ORS and zinc, and to facilitate access in countries requiring quality assured, secure, and stable supply. UNICEF has expanded and diversified its supplier base to include manufacturers located in some high-burden countries, including in Africa, to allow for quicker delivery times.
- UNICEF advocates and encourages countries to only use co-packaged ORS and zinc in order to ensure greater adherence to WHO's treatment guidelines. Co-packaged ORS promotes optimal treatment of diarrhoea in children. In some countries, studies show only 19 per cent and 15 per cent of children with diarrhoea have been treated with ORS and zinc respectively.<sup>3</sup>
- UNICEF has launched a new tender (July 2022-January 2023) for ORS and zinc to encourage suppliers from developing countries and with economies in transition to supply ORS and zinc products for both emergencies and programme requirements.

### 2. Background & Recent History



Source: UNICEF<sup>4</sup>

Diarrhoea remains one of the leading causes of under-five child mortality globally and is a leading cause of under-five child malnutrition, despite the availability of a simple treatment solution. An estimated 525,000 children under the age of five needlessly die annually of diarrhoeal disease.<sup>5</sup> Sixty per cent of these deaths occur in just 10 countries in Asia and Africa: Bangladesh, Democratic Republic of Congo, Ethiopia, India, Kenya, Niger, Nigeria, Pakistan, Tanzania, and Uganda.<sup>6</sup> One of main reasons why the death rate from diarrhoea is so high in these regions is because the prevalence of diarrhoea is associated with high-risk factors such as malnutrition, unsafe water sources, and the lack of access to essential treatment. ORS and zinc are highly effective and affordable products that could prevent the deaths in up to 93

<sup>1</sup> World Health Organization, [Diarrhoea Disease](#), WHO, Geneva, May 2017.

<sup>2</sup> The UN Commission on Life-Saving Commodities, [Oral Rehydration Salts \(ORS\) - Product Profile](#), UN Foundation, New York, 2012.

<sup>3</sup> Mohamed, Sagad, Mansour Alawad, Asaad Ahmed, et al., [Access to Oral Rehydration Solution and Zinc Supplementation for Treatment of Childhood Diarrhoeal Diseases in Sudan](#), PMC PubMed Central, Bethesda, September 2020.

<sup>4</sup> UNICEF, [One Is Too Many Ending Child Deaths from Pneumonia and Diarrhoea](#), UNICEF, New York, November 2016, p. 8.

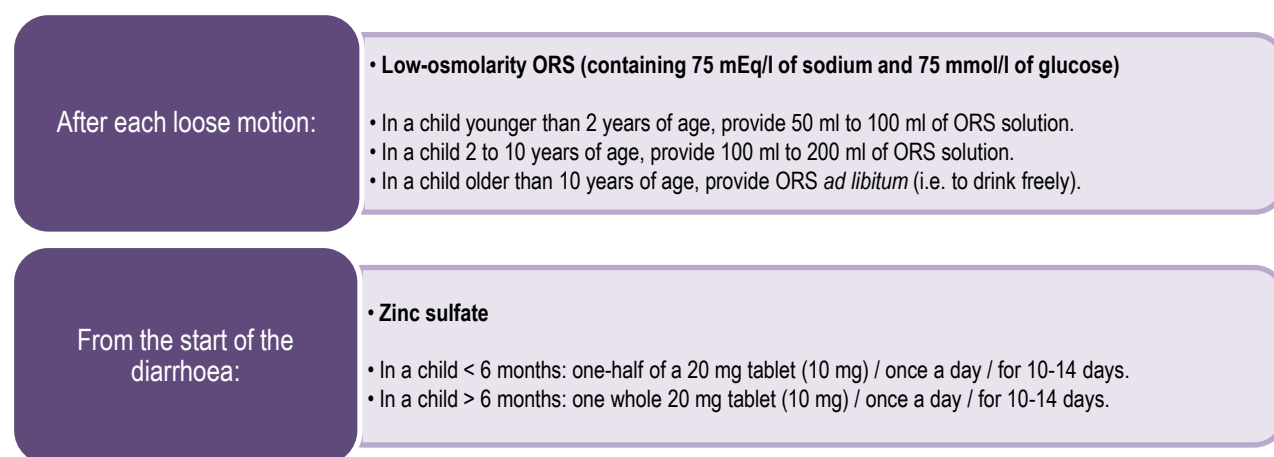
<sup>5</sup> WHO, [Diarrhoea Disease](#).

<sup>6</sup> Ibid.

per cent of diarrhoea cases, and which compel WHO to recommend using ORS and zinc collectively to ensure effective treatment.<sup>7</sup>

The World Health Organization provides clear recommendations on the use of ORS together with zinc through the Integrated Community Case Management (iCCM) guidelines for the treatment of diarrhoea.<sup>10</sup>

Figure 3 WHO's Childhood Diarrhoea Treatment Protocol (less than 14 days AND no blood in stool)



Source: World Health Organization

Since 2000, a lot of progress has been made to decrease diarrhoea deaths. They have dropped significantly, falling from 1.2 million to 526,000 in 2015 representing a decline of 57 per cent. The World Health Organization recommends that diarrhoea be treated with ORS and zinc and be complemented by prevention interventions including improved access to safe water, adequate sanitation, good hygiene,<sup>11</sup> and [rotavirus vaccination](#).<sup>12, 13</sup> Whereas ORS replaces the essential fluids and salts lost through diarrhoea, zinc supplementation decreases the duration and severity of episodes, and reduces the risk of recurrence in the short-term.

<sup>7</sup> UNICEF, World Health Organization, [Ending Preventable Child Deaths from Pneumonia and Diarrhoea by 2025](#), WHO, Geneva, April 2013, p.15.

<sup>8</sup> UNICEF, [One Is Too Many Ending Child Deaths from Pneumonia and Diarrhoea](#), p. 13.

<sup>9</sup> UNICEF, [Diarrhoea Remains a Leading Killer of Young Children, Despite the Availability of a Simple Treatment Solution](#), UNICEF, New York, April 2021.

<sup>10</sup> World Health Organization, [A WHO / UNICEF Joint Statement Integrated Community Case Management \(iCCM\) - An Equity-Focused Strategy to Improve Access to Essential Treatment Services for Children](#), WHO, Geneva, June 2012.

<sup>11</sup> WHO, [Diarrhoea Disease Fact](#).

<sup>12</sup> UNICEF, [Rotavirus Vaccine Supply and Demand Update](#), UNICEF, Copenhagen, January 2022.

<sup>13</sup> Whereas a wide range of viral and bacterial pathogens can cause diarrhoea, rotaviruses are the single largest cause, representing approximately 40 per cent of hospitalizations due to diarrhoea.



In 2005, WHO and UNICEF recommended a switch from standard ORS to an improved low-osmolarity formulation, combined with the introduction of zinc supplementation for the treatment of diarrhoea in children (Figure 3, previous page).<sup>14</sup> WHO recommends the treatment of diarrhoea in children with **no** signs of dehydration with ORS and zinc. They are to drink lots of clean water from a safe source mixed with ORS, and to take zinc tablets or syrup for a period of 10-14 days.<sup>15</sup>

The World Health Organization had initially included separate ORS and zinc products in its [Essential Medicines List \(EML\)](#),<sup>16</sup> and in 2011 in the [Priority Medicines for Mothers and Children](#),<sup>17</sup> and many high-burden countries have since also included these in their national EMLs and treatment guidelines for childhood diarrhoea. However, despite ORS and zinc being readily available and affordable on the global market, and that a treatment course can cost as little as USD 0.57,<sup>18</sup> many children (or caregivers) in developing countries do not easily have access to these products. Studies show that only 44 per cent of children suffering from diarrhoea are treated with ORS; and fewer than seven per cent are treated with zinc.<sup>19</sup>

Figure 4 Challenges Affecting ORS and Zinc Community Use and Local Availability

|                    | Considerations                                                                                                                                                                                                                                                                                                           | Actions Taken by UNICEF and Partners                                                                                                                                                                                                                                                                                                      |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Awareness</b>   | <ul style="list-style-type: none"> <li>Poor general awareness and low access to ORS by caregivers and health workers.</li> <li>Poor awareness and low access to zinc.</li> <li>Many communities poorly understand ORS and do not consider it medicine as it can only 'treat' diarrhoea, but it is not a cure.</li> </ul> | <ul style="list-style-type: none"> <li>Governments encouraged to review and update their policy, legislation, and regulation of ORS and zinc, including switching zinc from a prescription only medicine to an over-the-counter medicine.</li> <li>ORS and zinc included in WHO's priority medicines for mothers and children.</li> </ul> |
| <b>Products</b>    | <ul style="list-style-type: none"> <li>The taste of non-flavoured ORS is not appealing to children.</li> <li>Flavoured ORS is unavailable in the public sector.</li> <li>The quantity of ORS produced with a 20.5g/1 litre sachet is considered too much, and of which a lot is wasted.</li> </ul>                       | <ul style="list-style-type: none"> <li>Flavoured ORS formulations introduced into UNICEF's Supply Catalogue.</li> <li>UNICEF worked with manufacturers to introduce a 10.2g/0.5 litre sachet presentation for ORS treatment.</li> </ul>                                                                                                   |
| <b>Access</b>      | <ul style="list-style-type: none"> <li>Manufacturers consider ORS and zinc to be of limited commercial value as they are low-priced and low-profit margin products.</li> <li>Zinc availability is limited in many countries resulting in regular health facility stock-outs.</li> </ul>                                  | <ul style="list-style-type: none"> <li>Wholesalers and distributors encouraged to include ORS and zinc in their supply chains.</li> <li>UNICEF established long-term arrangements (LTAs) with multiple ORS and zinc certified manufacturers in Africa, Asia, and Europe.</li> </ul>                                                       |
| <b>Utilization</b> | <ul style="list-style-type: none"> <li>Inadequate ORS and zinc prescription accuracy.</li> <li>Low patient ORS and zinc compliance with treatment prescription and regimen.</li> </ul>                                                                                                                                   | <ul style="list-style-type: none"> <li>Co-packaged ORS and zinc field-tested to facilitate treatment prescription, administration, compliance, and adherence.</li> <li>ORS and zinc user-friendly co-packaging developed in accordance with WHO treatment guidelines.</li> </ul>                                                          |

The UN Commission on Life Saving Commodities (UNCoLSC), launched in 2012, identified and targeted 13 life-saving health products including ORS and zinc.<sup>20</sup> The UNCoLSC sought to improve the level of community access to these products and scale up their development, financing, and access in high-burden countries. UNICEF contributed to the work of UNCoLSC by supporting the development, financing, and implementation of plans to scale-up the effective treatment of diarrhoea in high-burden countries by increasing access to diarrhoea treatment through both the public and private sectors.

The World Health Organization and UNICEF published in 2013 the Integrated Global Action Plan for Pneumonia and Diarrhoea (GAPPD), which aims to reduce mortality from diarrhoea in children less than 5 years of age to fewer than 1

<sup>14</sup> World Health Organization, [Diarrhoea Treatment Guidelines](#), International Science and Technology Institute, Arlington, January 2005.

<sup>15</sup> UNICEF, [Diarrhoea Supporting Information](#), UNICEF, Copenhagen, May 2021.

<sup>16</sup> World Health Organization, [WHO Model List of Essential Medicines](#), WHO, Geneva, March 2011.

<sup>17</sup> World Health Organization, [Priority Medicines for Mothers and Children 2011](#), WHO, Geneva, March 2011.

<sup>18</sup> Source: UNICEF catalogue price of 2 x ORS flavour 20.5g / 1l + zinc 20mg x 10 tablets in a co-pack of 10, at USD 0.57 per pack.

<sup>19</sup> Defeat DD, [Tracking Disparities in the Use of Oral Rehydration Solution to Treat Childhood Diarrhoea](#), Program for Appropriate Technology in Health, Seattle, July 2020.

<sup>20</sup> The UN Commission on Life-Saving Commodities, [Lifesaving Commodities](#), UN Foundation, New York, 2014.

per 1000 live births by 2025.<sup>21</sup> In support of achieving this objective, UNICEF has been procuring ORS and zinc in different presentations, including in co-packaged presentations before it was included in WHO's EML.

UNICEF has made progress in supporting and encouraging access to optimal diarrhoea treatment through the public sector. Figure 4 (previous page) highlights some of the challenges that contribute to constraining the availability, access, and uptake of optimal ORS and zinc treatment for diarrhoea in many countries.

In supporting the initiative to increase access to optimal diarrhoea treatment in the public sector, UNICEF introduced innovative co-packaged ORS and zinc in 2014 and has since sought to scale up its use. Experience showed that having ORS and zinc listed separately in the country EML and model list of essential medicines for children (EMLc) contributed to the products being procured, supplied, and distributed separately, and thus, not often being systematically dispensed together as a combined treatment. Data showed that less than only seven per cent of diarrhoea cases were treated with both ORS and zinc.<sup>22</sup> In 2019, WHO added co-packaged ORS and zinc to its EML, and its EMLc.<sup>23</sup>

### 3. Products Available Through UNICEF

UNICEF only procured non-flavoured ORS in sachets for reconstitution in one litre of water, and zinc in 20mg dispersible tablets until 2012. UNICEF subsequently expanded the ORS and zinc product offerings to meet the needs of end-users by introducing orange flavoured ORS, as well as ORS sachets for reconstitution in 500 ml of water, so half the volume. The improved taste of these newer products is to encourage up-take and to reduce waste. In 2014 UNICEF, introduced a co-packaged ORS and zinc to support programme efforts to optimize the treatment of diarrhoea in children (Table 1). Further information on the products available through UNICEF can be accessed [here](#).<sup>24</sup>

Current indicative pricing for ORS and zinc has significantly decreased over the past three years by an average of eight per cent, notably for the one litre sachets, and notably zinc, on account of economies of scale following an increased supplier base and more competition.

Table 1 ORS and Zinc Products Procured by UNICEF

| UNICEF Catalogue Number  | Material                                           | Presentation   | Indicative Price 2018 | Indicative Price 2021 | Change |
|--------------------------|----------------------------------------------------|----------------|-----------------------|-----------------------|--------|
| <a href="#">S1561120</a> | ORS low osm. sachet 20.5g / 1l                     | Carton of 100  | USD 7.10 carton       | USD 6.35 carton       | -11%   |
| <a href="#">S1561121</a> | ORS low osm. sachet 20.5g / 1l                     | Carton of 1000 | USD 70.18 carton      | USD 64.36 carton      | -8%    |
| <a href="#">S1561140</a> | ORS low osm. sachet 10.2g / 0.5l                   | Carton of 1000 | USD 54.89 carton      | USD 60.55 carton      | 10%    |
| <a href="#">S1561130</a> | ORS low osm. orange flavour sachet 20.5g / 1l      | Carton of 100  | USD 9.46 carton       | USD 8.04 carton       | -15%   |
| <a href="#">S1561131</a> | ORS low osm. orange flavour sachet 20.5g / 1l      | Carton of 1000 | USD 94.63 carton      | USD 74.28 carton      | -22%   |
| <a href="#">S1561132</a> | ORS low osm. orange flavour sachet 10.2g / 0.5l    | Carton of 1000 | USD 76.45 carton      | USD 75.30 carton      | -2%    |
| <a href="#">S1580020</a> | Zinc 20mg tablets                                  | Carton of 100  | USD 1.80 carton       | USD 1.33 carton       | -26%   |
| <a href="#">S1580021</a> | ORS flav. 4 x 10.2g / 0.5l + zinc 20mg, 10 tablets | Co-pack of 10  | USD 0.54 pack         | USD 0.58 pack         | 7%     |
| <a href="#">S1580022</a> | ORS flav. 2 x 20.5g / 1l + zinc 20mg, 10 tablets   | Co-pack of 10  | USD 0.58 pack         | USD 0.57 pack         | -2%    |

Source: UNICEF Supply Division

#### 3.1 ORS and Zinc Co-packaging

The World Health Organization and UNICEF recommend that acute diarrhoea in children be treated with both ORS and zinc. The World Health Organization added zinc supplementation for the treatment of childhood diarrhoea to its EML in 2005 to encourage countries to include zinc in their programmes through their national medicines lists and health budgets.

From 2006 UNICEF started supplying 20mg zinc tablets in addition to ORS. However, despite zinc being readily available through UNICEF, the demand for zinc in many countries was limited due to a general lack of knowledge and awareness by caregivers and health workers. In addition, the two products were treated very differently on national EMLs, creating a number of barriers impeding access to zinc and ORS. As such, the rate of co-administration of both products has been extremely low and therefore children often do not receive the optimum recommended treatment for childhood diarrhoea.

To address this, UNICEF implemented a number of strategies. Firstly, UNICEF worked with its manufacturers to develop a co-packaged ORS and zinc product (Figure 5) based on WHO's guidelines (Figure 3, page 2). It introduced two ORS and zinc co-packaged products into its supply catalogue in 2014 (Table 1, previous page). Providing ORS and zinc as

<sup>21</sup> World Health Organization, [The Integrated Global Action Plan for Prevention and Control of Pneumonia and Diarrhoea \(GAPPD\) Ending Two Major Preventable Causes of Child Death](#), WHO/ UNICEF, Geneva, January 2013.

<sup>22</sup> UNICEF, World Health Organization, [Tracking Progress Towards Universal Coverage for Women's, Children's and Adolescents' Health](#), Washington DC, 2017.

<sup>23</sup> World Health Organization, [Report of the 22nd Expert Committee on the 2019 Selection and Use of Essential Medicines](#), WHO 2019

<sup>24</sup> UNICEF, [Supply Catalogue](#), UNICEF, Copenhagen, 2021. Search = "oral rehydration salts".

co-packaged products will facilitate and ensure that caregivers can dispense, and patients can adhere more easily to the recommended treatments for childhood diarrhoea.

Figure 5 Co-packaged ORS and Zinc



Secondly, UNICEF, together with UNCoLSC's Pneumonia and Diarrhoea Working Group, advocated for zinc to be reclassified from a prescription only medicine (POM) to an over-the counter (OTC) medicine. As ORS in many countries was an OTC product, it made it difficult to access zinc at the same time as a POM. Aligning both product classifications to ensure they were both OTCs made co-packaging and access to the products easier. Many countries have implemented the change, enabling manufacturers to distribute and market co-packaged ORS and zinc as an OTC product. Co-packaged ORS and zinc availability through the public sector is a priority for UNICEF and WHO. Since its introduction into UNICEF's supply catalogue in 2014, more than twenty countries have introduced this product for public sector distribution. UNICEF has to date procured over 62 million ORS and zinc co-packs.

Thirdly, in 2019 UNICEF collaborated with partners to propose that WHO include co-packaged ORS and zinc in their model list of EMLc, resulting in co-packaged ORS and zinc being listed in both WHO's EML and EMLc.

#### 4. Market Situation

The potential market for ORS and zinc is considerable. Consider that approximately there are 1.7 billion episodes of diarrhoea annually amongst children, with the highest burden being in Angola, Bangladesh, Chad, China, Côte d'Ivoire Democratic Republic of the Congo (DRC), Ethiopia, India, Indonesia, Kenya, Niger, Nigeria, Pakistan, Somalia, Tanzania, and Uganda. If all of those episodes were to be treated with ORS and zinc in accordance with WHO and UNICEF treatment guidelines, it would represent approximately four billion sachets of ORS and 20 billion zinc tablets. By comparison, during the previous tender period (2017-2021) UNICEF only procured a total of 254 million ORS sachets and 3.2 billion tablets of zinc. The current treatment coverage rates are low, with ORS reaching only approximately 44 per cent and zinc only seven per cent in low- and middle-income countries, with the lowest coverage for ORS being across the Middle East, North Africa, and sub-Saharan Africa (28 per cent). Whereas the procurement of ORS through UNICEF was previously in response to emergency programmes, in recent years, increasingly, country programme needs have substantially contributed to increasing the demand, particularly for ORS and zinc co-packaged presentations. As such, procurement of ORS and zinc through UNICEF has been dependent on country programme funding.

Private sector market research analysts have difficulty accurately evaluating the global ORS market and provide wide ranging valuation estimates. On one hand, some research estimates the ORS market to range from USD 664.8 million in 2021, with expectations of it reaching up to USD 963 million by the end of 2028, growing at a compound aggregate growth rate (CAGR) of 5.4 per cent a year between.<sup>25</sup> On the other hand some market research estimates the global ORS market to be valued at USD 642 million in 2021 with a CAGR projection of 11.09 per cent to reach USD 1.2 billion by 2027.<sup>26</sup>

##### 4.1 Impact of COVID-19

The impact of COVID-19 over 2020 and 2021 resulted in a decline in the procurement of pharmaceuticals through UNICEF in general, including ORS and zinc. During this period, UNICEF reduced its warehouse procurement replenishment, in addition to undertaking fewer direct deliveries to countries. Both 2020 and 2021 were exceptional years focused on mitigating the impact and consequences of COVID-19. However, while COVID-19 has had an impact on people's access to health services in many countries, UNICEF's access to supply of ORS was not impacted severely by the situation due to it having a well-diversified supplier base in Africa, South Asia, and Europe. Looking forward, despite recent cost price reduction in ORS and zinc, UNICEF anticipates that there could be costs increases due to the inflationary pressures on all production facets of global supply, from energy to raw materials, supply chain challenges, and increased pressure on labour costs, which will all highly likely have an impact on the production costs and prices of ORS.

##### 4.2 Demand

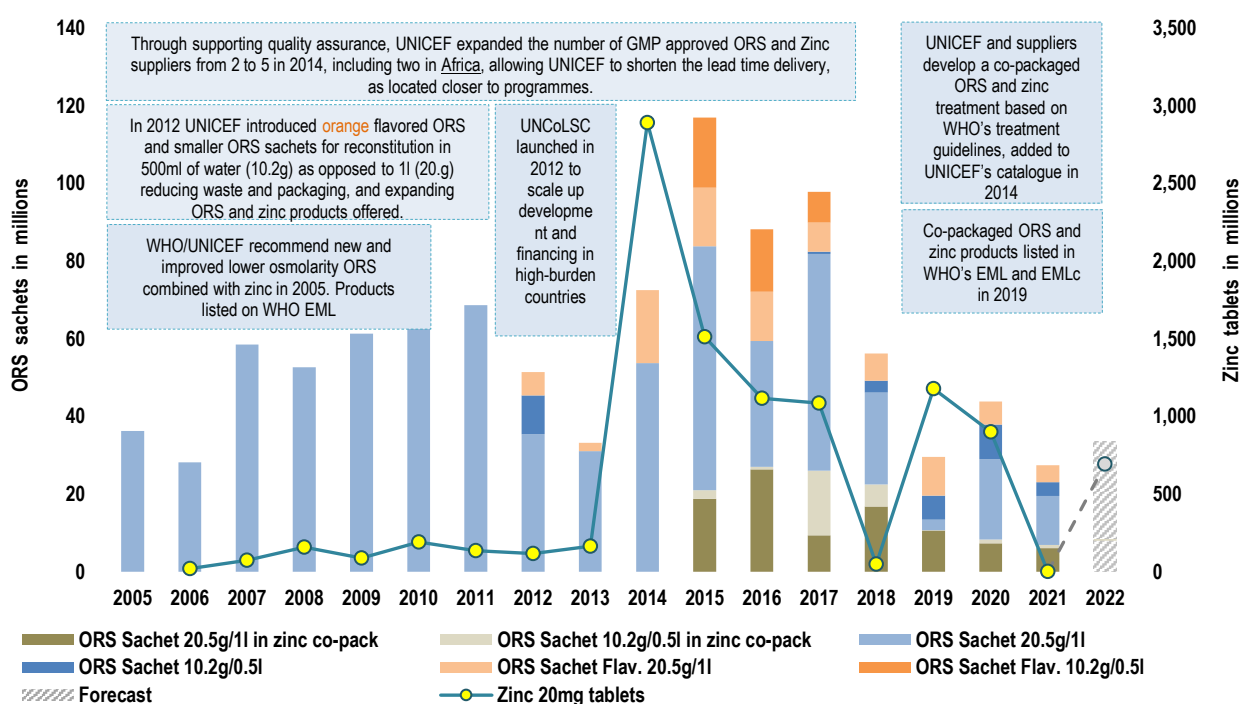
ORS and zinc are high turnover items, driven by country programme procurement, which UNICEF procures mainly for its various child health programmes and for use in emergencies. From 2005 until 2013, UNICEF had procured on average

<sup>25</sup> Market Watch, [Oral Rehydration Salts Market to Grow At A CAGR Of 5.4% Through 2028](#), Market Watch, July 2022.

<sup>26</sup> Research and Markets, [Oral Rehydration Salts Market Research Report by Form - Global Forecast to 2027](#), Research and Markets, April 2022.

approximately 51 million ORS sachets per year, primarily of 20.5g/1l, with quantities ranging annually from 30 million to 80 million sachets (Figure 6). The high increase in the number of ORS sachets procured through UNICEF during 2015 to 2017 was on account of a number of large country and emergency response programmes.

Figure 6 ORS and Zinc Supply through UNICEF 2014-2021



In 2014, UNICEF introduced co-packaged ORS and zinc. Following its introduction into its supply catalogue, UNICEF's annual procurement of ORS in co-packaged products has averaged 17 million sachets over the years, ranging from 21 million co-packaged sachets in 2015 to reaching a high of 27 million co-packaged sachets in 2016, and a low of six million in 2021. The proportion of ORS procured in co-packaged products through UNICEF has averaged approximately 28 per cent per year, ranging from 40 per cent in 2018 to 19 per cent in 2020. UNICEF expects with the inclusion of co-packaged ORS and zinc into WHO's EMLc in 2019, the procurement of the co-packaged ORS and zinc will increase even further in the coming years. However, given the low usage of ORS and zinc in the treatment of children with diarrhoea, UNICEF calls on countries to include co-packaged ORS and zinc in their essential medicines list to promote access to the treatment.

UNICEF prepositions a significant proportion of the ORS and zinc it procures in its warehouse in Copenhagen for emergency response preparedness purposes to cover the needs of 250,000 children. Small quantities for local programmatic needs can be shipped from the warehouse in Copenhagen. However, most quantities for ongoing programme needs are shipped directly from UNICEF's manufacturers. Sometimes emergency response requirements can generate demand volumes that substantially exceed UNICEF's contingency stock levels as well as the direct deliveries from international manufacturers. In such cases, supply can sometimes be subject to significant delays in lead-times. Therefore, UNICEF aims to have manufacturers located in strategic programme countries to potentially improve local and regional emergency response capacity, both in terms of supply availability and timely delivery. As such, UNICEF established supply arrangements for ORS and zinc with manufacturers located in some high-burden programme countries, such as Bangladesh, India, and Kenya, thus expanding UNICEF's number of approved good manufacturing practice (GMP) manufacturers for ORS and zinc in high burden countries and allowing for quicker delivery times of quality assured products.

Under UNCoLSC, UNICEF had ensured that ORS was made readily available in programme countries beyond only health facilities, but also through the private sector. UNICEF's key challenge to date remains how to increase the channels of access in order to encourage greater access to the product. Another important strategic activity in many countries was to introduce the availability of co-packaged ORS and zinc products from separate ORS and zinc products, particularly in the

public sector.<sup>27</sup> The efforts from 2012 to 2016 contributed to reaching the combined ORS and zinc coverage levels of 30 per cent in eight Nigerian states, 30 per cent in Uganda, and 15 per cent in Kenya. These particular coverage levels exceed those of most countries in Africa and are likely the result of the successful implementation of the comprehensive interventions needed to scale up recommended diarrhoea treatments, but especially influential in regard to zinc is the co-packaging with ORS that can quickly equalize their use.

### 4.3 Supply

In 2016, UNICEF launched its last tender, which resulted in it establishing five long-term arrangements (LTAs) for ORS, five LTAs for zinc, and four LTAs for ORS and zinc co-packs. The LTAs were established with suppliers located in programme countries such as Bangladesh, India, and Kenya. Apart from India being a country where most of the generic medicine manufacturers are located, it is also a programme country. UNICEF establishing LTAs with suppliers located in programme countries contributes to the economic pillar of sustainable procurement (\*see next page), as it encourages more localized production, and thus supporting economic development in the programme countries. However, the last tender failed to realize volume guaranteed price reductions during the LTA duration period.

UNICEF selects GMP approved manufacturers competitively through its tenders. UNICEF awards long-term arrangements (LTAs) to manufacturers that bid successfully to supply products, usually over a two or three-year period. Table 2 lists UNICEF's most recent ORS, zinc, and ORS and zinc co-packaged tender awards.

Table 2 UNICEF Current ORS and Zinc Product LTA for 2017-2023 Continued next page

#### ORS

| LTA Number | Vendor                       | Start      | End        | Item Description                       | Material |
|------------|------------------------------|------------|------------|----------------------------------------|----------|
| 42106030   | Universal Corp. (Kenya)      | 24/05/2017 | 23/05/2023 | ORS low osm. 20.5g/1l CAR/10x100       | S1561121 |
|            |                              |            |            | ORS low osm. flav 20.5g/1l CAR/100     | S1561130 |
|            |                              |            |            | ORS low osm. flav 20.5g/1l CAR/10x100  | S1561131 |
|            |                              |            |            | ORS low osm. flav 10.2g/0.5l CAR10x100 | S1561132 |
|            |                              |            |            | ORS low osm. 10.2g/0.5l CAR/10x100     | S1561140 |
| 42106031   | KBI Pharma. (Germany)        | 24/05/2017 | 23/05/2023 | ORS low osm. 20.5g/1l CAR/10x100       | S1561121 |
|            |                              |            |            | ORS low osm. 10.2g/0.5l CAR/10x100     | S1561140 |
| 42106034   | FDC (India)                  | 24/05/2017 | 23/05/2023 | ORS low osm. 20.5g/1l CAR/10x100       | S1561121 |
| 42106035   | Eskayef Pharma. (Bangladesh) | 24/05/2017 | 23/05/2019 | ORS low osm. 20.5g/1l CAR/10x100       | S1561121 |
| 42106036   | Renata (Bangladesh)          | 24/05/2017 | 23/05/2023 | ORS low osm. flav 20.5g/1l CAR/100     | S1561130 |
|            |                              |            |            | ORS low osm. flav 20.5g/1l CAR/10x100  | S1561131 |
|            |                              |            |            | ORS low osm. flav 10.2g/0.5l CAR10x100 | S1561132 |
|            |                              |            |            | ORS low osm. 10.2g/0.5l CAR/10x100     | S1561140 |

#### Zinc

| LTA Number | Vendor                      | Start      | End        | Item Description          | Material |
|------------|-----------------------------|------------|------------|---------------------------|----------|
| 42106022   | Square Pharma. (Bangladesh) | 24/05/2017 | 30/12/2020 | Zinc 20mg tablets/PAC-100 | S1580020 |
| 42106029   | Macleods Pharma. (India)    | 24/05/2017 | 23/05/2023 | Zinc 20mg tablets/PAC-100 | S1580020 |
| 42106030   | Universal Corp. (Kenya)     | 24/05/2017 | 23/05/2023 | Zinc 20mg tablets/PAC-100 | S1580020 |
| 42106032   | Nutriset (France)           | 24/05/2017 | 23/05/2023 | Zinc 20mg tablets/PAC-100 | S1580020 |
| 42106034   | FDC (India)                 | 24/05/2017 | 23/05/2023 | Zinc 20mg tablets/PAC-100 | S1580020 |

#### ORS and Zinc Co-pack

| LTA Number | Vendor                 | Start      | End        | Item Description                           | Material |
|------------|------------------------|------------|------------|--------------------------------------------|----------|
| 42106030   | Universal Corp (Kenya) | 24/05/2017 | 23/05/2023 | ORS flav.0.5lx4 + zinc 20mg 10tabs.kit/PAC | S1580021 |
|            |                        |            |            | ORS flav.1lx2 + zinc 20mg 10tabs.kit/PAC   | S1580022 |
| 42106036   | Renata (Bangladesh)    | 24/05/2017 | 23/05/2023 | ORS flav.0.5lx4 + zinc 20mg 10tabs.kit/PAC | S1580021 |
|            |                        |            |            | ORS flav.1lx2 + zinc 20mg 10tabs.kit/PAC   | S1580022 |

Source: UNICEF Supply Division

<sup>27</sup> Robert E Black, [Progress in the use of ORS and Zinc for the Treatment of Childhood Diarrhoea](#), PMC PubMed Central, Bethesda, January 2019.

UNICEF recently launched a new tender for the period 2023-2025, due to conclude in January 2023, with two bidding windows. UNICEF is seeking to ensure:

- The continued availability and reliable supply of ORS and zinc products for emergency and programme requirements,
- To increase UNICEF's product offerings by introducing user-friendly ORS and zinc co-packaged products,
- To extend the number of suppliers particularly for ORS and zinc co-packaged products from programme countries to increase competition and ensure affordable ORS and zinc products and,
- To ensure UNICEF secures a diversified supplier base of good quality and affordable ORS and zinc.

UNICEF will conclude its tender by offering successful suppliers LTAs for a duration of 36 months, with an option of renewal for a further 24 months.

### 3. Sustainable Procurement

#### Sustainable Procurement Considerations

In implementing SP, UNICEF seeks to include green manufacturing quality management systems and social considerations, SP criteria in tender evaluations and specific supply targets to develop local industry capacity in programme countries.

In applying SP, many UNICEF procurement decisions will face trade-offs between SP's three (economic, social, and environmental) pillars, and present key operational challenges, especially between environmental and social considerations, with the latter often being more difficult to quantify. The absence of evidence to make any informed trade-off decisions will be part of the challenge. The other challenge will be the difficulty to make value judgments to prioritize one pillar over the other. However, solutions will be situation specific, and priorities based on readiness, market influence, and targeted objectives.

Some SP elements, notably under the social pillar, may put some pressure on short-term costs that generate longer-term savings, such as investments in fairer employment working conditions, or health and safety, which would be offset by increased motivation, productivity, and reductions in work-related injury and absenteeism. To achieve higher tangible economic benefits and VfM, UNICEF and industry will strive to manage procurement decisions based on longer-term perspectives, considering the advantages of environmentally, socially sound products and services, and better performing staff, bring in the long-term.

In February 2018, UNICEF released its Procedure on SP ([SUPPLY/PROCEDURE/2018/001](#)). The procedure constitutes UNICEF's policy on SP and is applicable across all UNICEF offices engaged in supply planning and procurement, wherever feasible and applicable, whether for goods or services, or for programmes or office assets. Read more [here](#).<sup>28</sup>

Sustainable procurement (SP) is an approach to procurement that incorporates the three sustainability pillars of social, economic, and environmental impact considerations. It goes beyond the more familiar "green" public procurement, to ensure that all products and services procured support local economic and social development, with the least environmental impact, and the best value for money (VfM).

### 4. Issues and Challenges

- ORS is a simple product to produce, and as much as this is an advantage for many countries to produce it, it can result in product quality being impaired as many manufacturers are not primarily pharmaceutical manufacturers and the World Health Organization does not currently prequalify ORS products. Therefore there are currently no prequalified ORS products available.
- By contrast, zinc tablets are used as a dietary supplement, and it remains limited, particularly in developing countries, even though it requires simple technology and is inexpensive to manufacture. WHO has prequalified four zinc products to date. As manufacturers of ORS and zinc have been historically different, few manufacturers are able to offer ORS and zinc co-packaged products. As such, some of those manufacturers that do, source their ingredient from other suppliers.
- Due to the limited number of quality suppliers of ORS and ORS and zinc co-packaged products, there are even fewer that can meet the quality standards required for international procurement. Some of the suppliers that UNICEF had awarded supply agreements to as an outcome of its last tender were cancelled as they were not able to maintain product quality standards throughout their LTA duration. As ORS is an over-the-counter medication and is marketed socially in many countries, supplying demand through UNICEF does not offer sufficient incentive to improve manufacturing and product quality to meet international procurement standards.
- Even though many governments have policies to support local manufacturers, programme country national budgets for the procurement of medicines, including ORS and zinc, are in most instances limited and not adequate to cover the national requirements of all essential medicines. As there are no global financing mechanisms for procurement of medicines for the treatment of diarrhoea, and that most funding for ORS procurement through UNICEF has been

<sup>28</sup> UNICEF, [Sustainable Procurement](#), UNICEF, Copenhagen, September 2018.

through country programmes using donor funding, which fluctuates due to changing donor priorities, UNICEF's procurement outlook is difficult to accurately forecast.

## 5. Steps Forward

- UNICEF will continue to actively seek and establish more LTAs with GMP compliant manufacturers of ORS and zinc co-packaged products, especially in programmatic countries.
- UNICEF will continue to maintain good supply security to promote access to co-packaged ORS and zinc.
- UNICEF will continue to advocate for the use of ORS and zinc as a cost-effective treatment for childhood diarrhoea in integrated community case management (iCCM), especially in UNICEF programme countries and inclusion of the ORS/zinc co-pack in essential medicines lists.
- UNICEF launched a tender for 202-2025, due to conclude in January 2023, and will issue new LTAs for a duration of 36 months, with an option of renewal for a further 24 months. UNICEF will seek to expand its supplier base for ORS/zinc co pack with suppliers based in programme countries to promote local production and access to quality ORS/zinc products.

For further questions or additional information, please contact:

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Other UNICEF information notes can be found at: <https://www.unicef.org/supply/market-notes-and-updates>

UNICEF issues market and information notes on products and supplies that are essential for the needs of children, and by extension their families. While some products are easily available and affordable, the availability of others can be limited, or in some instances, non-existent in the quality and price required. UNICEF places a strategic focus on these supplies to shape healthy markets. UNICEF seeks to influence the market to achieve greater coverage, affordable prices, diversified supplier bases, competitive market landscapes, and product quality that is fit for purpose and in the right form for children.