



TRADE IN MEDICAL GOODS IN THE CONTEXT OF TACKLING COVID-19: DEVELOPMENTS IN 2019-21

INFORMATION NOTE¹

KEY POINTS:

- Total imports and exports of medical goods were valued at US\$ 2,028 billion in 2019 and grew to US\$ 2,654 billion in 2021, with a yearly growth rate of 14.4 per cent.
- Before the pandemic, the medical goods sector comprised 5.3 per cent of total world trade in 2019. This share increased to 6.6 per cent in 2020 and was at 5.9 per cent in 2021.
- The dominance of the United States and Europe in the global trade of medical goods remained unchallenged even if, for certain less technology-intensive products, there was a shift to the Asian region. The export share of Asia in personal protective products (PPPs) grew from 35 per cent in 2019 to 51 per cent in 2020.
- In 2020, world exports of PPPs rose by 44.6 per cent, while China's exports of PPPs grew by 208 per cent.
- Europe remained a net exporter of medical goods throughout the three-year period, while other regions were mostly net importers. Asia was a net exporter in 2020, mainly spurred by the growth in exports of PPPs.
- Ventilators, test kits, face masks and rubber gloves, among other COVID-19-critical products, registered double-digit growth rates in 2020. However, trade in ventilators and face masks slowed in 2021.
- Applied most-favoured-nation (MFN) tariffs on medical goods were relatively low, at around 4 per cent, and even slightly decreased between 2019 and 2021. However, the average tariff for PPPs remained quite substantial, at about 10 per cent. Textile face masks, which became the ubiquitous symbol of the pandemic, were levied at between 25 and 40 per cent by some WTO members.

1 INTRODUCTION

This report presents the developments in the trade in medical goods over the three-year period from 2019, when the SARS-CoV-2 virus, which went on to cause the COVID-19 pandemic, was first identified, through to 2021.

It is part of the information note series on "Trade in medical goods in the context of tackling COVID-19",² which gives semestral updates and comparisons with previous years. The product coverage is consistent with the earlier reports (see Annex) to establish continuity, even if a much broader scope of medical goods has been used for other reports.³

¹ This document has been prepared under the WTO Secretariat's own responsibility and is without prejudice to the positions of WTO members or to their rights and obligations under the WTO. Data sources for all figures cited in this information note are the [Trade Data Monitor](#), the [WTO Integrated Database](#) and the [WTO STATS Portal](#).

² The original report was "Trade in medical goods in the context of tackling COVID-19", issued on 3 April 2020, with the updates issued on [22 December 2020](#), [30 June 2021](#) and [14 December 2021](#).

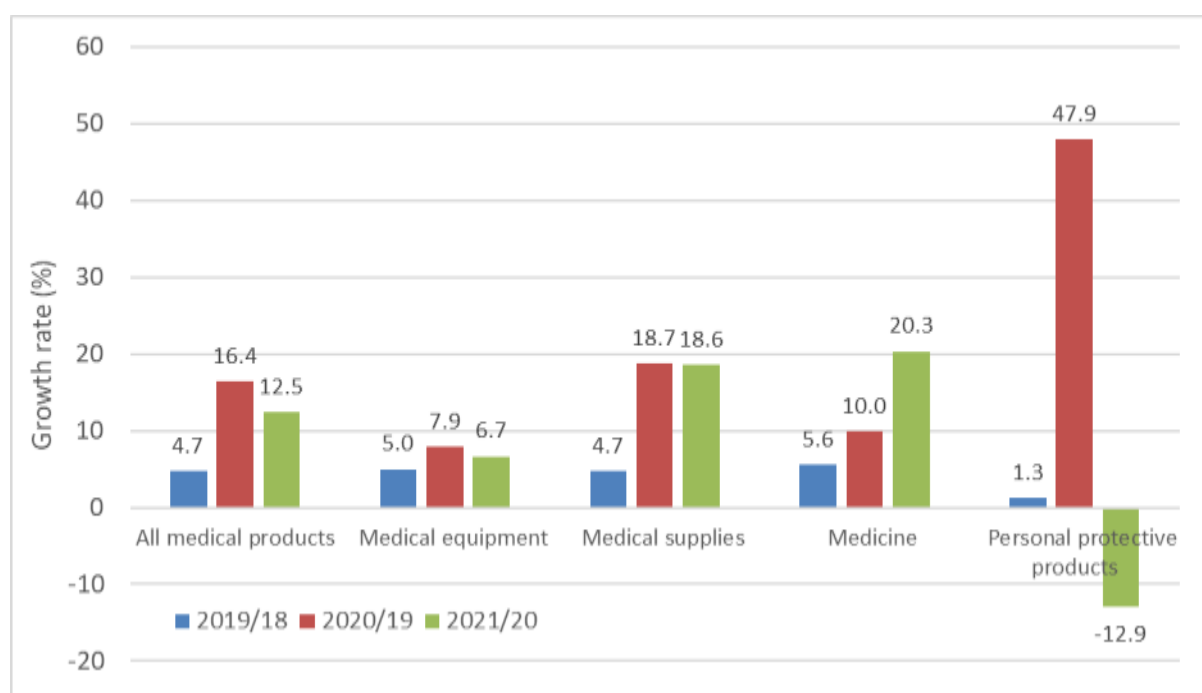
³ For the [Trade Therapy](#) report, for example, a much wider list was used which included orthopaedic equipment.

2 THE MEDICAL GOODS TRADE SUSTAINED HIGH GROWTH AND AN INCREASED SHARE IN TOTAL WORLD TRADE

Global merchandise trade was already slowing down in 2019 at -2.7 per cent, and this contraction worsened in 2020 to -7.3 per cent. The recovery in 2021, however, was quite impressive, with a growth rate of 26.1 per cent.⁴

Meanwhile, trade in medical goods was continuously expanding throughout 2019-21, on average by 11.1 per cent during the three-year period (see Chart 1). The most significant leap was during the first year of the pandemic in 2020, at 16.4 per cent, while growth in 2021 was slightly less steep, at 12.5 per cent.

Chart 1: Trade growth in medical goods, by product group, 2019-21



Source: WTO Secretariat.

In 2019, the medical goods sector accounted for 5.3 per cent of total world trade. The pandemic increased the importance of the industry, and its share increased to 6.6 per cent in 2020. In 2021, while total trade experienced an important recovery, the sectoral share of medical goods continued to be higher, at 5.9 per cent, than its pre-pandemic level.

As the global health situation evolved, the growth and share of the four main groups of medical products fluctuated, reflecting the importance of the relevant goods (see Table 1) at each phase during the pandemic. At the start of the COVID-19 crisis, in 2020, the highest growth was in PPPs, which included face masks and hand sanitizers. Trade in PPPs grew by 48 per cent in 2020, and face masks registered an even greater increase, at 80 per cent.

In the same year, the medical supplies group registered its second highest annual growth at 18.7 per cent. The lack, at that stage, of any definite preventive or curative options, coupled with the highly contagious nature of the virus, meant that the most in-demand products were those for limiting the spread of and for detecting the virus. For palliative care, the demand for ventilators was also acute. Other individual products which saw a phenomenal trade increase were rubber gloves, for which trade almost doubled (99.9 per cent), ventilators (80 per cent) and test kits (43.3 per cent).

⁴ WTO Secretariat calculations based on data from the [WTO STATS Portal](#).

Table 1: Trade in medical products, 2019-21

Product category	Value (US\$ million)			Annual growth (%)		
	2019	2020	2021	2019/ 2018	2020/ 2019	2021/ 2020
EXPORTS						
All medical products	999,603	1,162,315	1,320,459	4.2	16.3	13.6
Medical equipment	140,898	151,051	162,810	4.1	7.2	7.8
<i>Ventilators^a</i>	8,037	14,026	11,268	8.3	74.5	-19.7
Medical supplies	172,780	204,972	238,151	4.6	18.6	16.2
<i>Test kits and diagnostic reagents^b</i>	28,138	39,568	46,618	3.2	40.6	17.8
<i>Rubber gloves^c</i>	7,952	16,690	26,287	-0.3	109.9	57.5
<i>Syringes and needles^d</i>	8,694	8,863	10,379	5.5	1.9	17.1
Medicine	546,243	604,370	738,238	5.0	10.6	22.1
Personal protective products	139,682	201,922	181,260	0.8	44.6	-10.2
<i>Face masks^e</i>	77,299	137,107	106,199	1.8	77.4	-22.5
COVID-19-critical products⁵	304,184	395,898	393,324	2.7	30.2	-0.7
IMPORTS						
All medical products	1,028,229	1,197,536	1,333,288	5.3	16.5	11.3
Medical equipment	145,112	157,578	166,424	5.9	8.6	5.6
<i>Ventilators^a</i>	8,354	15,479	12,195	5.5	85.3	-21.2
Medical supplies	172,286	204,626	247,778	4.8	18.8	21.1
<i>Test kits and diagnostic reagents^b</i>	28,802	42,007	58,203	0.2	45.8	38.6
<i>Rubber gloves^c</i>	8,401	16,002	29,376	3.7	90.5	83.6
<i>Syringes and needles^d</i>	9,371	9,508	11,450	7.7	1.5	20.4
Medicine	572,326	625,734	741,887	6.1	9.3	18.6
Personal protective products	138,505	209,599	177,199	1.8	51.3	-15.5
<i>Face masks^e</i>	78,678	143,575	102,213	2.2	82.5	-28.8
COVID-19-critical products⁵	305,021	405,213	393,789	4.4	32.8	-2.8

^a Harmonized System (HS) code 9019.20

^b HS code 3822.00

^c HS codes 4015.11 and 4015.19

^d HS codes 3926.90, 6307.90 and 9020.00

Source: WTO Secretariat.

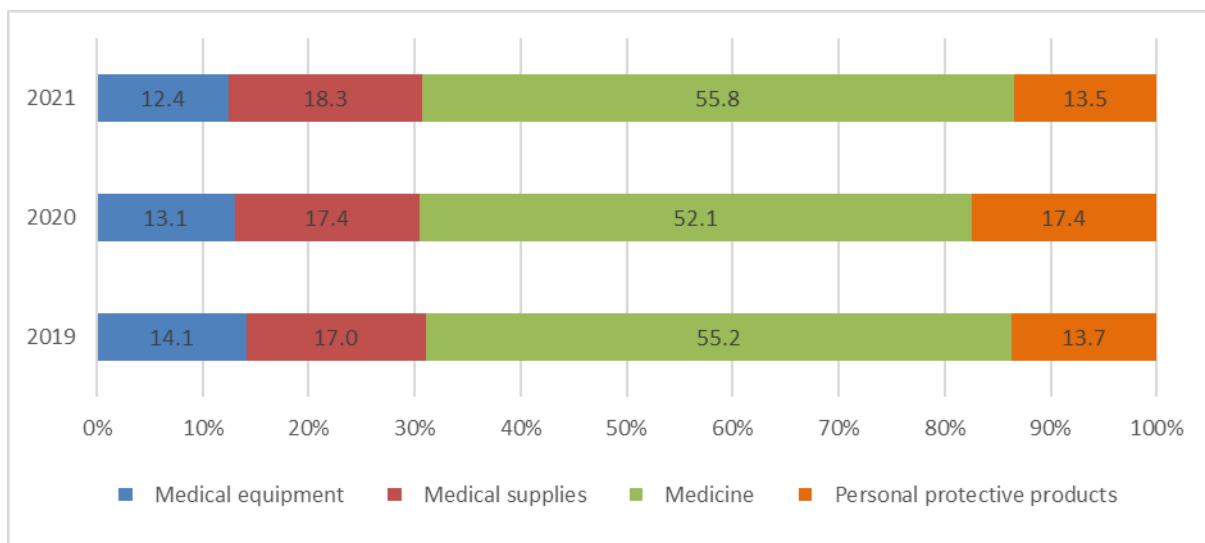
⁵ Critical medical products include: disinfectants/sterilization products; face masks; gloves; hand soap and hand sanitizer; patient monitors and pulse oximeters; protective spectacles and visors; sterilizers; syringes; thermometers; ultrasonic scanning apparatus; ventilators, oxygen masks; X-ray equipment; and other devices such as computer tomography apparatus.

In 2021, vaccines against COVID-19 started to become available, although vaccination took place at varying paces worldwide. The profile of trade for different medical goods changed. Medicine, including vaccines, replaced PPPs as the fastest growing category, with a 20 per cent increase in 2021. As already mentioned in the previous report, the trade of ventilators and face masks declined. The former is a durable good, and as most health facilities had already procured the equipment, there was less new demand. On the other hand, although wearing face masks continued to be officially mandated almost globally, the corresponding trade fell by nearly 13 per cent (-12.9 per cent). The overwhelming demand and insufficient supply had driven the prices of face masks to exorbitantly high levels during the start of the pandemic, but by 2021, prices had stabilized, bolstered by local production, whereby some countries subsidized the production of these less technologically advanced goods to meet their own demand.

Noteworthy in terms of their sustained increase in trade between 2019 and 2021 were rubber gloves. Trade in these products grew by 99.9 per cent in 2020 and by 70.3 per cent in 2021. When vaccination started in 2021, the trade of syringes and needles also took off. While these were not high-value products, with total exports and imports valued at only US\$ 21.8 million in 2021, what was remarkable was their growth rate, with an increase of 18.8 per cent compared to 2020, during which the increase was a negligible 1.7 per cent.

The relative importance of the different products, as reflected in the share in total medical goods trade, also mirrored the progression of the pandemic. Medicines consistently accounted for more than half of the trade value in medical products (see Chart 2), but this share grew even more in 2021, at 55.8 per cent when vaccines were developed, than in 2019-20. The share of the other three product groups fluctuated. PPPs accounted for less than 14 per cent in 2019, rose to 17.4 per cent in 2020, and decreased again in 2021. This trend was driven mainly by the trade value of face masks, as mentioned earlier. The share of medical supplies, which included test kits, rubber gloves, and syringes, consistently increased from 17 per cent in 2019 to 17.4 per cent in 2020 and to 18.3 per cent in 2021.

Chart 2: Yearly share of different medical product groups



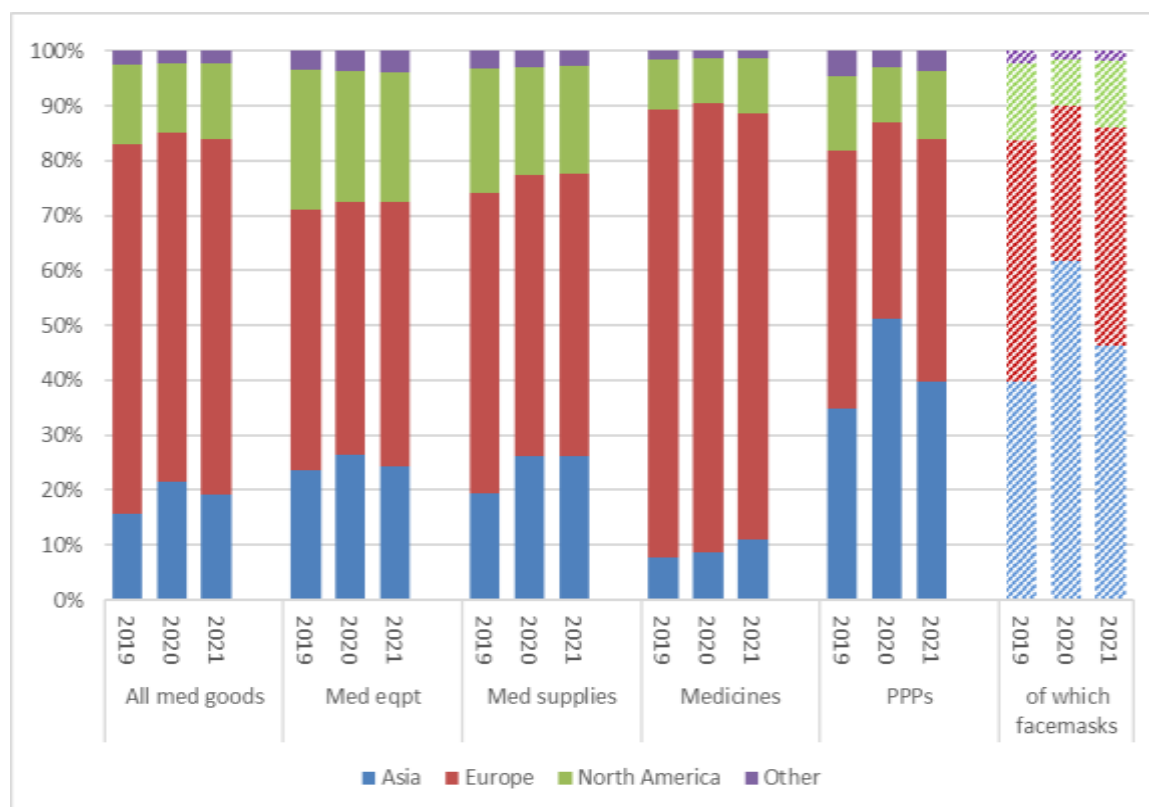
Source: WTO Secretariat.

The pandemic shifted the centre of trade for certain relevant products from Europe and the United States to Asia (Chart 3). The latter's share in world exports of medical goods increased from 15.8 per cent in 2019 to 21.4 cent in 2020, but dropped to 19.3 per cent in 2021. Consequently, the share of all the other geographical regions decreased from their pre-pandemic levels. Asia's exports increased mostly in medical supplies and PPPs. For the latter, in 2019, Asia's share of world exports was just over one-third, at 34.7 per cent, but in 2020, Asia accounted for more than half of world exports. Europe's share of PPP exports fell by more than eleven percentage points but recovered in 2021. The significant increase in Asia's PPP exports was driven by the phenomenal growth in face masks, for which Asia's share jumped by 22 percentage points in 2020, from 39.7 per cent in 2019 to 61.7 per cent in 2020.

Europe remained dominant in medicines production and export, accounting for at least 80 per cent of the world supply in 2019 and 2020. This share slightly dipped in 2021 to 77.7 per cent. Asia's share in medicines, however, increased from 7.7 per cent in 2019 to 10.9 per cent in 2020.

Regions other than Asia, Europe and North America ("Other" in Chart 3) of the world had minimum participation in the global trade in the medical goods sector, with an average share of 2.4 per cent on exports during 2019-21. Specifically, the share of other regions was 2.6 per cent in 2019 but declined further to 2.3 per cent in 2021. In fact, this geographical category, which consists of Africa, Latin and Central America, the Middle East, the Commonwealth of the Independent States and the rest of the world, consistently accounts for less than a 5 per cent share of any of the medical product group categories, which underlines how limited the participation of these regions is in the global exchange of these products.

Chart 3: Regional share in world exports, by product group



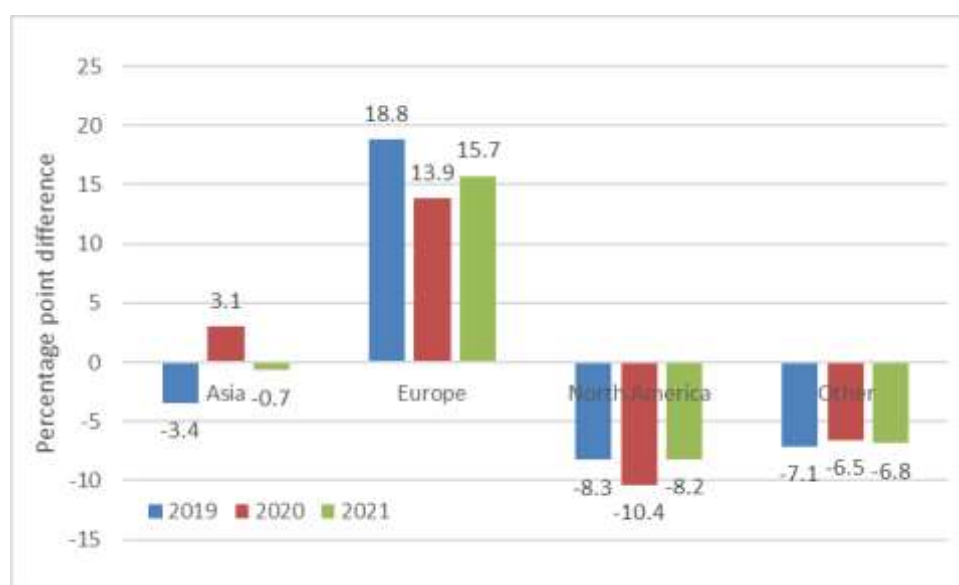
Source: WTO Secretariat.

3 EUROPE WAS THE ONLY REGION WHICH WAS A NET EXPORTER OF MEDICAL GOODS, AND GEOGRAPHICAL DISPARITY IN TRADE OF MEDICAL GOODS WAS EVIDENT

Based on its share in world exports and imports, Europe's dominance in the medical goods sector prevailed during 2019-21. Calculating the difference in the percentage share of world exports and percentage share in world imports for each region, Europe has remained a net exporter of medical goods even if the trade balance dipped slightly during the pandemic years (see Chart 4). All other regions were net importers to varying degrees. Asia has the lowest magnitude and was even a net exporter in 2020, with a 3.1 percentage difference between its share in world exports and imports.

However, the disparity in participation between the other net importing regions is not very apparent in Chart 3. North America, on average, accounted for 13.6 per cent of world exports and 22.5 per cent of imports in 2019-21. The rest of the world ("other") had an average share of 2.4 per cent of world exports and 9.2 per cent of world imports, which, as mentioned earlier, reflects the limited involvement of these regions in the medical goods trade. A more equitable geographical participation in medical goods trade would be a positive global step for future pandemic preparedness.

Chart 4: Trade balance in medical goods, by region, 2019-21



Source: WTO Secretariat.

4 THE UNITED STATES, GERMANY AND CHINA DOMINATED TRADE ON COVID-19-CRITICAL PRODUCTS

In 2019, the United States, China and Germany, in that order, were the top three exporters of the subset of products which were identified as critical for COVID-19 (see Table 2 and Chart 5). These three countries, in three different continents, partly represent the relative geographical trade balance of their respective regions, even if each region's product groups vary.

In 2020, China overtook the United States to become the top exporter, with China's exports almost tripling, from US\$ 38.2 billion to US\$ 105.4 billion, an export value more than double that of the United States in 2020. During that year, China accounted for more than a quarter of world exports of COVID-19-critical products. Another noteworthy observation was Malaysia's rise in 2021 to become the fifth largest exporter, in contrast to 2019, when Malaysia was not even among the top 10 exporters. Its exports registered a 52.1 per cent increase in 2020 and another 44.7 per cent in 2021.

The United States and Germany remained the top importers. Their import trends were very similar during the pandemic period. Both countries registered strong growth in 2020 but shrank in 2021. Growth rates for the United States were 43.1 per cent in 2020 and -2.2 per cent in 2021. In Germany, the corresponding statistics were 40 per cent growth in 2020 and a -6.9 per cent contraction in 2021. Other top 10 importers registered high growth in COVID-19-critical imports in 2020. Those which grew by more than 50 per cent were France and the United Kingdom. As with the United States and Germany, however, the value of French and UK imports also shrank dramatically in 2021, by -35.4 per cent in the UK and by -17.7 per cent in France.

It has already been mentioned in previous information notes that exports were concentrated in COVID-19-critical products, with the top ten economies accounting for around 70 per cent of world supplies. It was not optimal that the world was dependent on a limited number of suppliers for critical pandemic products, and global efforts should address this heavy concentration of supply for any future worldwide epidemic.

Table 2: Top 10 exporters and importers of COVID-19 critical products in 2019-21

Economy (2021 ranking)	Value (US\$ million)			Annual growth (%)		Share of COVID-19- critical products (%)		
	2019	2020	2021	2020/ 2019	2021/ 2020	2019	2020	2021
EXPORTS								
China	38,195	105,413	69,229	176.0	-34.3	12.6	26.6	17.6
United States	46,748	46,252	50,758	-1.1	9.7	15.4	11.7	12.9
Germany	34,082	37,368	41,200	9.6	10.3	11.2	9.4	10.5
Netherlands	21,736	24,446	28,174	12.5	15.2	7.1	6.2	7.2
Malaysia	7,901	12,014	17,381	52.1	44.7	2.6	3.0	4.4
Mexico	12,137	13,163	14,086	8.5	7.0	4.0	3.3	3.6
Japan	12,182	12,285	13,887	0.9	13.0	4.0	3.1	3.5
France	10,940	11,391	12,687	4.1	11.4	3.6	2.9	3.2
Belgium	11,281	11,927	12,634	5.7	5.9	3.7	3.0	3.2
Ireland	9,439	8,940	11,130	-5.3	24.5	3.1	2.3	2.8
Total share of top 10 exporters						67.3	71.5	68.9
IMPORTS								
United States	54,876	78,515	76,782	43.1	-2.2	18.0	19.4	19.5
Germany	23,681	33,159	30,880	40.0	-6.9	7.8	8.2	7.8
China	21,595	24,726	30,239	14.5	22.3	7.1	6.1	7.7
Netherlands	16,031	18,225	21,020	13.7	15.3	5.3	4.5	5.3
Japan	14,199	19,171	17,139	35.0	-10.6	4.7	4.7	4.4
France	12,402	19,732	16,233	59.1	-17.7	4.1	4.9	4.1
United Kingdom	10,782	19,609	12,668	81.9	-35.4	3.5	4.8	3.2
Mexico	10,270	10,669	11,928	3.9	11.8	3.4	2.6	3.0
Belgium	9,424	10,958	10,846	16.3	-1.0	3.1	2.7	2.8
Canada	8,012	12,009	10,801	49.9	-10.1	2.6	3.0	2.7
Total share of top 10 importers						59.4	60.9	60.6

Source: WTO Secretariat.

Chart 5: Growth rate of exports and imports of COVID-19-critical products for the top 10 traders, 2019-21



Source: WTO Secretariat.

5 BILATERAL TRADE OF COVID-19-CRITICAL PRODUCTS FOR THE TOP THREE TRADERS SLOWED IN 2021

In 2019, the United States and China were the top supplier each for the other, with each accounting for around 22 per cent of the partner's market, although, in value terms, US imports from China (US\$ 12.2 billion) were more than two and a half times the value of China's imports from the United States (US\$ 4.8 billion) (see Table 3 and Chart 6). In 2020, US imports from China skyrocketed, growing by 157.7 per cent, and China's share in the United States increased to 39.9 per cent. In contrast to the dominance of imports from China in the US market, China's imports from the United States remained stagnant, and the US share in the Chinese market also slightly shrank. In 2021, China remained the top US supplier; however, in China, Japan overtook the United States to become China's biggest partner.

Germany was the United States' third top importing partner after China and Mexico in 2019 and 2020, but in 2021, strong imports of rubber gloves from Malaysia edged Germany out of the third place, which Malaysia now occupies. In 2021, rubber gloves accounted for 88 per cent of US imports from Malaysia, valued at US\$ 5.7 billion.

The annual growth rate in 2020 of Germany's imports from China was even more phenomenal, at 310.2 per cent, or more than four times the value in 2019, supplying a quarter of German imports of these COVID-19-critical products. In 2021, the value of Germany's imports, while higher than the 2019 level, fell to almost half of the previous year, and the Netherlands returned to being Germany's biggest supplier.

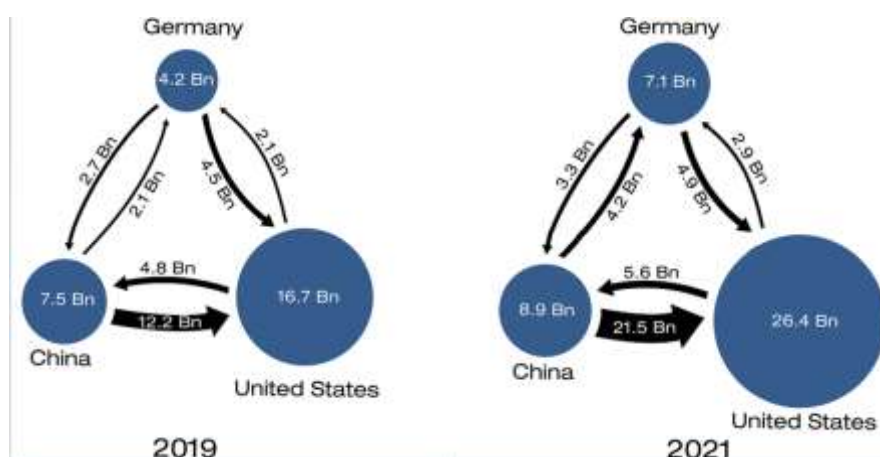
Based on the share of the top three suppliers in its market, the United States was vulnerable due to its reliance on only three partners for 52.4 per cent of its imports, compared to Germany's dependence on its top three partners for 38 per cent of its imports. China's comparative statistic was 48.8 per cent, which was closer to that of the United States; this percentage declined steadily from 2019, when 53.6 per cent of China's imports were from the United States, Japan and Germany.

Table 3: Bilateral trade of COVID-19-critical products for top three importers, 2019-21

Importer	Partner	Value of imports from each partner (US\$ million)			Partner's share of total COVID-19-critical products (%)			Year-on-year growth (%)	
		2019	2020	2021	2019	2020	2021	2020/2019	2021/2020
United States	China	12,163	31,350	21,549	22.2	39.9	28.1	157.7	-31.3
	Mexico	10,017	10,944	12,248	18.3	13.9	16.0	9.3	11.9
	Malaysia	2,355	3,258	6,458	4.3	4.1	8.4	38.3	98.2
Germany	Netherlands	3,347	4,027	4,635	14.1	12.1	15.0	20.3	15.1
	China	2,094	8,589	4,198	8.8	25.9	13.6	310.2	-51.1
	United States	2,062	2,644	2,947	8.7	8.0	9.5	28.2	11.5
China	Japan	4,108	4,697	5,887	19.0	19.0	19.5	14.3	25.3
	United States	4,751	4,759	5,573	22.0	19.2	18.4	0.2	17.1
	Germany	2,725	2,910	3,289	12.6	11.8	10.9	6.8	13.0

Source: WTO Secretariat.

Chart 6: Comparison of bilateral trade of COVID-19 critical products in 2019 and 2021 among the top three importers (US\$ billion)



Source: WTO Secretariat.

6 APPLIED MFN TARIFFS ON PPPS COULD BE SUBSTANTIAL EVEN IF AVERAGE DUTIES FOR MEDICAL PRODUCTS WERE GENERALLY LOW

Applied MFN tariffs on medical goods slightly decreased during the pandemic years (see Table 4), and no product group registered any tariff increase compared to the pre-pandemic value (see Chart 7). Based on the available data from reporting WTO members,⁶ the average MFN applied tariffs in 2021 amounted to 3.9 per cent, two percentage points lower than in 2019 and 2020, when the pandemic started.

Medicines, which accounted for more than half of the value of trade in medical goods, had the lowest applied tariff and remained stable across the three years at 1.8 per cent. Among the product groups, the highest tariffs were applied to PPPs and medical supplies, even if tariffs on medical supplies were

⁶ There were 105 WTO members with complete data for 2019-21, whereby EU-27 counted as one reporting member and Switzerland and Liechtenstein counted as one reporting member.

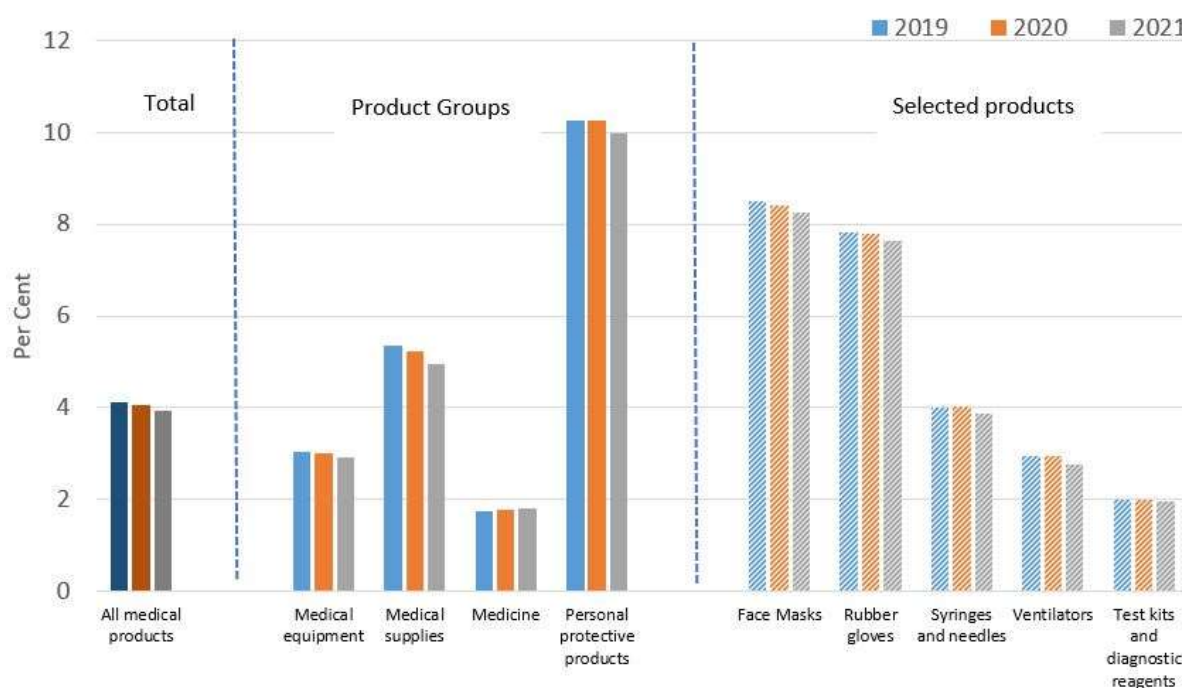
gradually reduced from 5.4 per cent in 2019 to 5.0 per cent. While the level of duties on PPPs also decreased, it remained substantial, at 10 per cent in 2021. On average, different types of face masks had a tariff of 8.5 per cent, which was reduced to 8.2 per cent in 2021. For textile face masks, the most ubiquitous type used, the duty levied, unchanged during the first two years, was 13.1 per cent; although this duty dropped to 12.6 per cent in 2021, it remained significant for a product that was indispensable throughout the period.

Table 4: Applied MFN tariffs on medical products, 2019-21 (%)

Product group	2019	2020	2021
	Average MFN (%)		
All medical products	4.1	4.1	3.9
Medical equipment	3.0	3.0	2.9
<i>Ventilators</i>	3.0	2.9	2.8
Medical supplies	5.4	5.2	5.0
<i>Test kits and diagnostic reagents</i>	2.0	2.0	2.0
<i>Rubber gloves</i>	7.8	7.8	7.6
<i>Syringes and needles</i>	4.0	4.0	3.9
Medicine	1.8	1.8	1.8
Personal protective products	10.3	10.3	10.0
<i>Face masks</i>	8.5	8.4	8.3
<i>of which textile face masks (HS 6307.90)</i>	13.1	13.1	12.6

Source: WTO Secretariat.

Chart 7: Average MFN applied tariff for medical products, by product group and for selected goods, 2019-21 (%)



Source: WTO Secretariat.

Table 5 shows how many WTO members, as a percentage of total available reporters, applied duty rates within specified duty ranges. In 2019, while almost two-thirds of members (60 per cent) applied only a negligible tariff on medical products, five members (4.8 per cent) levied tariffs of at least 10 per cent. The statistics are based on the average tariff; thus, for members for which the range of applied tariffs was relatively wide, there may have been specific products or product groups for which the level of the duty was even higher. This was the case for some members, which applied a maximum tariff as high as 30 to 40 per cent for selected goods.

On PPPs, which had the highest average tariff, more than half of members applied a tariff of at least 10 per cent, with some members levying a duty of around 20 per cent. The reduction in the average tariff on PPPs in 2021 was generally reflected in the fact that fewer members applied tariffs at the highest duty range.

Table 5: Percentage of reporting members applying duties, by range of average duty on medical goods

Duty range	Year	All products	Medical equipment	Medical supplies	Medicines (pharmaceuticals)	Personal protective products
0 % – 5.0 %	2019	60.0	68.6	53.3	82.9	27.6
	2020	60.0	68.6	55.2	82.9	28.6
	2021	61.0	69.5	55.2	82.9	30.5
5.0 % <- 10 %	2019	35.2	29.5	36.2	16.2	21.9
	2020	35.2	30.5	36.2	16.2	21.0
	2021	36.2	30.5	38.1	15.2	22.9
> 10 %	2019	4.8	1.9	10.5	1.0	50.5
	2020	4.8	1.0	8.6	1.0	50.5
	2021	2.9	0.0	6.7	1.9	46.7

Source: WTO Secretariat.

7 CROSS-BORDER FLOW OF GOODS DURING THE PANDEMIC WERE IMPACTED BY FACILITATING MEASURES ON IMPORTS AND RESTRICTIVE MEASURES ON EXPORTS

Members implemented certain trade-related measures that were deemed to be associated with the pandemic. The Secretariat compiled information on these measures to provide transparency with respect to trade and published the data⁷ as part of the WTO Trade Monitoring Exercise, which started in 2020. Table 6 summarizes the measures for 2020 and 2021 practised by members in conjunction with their pandemic trade policies. The statistics show that in 2020 and 2021, the cross-border flow of goods was impacted by an increase in facilitating measures on imports as well as an increase in restrictive measures on exports.

⁷ Data downloaded from [WTO | COVID-19: Measures affecting trade in goods](#) on 1 July 2022.

Table 6. Summary of COVID-19-related measures by WTO members, 2020-21

Year ^a		Exports	Imports	Other
		Number of measures		
2020	Facilitating	23	118	12
	Restrictive	121	11	8
2021	Facilitating	6	43	2
	Restrictive	27	4	1
Total	Facilitating	29	161	14
	Restrictive	148	15	9

^a Based on effective data indicated in the notification; if not specified, the data of the notification of measure is used.

Source: WTO Secretariat.

8 CONCLUSIONS

As with all sectors of the global economy, trade in the medical goods sector was affected by the COVID-19 pandemic, albeit in a positive way. Despite negative overall trade growth, the medical goods industry registered an average growth rate of more than 14 per cent for 2020 and 2021, and its share in total goods trade grew from a pre-pandemic level of 5.3 per cent to 6.6 and 5.9 per cent, respectively, in 2020 and 2021.

The dominance of the United States and Europe in global trade of medical goods remained unchallenged, even if, for certain less technology-intensive products, there was a shift in the trade hub to the Asian region, for which the share in PPPs grew from 35 per cent in 2019 to 51 per cent in 2020, after the pandemic hit. However, several regions, including Africa, Latin and Central America, the Middle East and the Commonwealth of the Independent States, consistently accounted for less than a 5 per cent share of any of the medical product group categories, underlining how limited the participation of these regions is in the global exchange of these products. Diversifying geographical capability to supply medical goods is therefore crucial to attenuate any future health crisis.

Applied MFN tariffs on medical products generally are relatively low, but duties on PPPs are substantial, at around 10 per cent. Nonetheless, tariffs on medical goods have been reduced from their 2019 level. Further tariff liberalization in this sector within the realm of the WTO through multilateral or plurilateral negotiations could positively impact global health. During the pandemic, members also implemented other trade-related measures, including by increasing the number of facilitating measures on imports. On the other hand, an increase in restrictive measures on exports affected the cross-border flow of goods. As with tariffs, any measure that constrains free movement, especially medical goods, should be avoided or eliminated.

ANNEX: LIST OF MEDICAL PRODUCTS

Annex Table 1: Medicines (pharmaceuticals)

HS 2017	HS short product description	ITA-E*	Pharma*	WCO*
300213	Immunological products, unmixed, ... not for retail sale		X	
300214	Immunological products, mixed, ... not for retail sale		X	
300215	Immunological products, ... for retail sale		X	X
300219	Immunological products, n.e.s.**		X	
300220	Vaccines for human medicine		X	
300310	Medicaments containing penicillins ... not for retail sale		X	
300320	Medicaments containing antibiotics, ... not for retail sale		X	
300331	Medicaments containing insulin, ... not for retail sale		X	
300339	Medicaments containing hormones ... not for retail sale		X	
300341	Medicaments containing ephedrine ... not for retail sale		X	
300342	Medicaments containing pseudoephedrine "INN" or its salts, ... not for retail sale		X	
300343	Medicaments containing norephedrine or its salts, ... not for retail sale		X	
300349	Medicaments containing alkaloids or derivatives thereof, ... not for retail sale		X	
300360	Medicaments containing any of the following antimalarial active principles: ... not put up for retail sale		X	
300390	Medicaments consisting of two or more constituents mixed together for therapeutic or prophylactic uses, not for retail sale		X	
300410	Medicaments containing penicillins or derivatives thereof ... for retail sale		X	
300420	Medicaments containing antibiotics, ... for retail sale		X	
300431	Medicaments containing insulin but not antibiotics, ... for retail sale		X	
300432	Medicaments containing corticosteroid hormones, ... for retail sale		X	
300439	Medicaments containing hormones or steroids ... for retail sale		X	
300441	Medicaments containing ephedrine or its salts, ... for retail sale		X	
300442	Medicaments containing pseudoephedrine "INN" or its salts, ... for retail sale		X	
300443	Medicaments containing norephedrine or its salts, ... for retail sale		X	
300449	Medicaments containing alkaloids or derivatives thereof... for retail sale		X	
300450	Medicaments containing provitamins, vitamins,... for retail sale		X	
300460	Medicaments containing any of the following antimalarial active principles ... for retail sale		X	
300490	Medicaments consisting of mixed or unmixed products ... for retail sale		X	X

* The columns labelled ITA-E, Pharma and WCO indicate whether the HS codes are also part of the 2015 WTO Information Technology Agreement Expansion (ITA-E) or the 1995 WTO Pharmaceutical Agreement (Pharma) and its four reviews, or whether they are included in the WCO's HS classification reference for COVID-19 medical supplies.

** The abbreviation n.e.s. means "not elsewhere specified".

Source: WTO Secretariat.

Annex Table 2: Medical supplies

HS 2017	HS short product description	ITA-E	Pharma	WCO
220710	Undenatured ethyl alcohol, of actual alcoholic strength of $\geq 80\%$			X
284700	Hydrogen peroxide, whether or not solidified with urea			X
300120	Extracts of glands or other organs or of their secretions, for organo-therapeutic uses		X	
300190	Dried glands and other organs for organo-therapeutic uses; heparin and its salts, ...		X	
300212	Antisera and other blood fractions		X	
300290	Human blood; animal blood ...; toxins, cultures of micro-organisms and similar products		X	
300510	Adhesive dressings and other articles ... put up for retail sale for medical, surgical, dental or veterinary purposes		X	
300590	Wadding, gauze, bandages and the like put up for retail sale for medical, surgical, dental or veterinary purposes		X	X
300610	Sterile surgical catgut, similar sterile suture materials, ...		X	
300620	Reagents for determining blood groups or blood factors		X	
300630	Opacifying preparations for x-ray examinations; diagnostic reagents for administration to patients		X	
300650	First-aid boxes and kits		X	
300670	Gel preparations designed to be used in human or veterinary medicine ...		X	
340212	Cationic organic surface-active agents			
340213	Non-ionic organic surface-active agents			
350400	Peptones and their derivatives; other protein substances and their derivatives, n.e.s.; ...			
350790	Enzymes and prepared enzymes, n.e.s.			
370110	Photographic plates and film in the flat, sensitised, unexposed, for X-ray			
370210	Photographic film in rolls, unexposed, for X-ray			
380894	Disinfectants, put up in forms or packings for retail sale			X
382100	Prepared culture media for the development or maintenance of micro-organisms			
382200	Diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents and certified reference materials			X
392620	Articles of apparel and clothing accessories produced by the stitching or sticking together of plastic sheeting			X
401490	Hygienic or pharmaceutical articles			
401511	Surgical gloves of vulcanised rubber ...			X
401519	Gloves, mittens and mitts, of vulcanised rubber			X
701710	Laboratory, hygienic or pharmaceutical glassware, of fused quartz or other fused silica			
701720	Laboratory, hygienic or pharmaceutical glassware having a linear coefficient of expansion $\leq 5 \times 10^{-6}$ per kelvin within a temperature range of 0°C to 300°C			
701790	Laboratory, hygienic or pharmaceutical glassware n.e.s.			
901831	Syringes, with or without needles, used in medical, surgical, dental or veterinary sciences			X
901832	Tubular metal needles and needles for sutures, used in medical, surgical, dental or veterinary sciences			X
901839	Needles, catheters, cannulae and the like, used in medical, surgical, dental or veterinary sciences			X

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** The abbreviation n.e.s. means "not elsewhere specified".

Source: WTO Secretariat.

Annex Table 3: Medical equipment

HS 2017	HS short product description	ITA-E	Pharma	WCO
841920	Medical, surgical or laboratory sterilizers			X
901050	Apparatus and equipment; negatoscopes	X		
901110	Stereoscopic optical microscopes	X		
901180	Optical microscopes	X		
901811	Electro-cardiographs	X		
901812	Ultrasonic scanning apparatus	X		
901813	Magnetic resonance imaging apparatus	X		
901814	Scintigraphic apparatus			
901819	Other electro-diagnostic apparatus	X		X
901820	Ultraviolet or infra-red ray apparatus used in medical, surgical, dental or veterinary sciences	X		
901890	Instruments and appliances used in medical, surgical or veterinary sciences, n.e.s.	X		X
901920	Ozone therapy, oxygen therapy, aerosol therapy, artificial respiration or other therapeutic respiration apparatus			X
902150	Pacemakers for stimulating heart muscles	X		
902212	Computer tomography apparatus	X		X
902214	Apparatus based on the use of X-rays, for medical, surgical or veterinary uses	X		
902219	Apparatus based on the use of X-rays	X		
902221	Apparatus based on the use of alpha, beta or gamma radiations, for medical, surgical, dental or veterinary uses	X		
902229	Apparatus based on the use of alpha, beta or gamma radiations, n.e.s	X		
902230	X-ray tubes	X		
902290	X-ray generators, high tension generators, control panels and desks, screens, ...	X		
902511	Thermometers, liquid-filled, for direct reading, not combined with other instruments			X
902519	Thermometers and pyrometers, not combined with other instruments	X		X
902780	Instruments and apparatus for physical or chemical analysis, or for measuring or checking viscosity ...	X		X
903020	Oscilloscopes and oscillographs	X		
940290	Operating tables, examination tables, and other medical, dental, surgical or veterinary furniture			

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** The abbreviation n.e.s. means "not elsewhere specified".

Source: WTO Secretariat.

Annex Table 4: Personal protective products

HS 2017	HS short product description	ITA-E	Pharma	WCO
340111	Hand soap			
340130	Hand soap			
340220	Other cleaning products			
382499	Hand sanitizer			
392690	Face masks			
630790	Face masks			X
900490	Protective spectacles and visors			X
902000	Face masks			X

* The columns labelled ITA-E, Pharma and WCO indicate whether the HS codes are also part of the 2015 WTO Information Technology Agreement Expansion (ITA-E) or the 1995 WTO Pharmaceutical Agreement (Pharma) and its four reviews, or whether they are included in the WCO's HS classification reference for COVID-19 medical supplies.

** The abbreviation n.e.s. means "not elsewhere specified".

Source: WTO Secretariat.