Covid-19 – PPE demand & supply perspectives

Scenarios with different adoptions rates – March 2021

This programme is funded by UK aid from the UK Government; however, the views expressed do not necessarily reflect the UK government's official policies

Important notes

Covid-19 is, first and foremost, a humanitarian challenge. Thousands of healthcare professionals are heroically battling the virus, putting their own lives at risk. Governments and industry are working together to understand and address the challenge, support victims, their families and communities, and keep searching for effective treatments and vaccines.

Solving the humanitarian challenge is the top priority. Much remains to be done globally to prepare, respond, and recover, from protecting populations at risk to supporting affected patients and their families and communities. To address this crisis, responses must be evidence-informed, and based on partnerships across multiple stakeholders and sectors. This includes but is not limited to the medical/pharmaceutical industry and regulatory/compliance agencies.

The content in this document is preliminary and non-exhaustive. It is being made available solely for information purposes in response to the urgent need for measures to address the Covid-19 crisis. It reflects general insights and may present potential options for consideration based on currently available information, which is inherently uncertain and subject to change. It does not contain all of the information needed to determine a future course of action. The insights and concepts included herein have not been validated nor independently verified. References to specific products or organizations are solely for illustration and do not constitute any endorsement or recommendation.

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Key messages

- There is **continuing and high uncertainty** about the **impact of vaccines on virus transmission** and their **protection against new variants**
- This has recently pushed **several international institutions and national governments to update their public health guidelines** – these updates typically require **the general public to continue wearing masks** and practice social distancing
- For each geography, the original model assumed a gradual **decrease in mask adoption alongside the rollout of vaccination campaigns** and **a return to pre-crisis adoption levels in the "new normal" phase** as COVID-19 cases drop to relatively small levels
- Revised scenarios impact the general population (i.e. non-medical workplaces, individual use outside of work) and assume that:
  - Scenario 1: **the decrease in mask adoption rates starts later – when the at-risk population is immunized** – and **a comparable return to pre-crisis adoption levels** in the "new normal" phase
  - Scenario 2: **the decrease in mask adoption rates starts later still – when herd immunity is achieved** – and **there is a higher adoption rate in the "new normal"** phase
- These scenarios imply **higher demand for masks than the December 2020 scenario, especially in the short term** (2021-22).
- However, they also imply the **same overall shape in the demand curve over the period 2021-2025**, with the global market contracting sharply before resuming growth rates close to those observed pre-crisis
- **In addition, Asia is expected to capture most of this additional demand**, driven by large populations and the highest adoption rates globally

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Product mapping by demand segment

General public demand – Focus of this document | X Non-Covid-19-related segment | X Covid-19-related segment | ✓ Included in demand assessment

		Medical PPE							Non-med. PPE	Disinfectant products / biological waste management				
		Surgical masks and respirators	Gowns	Aprons	Coveralls	Goggles	Face shield	Medical gloves	Shoe covers	Cloth mask	Body bags	Clinical waste bags	Chlorine HTH 70%	Hand sanitizers
A	**Non-Covid-19 medical usage**	Baseline PPE demand pre-Covid-19 = use of medical PPE in the health sector before the crisis	✓	✓	✓	✓	✓	✓	✓	✓					
B	**Hospitals and clinics**	Demand driven by hospitalisations due to Covid-19	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
C	**Immuniza-tion**	Demand driven by Covid-19 vaccination campaigns	✓	✓				✓	✓						✓
D	**Workplaces[1]**	Demand from workers in non-healthcare settings	✓					✓	✓						✓
E	**Consumers**	Demand from the general public for daily activities	✓						✓		✓				✓

1. For non-healthcare workplaces, model estimates the incremental use of medical PPE related to Covid-19; modeling does not comprise non-medical PPE demand in other industries unrelated to Covid-19 (e.g., construction)

Source: WHO standards, review of official government recommendations, interviews with experts (November-December 2020)

Major sources of consumer demand for PPE through to 2025 can be modelled by age cohorts

SEE APPENDIX FOR DETAILED ASSUMPTIONS ABOUT USAGE RATES

ASSUMPTIONS AS OF DECEMBER 2020

Focus of the next page

The population can be segmented into 4 age segments

	Behaviour
Under 15	No PPE usage
15-19	High usage rate due to outdoor lifestyle and school usage
20-65	Medium usage rate; PPE mainly used in the workplace
Over 65	Low usage rate due to a more indoor lifestyle

For each age category, PPE demand can be estimated at the regional level up to Q4 2025, based on 3 independent variables

Elements	Sources
# population by age range	UN Population Division
Adoption rate by PPE by age range (i.e., proportion of the population that will use PPE)	YouGov Interviews with experts[1] Survey of general public[2]
Usage rate by PPE (i.e., units per day)	WHO recommendation Interviews with experts[1] Survey of general public[2]
Quarterly PPE usage for consumers	

1.November-December 2020
2.Survey carried out in the US, 28 May-3 June 2020; n=1,021

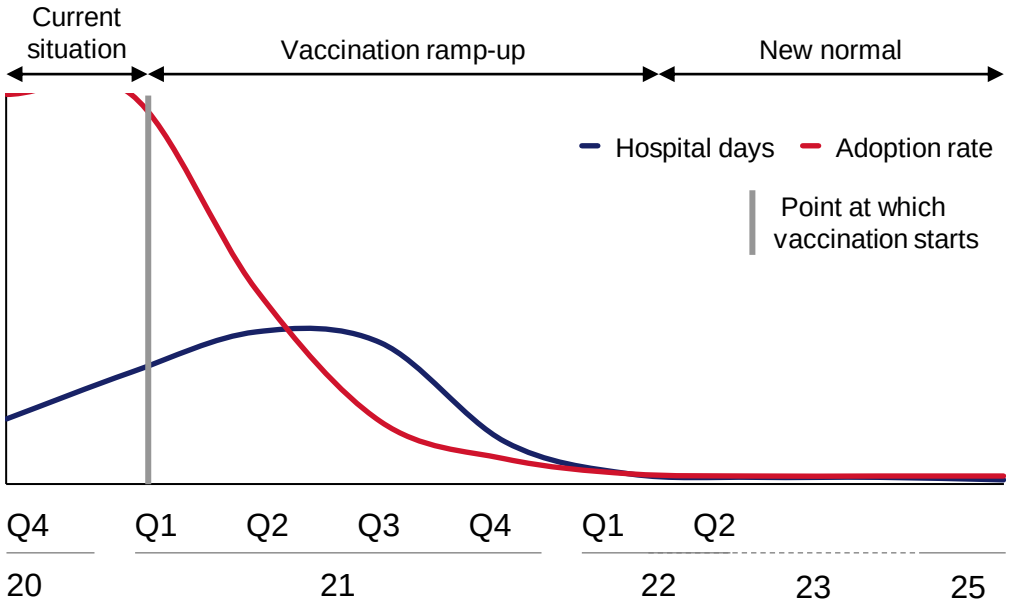
Source: UN Population Division, WHO, YouGov, interviews with public health experts (November-December 2020), survey carried out in the US, 28 May – 3 June 2020; n=1,021

Each cohort exhibits different adoption and usage, with adoption rates indexed to the epidemic curve

DIRECTIONAL AND ILLUSTRATIVE **SEE APPENDIX FOR DETAILED ASSUMPTIONS ON USAGE RATES**

ASSUMPTIONS AS OF DECEMBER 2020

Adoption rates will scale down once vaccination starts, with a different "new normal" defined for each region



High adoption rate due to coercive measures

Vaccines arrive. PPE adoption rate decreases faster than hospitalisations as government measures and personal incentives for wearing PPE are low

Hospitalisation rate is close to 0 but some additional PPE demand persists due to new consumption habits – this new normal will last from Q1 2023 to Q4 2025

Adoption and usage rates will vary by age segment and regions

Example of surgical mask usage

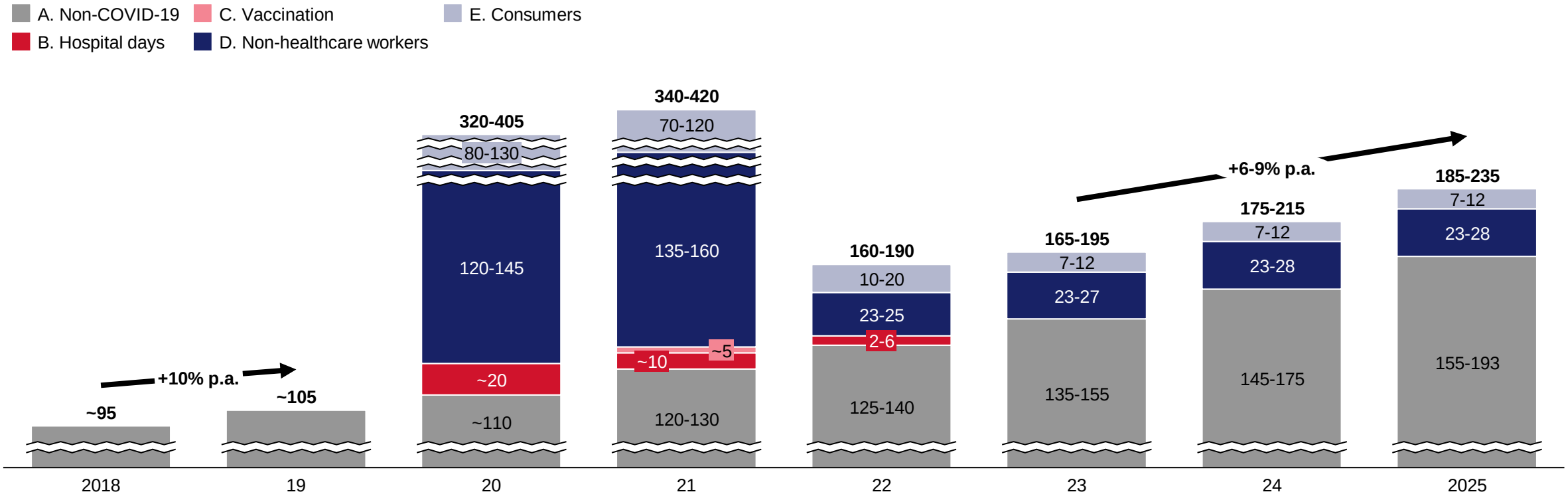
Age segment	Regional adoption rates (illustrative, non-exhaustive) North America	China	SSA	Usage rate
15-19	Current: 40-50% New normal: 1-2%	Current: 40-60% New normal: 4-5%	Current: 10-15% New normal: 0%	2-3 Units/ week
20-65	Current: 30-40% New normal: 1-2%	Current: 30-60% New normal: 3-4%	Current: 5-10% New normal: 0%	1-2 Units/ week
Over 65	Current: 25-40% New normal: 1-2%	Current: 25-50% New normal: 3-4%	Current: 5-10% New normal: 0%	1-2 Units/ week

Source: EPI model, WHO, YouGov, interviews with public health experts (November-December 2020), survey of working professionals (held in the US in May 28-June 3, 2020; n=100)

Consumers and non-healthcare workers will drive global PPE demand to peak in 2021 at 340-420bn units before it resumes its historic growth rate

ESTIMATES – AS OF 16 DECEMBER 2020

Total estimated[1] volume PPE demand, 2018-25, units, bn[2]



1.Range reflects 2 scenarios ("high" vs. "low"): (i) non-Covid-19 baseline demand based on 2 growth scenarios (historic growth -2% to account for critical size of the market vs. historic growth +1% to account for potential changes in usage habits), (ii) hospital days and vaccination demands depend on vaccination scenario ("pessimistic" vs. "optimistic"), and (iii) workers in non-healthcare settings and consumer demand depend on adoption rate assumptions ("high" vs. "low")
2.Unit is per item or per pair in case of gloves, hand sanitizer is per litre and chlorine is per kg
3.Surgical masks adoption rate is assumed to be 10% for consumers in Sub-Saharan Africa while 80% represents the adoption rate for workers in non-healthcare settings in China and North America

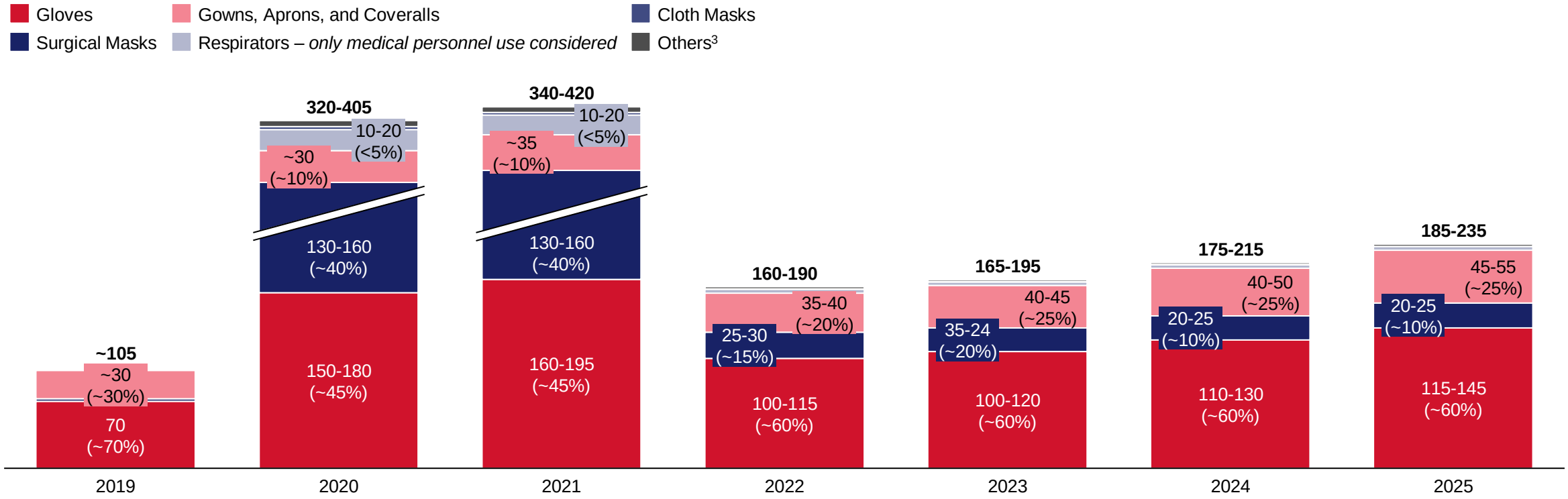
Source: Mordor Intelligence (updated in November 2020), EPI model, WHO assumptions

Consumers and non-healthcare workers will drive surgical mask demand to peak in 2021 at 125-160bn units before falling back ~40% p.a. in 2021-25

ESTIMATES – AS OF 16 DECEMBER 2020

Total estimated PPE[1] demand by category

2019-25, units, bn[2] (% of total demand by volume)



1.Range reflects 2 scenarios (“high” vs. “low”): (i) non-Covid-19 baseline demand based on 2 growth scenarios (historic growth -2% to account for critical size of the market vs. historic growth +1% to account for potential changes in usage habits), (ii) hospital days and vaccination demands depend on vaccination scenario (“pessimistic” vs. “optimistic”), and (iii) workers in non-healthcare settings and consumer demand depend on adoption rate assumptions (“high” vs. “low”)
2.Unit is per item or per pair in case of gloves, hand sanitizer is per litre and chlorine is per kg ; bn = billion
3.Eye protection (face shields and goggles), shoe cover, and disinfectant products/biological waste management (i.e., hand sanitizer, chlorine, body bags and clinical waste bags)
4.Excluding Sub-Saharan Africa adoption rate, depending on geography, worker archetype and population age

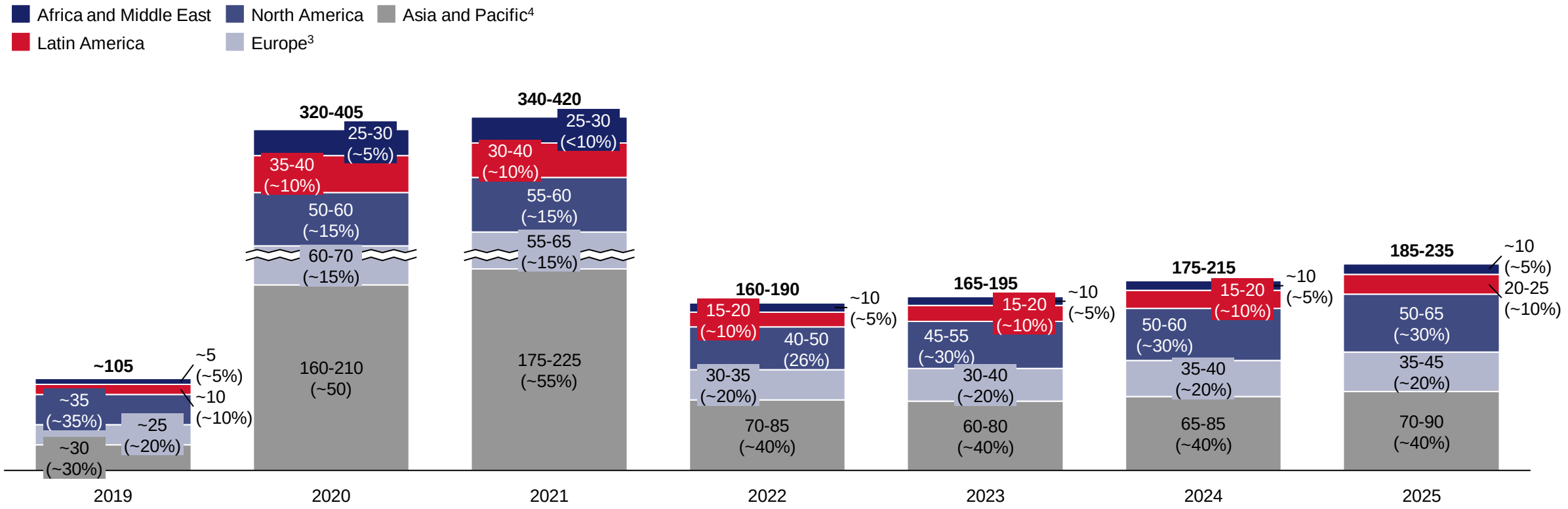
Source: Mordor Intelligence (updated in November 2020), EPI model, WHO assumptions

We expect demand from consumers and non-healthcare workers to shift the weight of global PPE demand away from North America and towards Asia

ESTIMATES – AS OF 16 DECEMBER 2020

Total estimated[1] PPE demand by region,

2019-25, units, bn[2] (% of total demand by volume)



1.Range reflects 2 scenarios (“high” vs. “low”): (i) non-Covid-19 baseline demand depends on 2 growth scenarios (historic growth of -2% to account for critical size of the market vs. historic growth of +1% to account for potential changes in usage habits), (ii) hospital days and vaccination demands depend on vaccination scenario (“pessimistic” vs. “optimistic”), and (iii) workers in non-healthcare settings and consumer demands depend on adoption rate assumptions (“high” vs. “low”)
2.Unit is per item or per pair in case of gloves, hand sanitizer is per litter, and chlorine is per kg
3.Including Russia and Central Asia
4.Including China and India

Source: Mordor Intelligence (updated in November 2020), EPI model, WHO assumptions

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As of March 2021, there are signs that masks adoption may be encouraged for longer than originally expected

NON-EXHAUSTIVE AND ILLUSTRATIVE – AS OF MARCH 18, 2021

CDC

"We're still learning how vaccines will affect the spread of Covid-19. After you've been fully vaccinated against Covid-19, you should keep taking precautions in public places like wearing a mask, staying 6 feet apart from others, and avoiding crowds and poorly ventilated spaces until we know more."

- CDC Guidelines "When you have been fully vaccinated", *Updated March 9, 2021*

"We now know the vaccines can protect, but what we haven't had enough time to really understand is – does it protect from spreading?" - *Avery August, professor of immunology at Cornell University*

Think of mask-wearing and social distancing as a continuum of risk-mitigation strategies, which are in place while scientists conduct research, more and more people get vaccinated, and the prevalence of Covid-19 goes down.

– The Guardian, *Updated March 12, 2021*

"The Pfizer and Moderna trials tracked only how many vaccinated people became sick with Covid-19. That leaves open the possibility that some vaccinated people get infected without developing symptoms, and could then silently transmit the virus — especially if they come in close contact with others or stop wearing masks"

– The New York Times, *Updated March 9, 2021*

""Americans will need to keep wearing masks until we reach herd immunity" - *CNN Medical Analyst Dr. Leana Wen, an emergency physician*

"About 70% to 85% of people must achieve immunity -- either by surviving Covid-19 or receiving a vaccine -- to reach herd immunity, the point at which enough people are protected against a disease that it cannot spread through the population."

– CNN, *Updated March 16, 2021*

""The best hope for ending the pandemic isn't to choose between masks, physical distancing and vaccines, Offit said, but to combine them. "The three approaches work best as a team," he said.

"While covid vaccines clearly prevent illness, researchers need more time to figure out whether they prevent transmission […] Until researchers can answer that question, Frieden said, wearing masks is the safest way for vaccinated people to protect those around them.

– GAVI, *January 20, 2021*

Source: press search (March 18th, 2021), CDC official website, GAVI official website, interviews with global public health experts (March 2021)

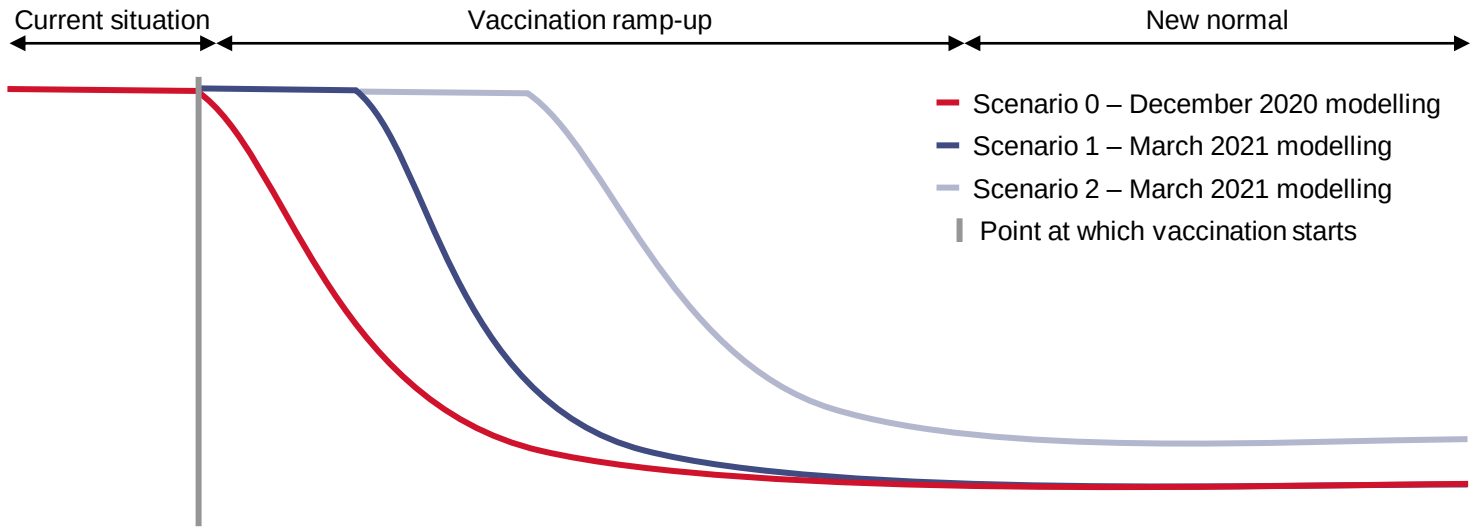
Continuing uncertainty about the impact of vaccines on virus transmission and their protection against variants have recently pushed several international institutions and national governments to revise their recommendations around sanitary measures.

In particular, from official statements by national authorities, mask wearing and social distancing are the 2 measures that may be the most consistently maintained by governments in the coming months.

2 new scenarios for mask adoption, driven by both regulations and sentiments

Mask adoption rate among general public, 2020-2025, US example (illustrative)

Note: in this example, the moment at which the adoption rate starts to decline is specific to the US context; in other geographies, it may occur later, depending on the progress of national vaccination campaigns.



Dec. 20 | Mar. | Jun. | Sep. | Dec. 21 | Mar. | Jun. 22 | 23 | 25

High adoption and use rates due to coercive measures	Vaccines arrive. Rising uncertainty regarding vaccine efficacy persaudes governments to maintain regulations regarding mask use in public places, contrary to initial projections made in December 2020.	Hospitalisation rate is close to 0 but some additional PPE demand persists due to new consumption habits – this new normal will last from Q1 2023 to Q4 2025

Source: EPI model, WHO, YouGov, interviews with public health experts (November-December 2020), survey of working professionals (held in the US in May 28-June 3, 2020; n=100)

Scenario 1

- Official guidelines continue to require wearing masks in public places, in part due to uncertainty about incidence and transmission of variants
- As remaining at-risk populations are vaccinated, governments slowly lift regulations regarding masks wearing in public space
- Mask adoption declines as the vaccination continues, gradually reaching a "new normal" near the pre-COVID adoption rate

Scenario 2

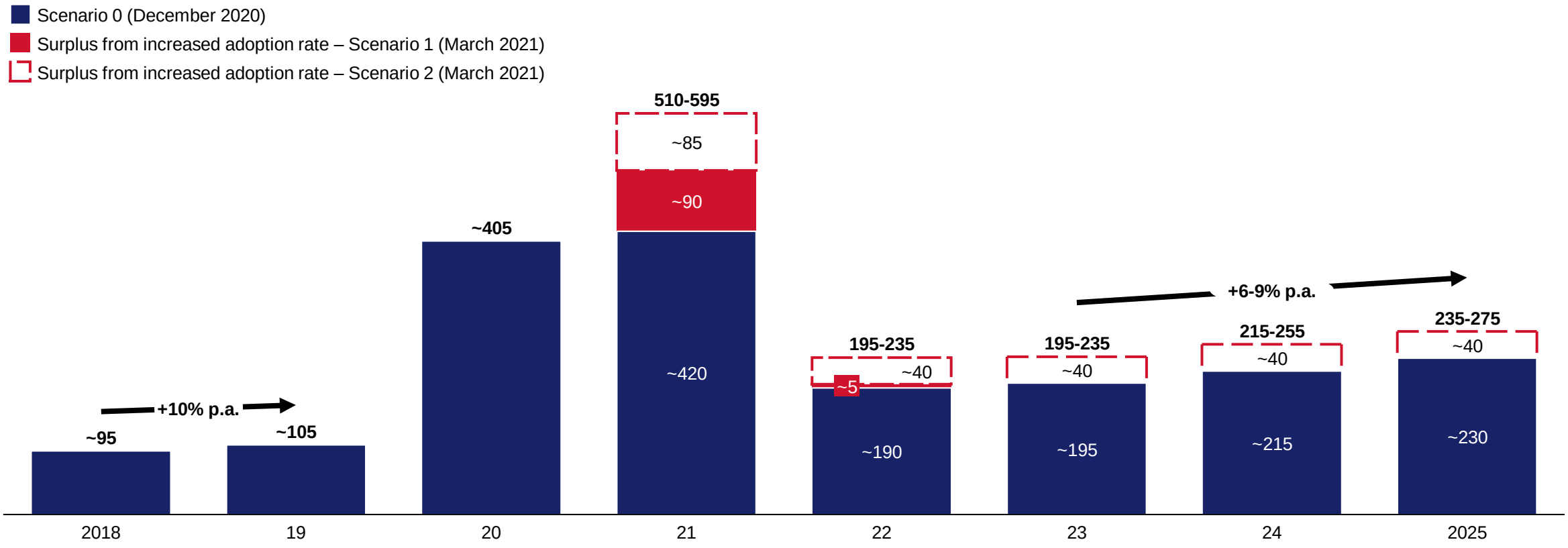
- Official guidelines continue to require wearing masks in public places until herd immunity is achieved
- Long-term adoption rate remains higher than pre-COVID crisis levels due to e.g. personal preferences

It is important to note that there is still a high level of uncertainty regarding the crisis future evolutions; therefore these might be more possible scenarios than these 2 ones.

With revised adoption rates, global PPE demand could peak in 2021 at 510-595bn units before falling back to 195-235bn units in 2022-23

ESTIMATES – NEW ADOPTION RATES AS OF MARCH 2021

Total estimated[1] volume PPE demand, 2018-25, units, bn[2]



1.For readability reasons, only the "high" scenario is presented
2.Unit is per item or per pair in case of gloves, hand sanitizer is per litre and chlorine is per kg
3.Surgical masks adoption rate is assumed to be 10% for consumers in Sub-Saharan Africa while 80% represents the adoption rate for workers in non-healthcare settings in China and North America

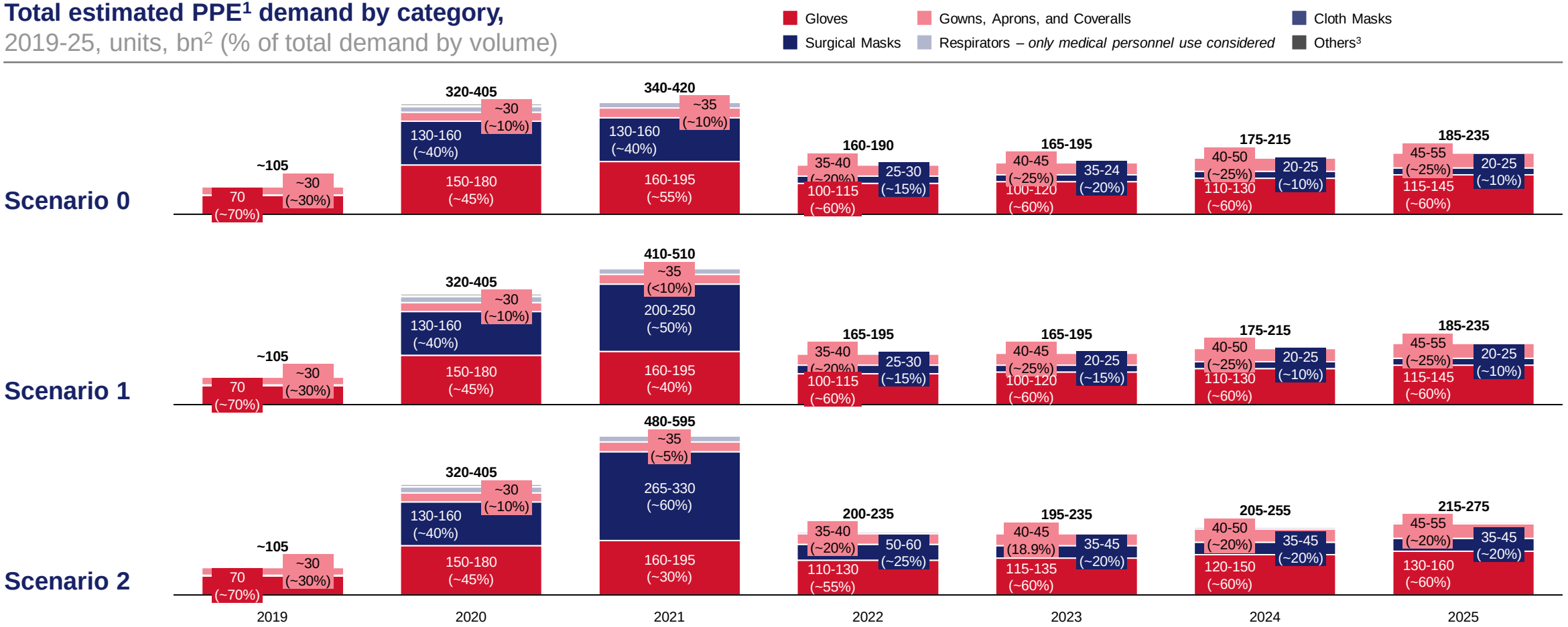
Source: Mordor Intelligence (updated in November 2020), EPI model, WHO assumptions

With revised adoption rates, mask demand could peak in 2021 at 250-330bn, instead of at 160bn as in the December model

SEE APPENDIX FOR DECEMBER 2020 PROJECTIONS **ESTIMATES – NEW ADOPTION RATES AS OF MARCH 2021**

Total estimated PPE[1] demand by category,

2019-25, units, bn[2] (% of total demand by volume)



1.Range reflects 2 scenarios (“high” vs. “low”): (i) non-Covid-19 baseline demand based on 2 growth scenarios (historic growth -2% to account for critical size of the market vs. historic growth +1% to account for potential changes in usage habits), (ii) hospital days and vaccination demands depend on vaccination scenario (“pessimistic” vs. “optimistic”), and (iii) workers in non-healthcare settings and consumer demand depend on adoption rate assumptions (“high” vs. “low”)
2.Unit is per item or per pair in case of gloves, hand sanitizer is per litre and chlorine is per kg ; bn = billion
3.Eye protection (face shields and goggles), shoe cover, and disinfectant products/biological waste management (i.e., hand sanitizer, chlorine, body bags and clinical waste bags)

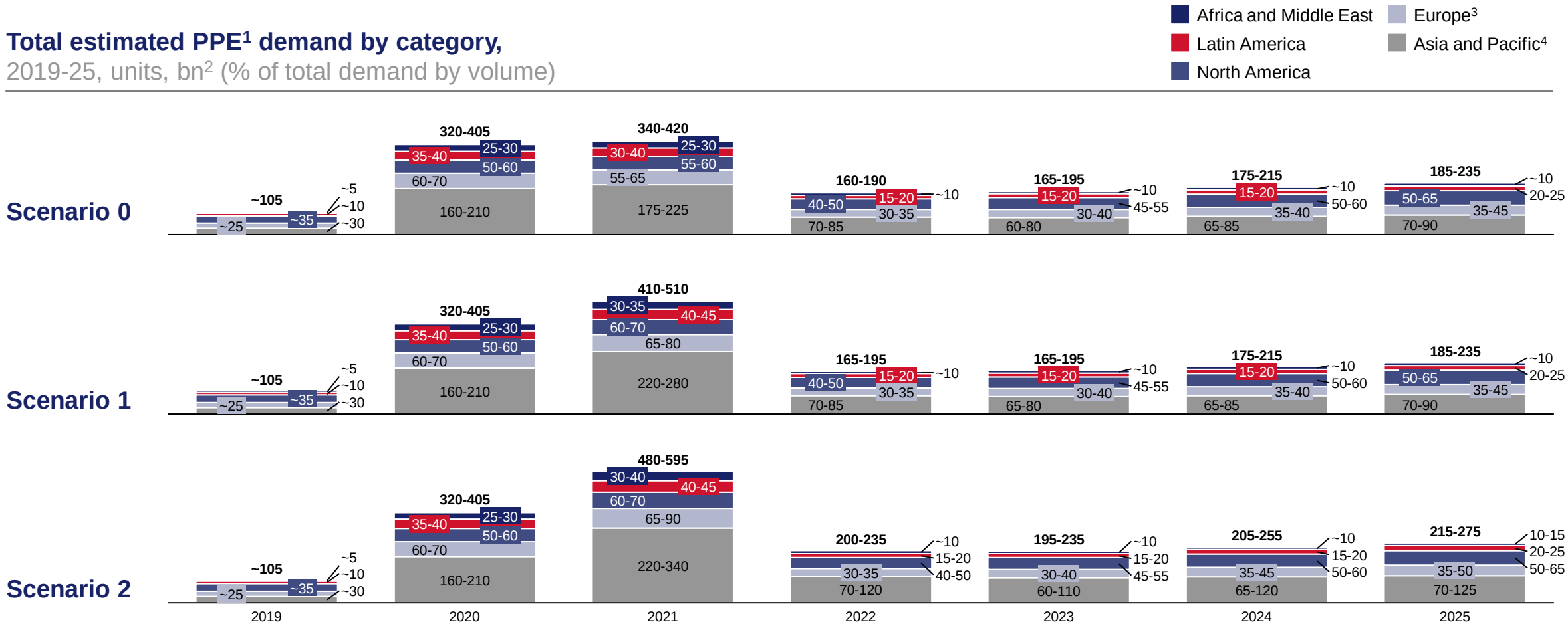
Source: Mordor Intelligence (updated in November 2020), EPI model, WHO assumptions

Asia-Pacific would capture most of the additional demand from revised adoption rates

SEE APPENDIX FOR DECEMBER 2020 PROJECTIONS **ESTIMATES – NEW ADOPTION RATES AS OF MARCH 2021**

Total estimated PPE[1] demand by category,

2019-25, units, bn[2] (% of total demand by volume)



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Russia and Asia

ASSUMPTIONS AS OF DECEMBER 2020 **ESTIMATES**

		China				Indian Subcontinent				Japan, Korea, and Pacific				Rest of South East Asia				Russia and Central Asia			
	PPE category	Q2 2020	Current situation	New normal – S0&S1	New normal – S2	Q2 2020	Current situation	New normal	**New normal – S2**	Q2 2020	Current situation	New normal	**New normal – S2**	Q2 2020	Current situation	New normal	New normal – S2	Q2 2020	Current situation	New normal	New normal – S2
 **15-19**	Respirators	0-1%	0-5%	0-1%	0-1%	0-1%	0-5%	0%	0%	0-1%	0-5%	0%	0-1%	0-1%	0-5%	0-1%	0-1%	0-1%	0-4%	0%	0%
	Surgical masks	11-14%	39-49%	4-5%	8-10%	10-12%	40-50%	~1%	~2%	10-12%	38-48%	2-3%	4-5%	12-14%	40-50%	4-5%	8-10%	9-11%	36-45%	0-1%	~1%
	Cloth masks	11-14%	39-49%	4-5%	8-10%	10-12%	40-50%	~1%	~2%	10-12%	38-48%	2-3%	4-5%	12-14%	40-50%	4-5%	8-10%	9-11%	36-45%	0-1%	~1%
	Gloves	0-1%	0-5%	0-1%	0-1%	0-1%	0-5%	0%	0%	0-1%	0-5%	0%	0-1%	0-1%	0-5%	0-1%	0-1%	0-1%	0-4%	0%	0%
	Hand sanitizer	17-23%	59-79%	6-8%	12-16%	15-20%	60-80%	1-2%	2-3%	14-19%	57-76%	3-4%	6-8%	17-23%	60-81%	6-8%	12-16%	13-18%	54-72%	~1%	1-2%
 **20-65**	Respirators	1-3%	5-10%	~1%	1-2%	1-2%	5-10%	0%	0%	1-2%	5-10%	0-1%	~1%	1-3%	5-10%	~1%	1-2%	1-2%	4-9%	0%	0%
	Surgical masks	9-11%	30-39%	3-4%	6-8%	7-10%	30-40%	~1%	1-2%	7-10%	29-38%	~2%	3-4%	9-12%	30-40%	3-4%	6-8%	7-9%	27-36%	0%	~1%
	Cloth masks	9-11%	30-39%	3-4%	6-8%	7-10%	30-40%	~1%	1-2%	7-10%	29-38%	~2%	3-4%	9-12%	30-40%	3-4%	6-8%	7-9%	27-36%	0%	~1%
	Gloves	0-3%	0-10%	0-1%	0-2%	0-2%	0-10%	0%	0%	0-2%	0-10%	0-1%	0-1%	0-3%	0-10%	0-1%	0-2%	0-2%	0-9%	0%	0%
	Hand sanitizer	10-14%	35-49%	4-5%	7-10%	9-12%	35-50%	~1%	1-2%	8-12%	33-48%	2-3%	4-5%	10-14%	35-50%	4-5%	7-10%	8-11%	31-45%	0-1%	~1%
 **Over 65**	Respirators	0-1%	0-5%	0-1%	0-1%	0-1%	0-5%	0%	0%	0-1%	0-5%	0%	0-1%	0-1%	0-5%	0-1%	0-1%	0-1%	0-4%	0%	0%
	Surgical masks	7-11%	25-39%	3-4%	5-8%	6-10%	25-40%	~1%	1-2%	6-10%	24-38%	1-2%	3-4%	7-12%	25-40%	3-4%	5-8%	6-9%	22-36%	0%	~1%
	Cloth masks	7-11%	25-39%	3-4%	5-8%	6-10%	25-40%	~1%	1-2%	6-10%	24-38%	1-2%	3-4%	7-12%	25-40%	3-4%	5-8%	6-9%	22-36%	0%	~1%
	Gloves	0-3%	0-10%	0-1%	0-2%	0-2%	0-10%	0%	0%	0-2%	0-10%	0-1%	0-1%	0-3%	0-10%	0-1%	0-2%	0-2%	0-9%	0%	0%
	Hand sanitizer	14-20%	49-69%	5-7%	10-14%	12-17%	50-70%	~1%	2-3%	12-17%	48-67%	3-4%	5-7%	14-20%	50-71%	5-7%	10-14%	11-16%	45-63%	~1%	~1%

Source: WHO, YouGov, interviews with public health experts (November-December 2020), Survey conducted in the US, 28 May-3 June 2020; n=1,021

E: Initial assumptions on adoption rates by age range, PPE and region (2/2)

Europe, America, Africa, and Middle East

ASSUMPTIONS AS OF DECEMBER 2020 **ESTIMATES**

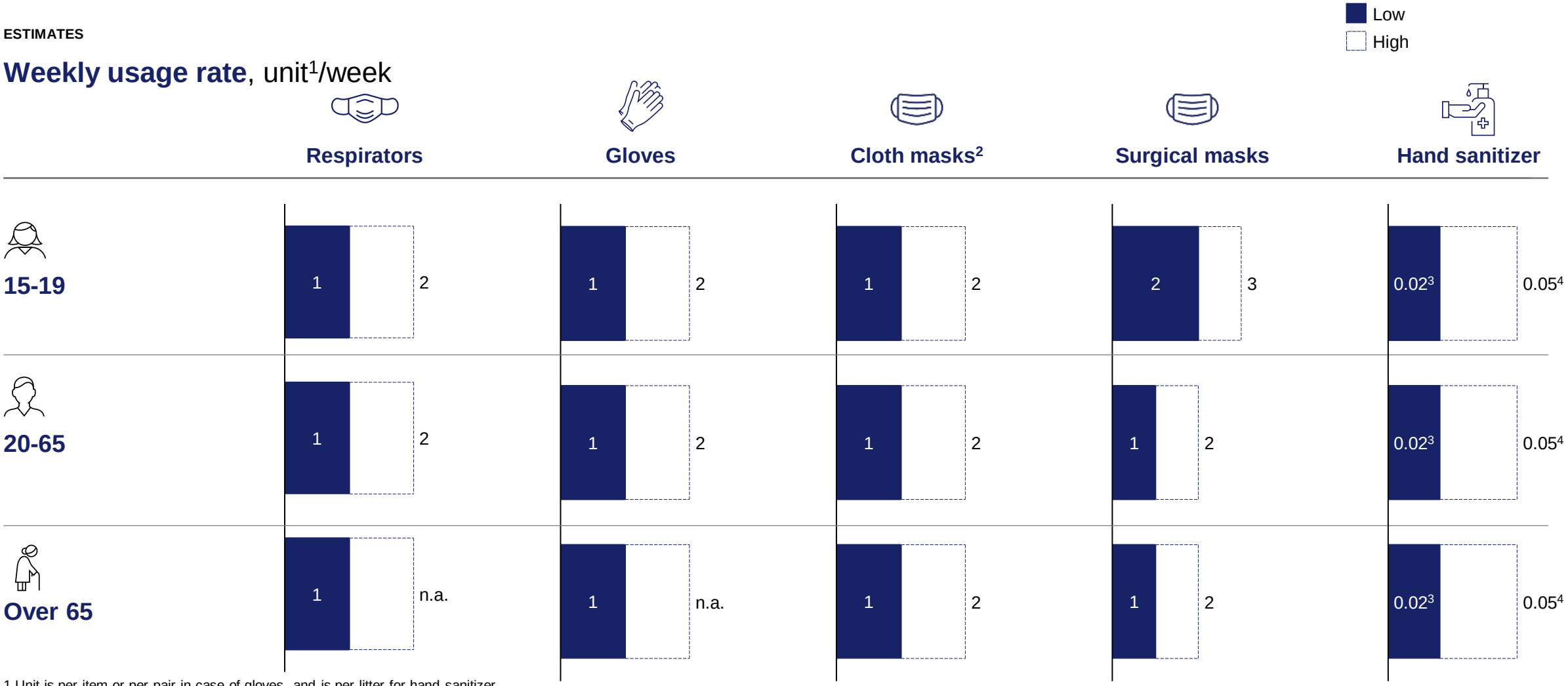
		Europe				North America				Latin America				Sub-Saharan Africa				Middle East and North Africa			
	PPE category	Q2 2020	Current situation	New normal – S0&S1	New normal – S2	Q2 2020	Current situation	New normal	**New normal – S2**	Q2 2020	Current situation	New normal	**New normal – S2**	Q2 2020	Current situation	New normal	New normal – S2	Q2 2020	Current situation	New normal	New normal – S2
 **15-19**	Respirators	0-1%	0-4%	0%	0%	0-1%	0-5%	0%	0%	0-1%	0-4%	0%	0%	0-0%	0-1%	0%	0%	0-1%	0-4%	0%	0-1%
	Surgical masks	9-11%	36-45%	~1%	~2%	10-13%	40-50%	~1%	~2%	8-10%	31-39%	0-1%	~1%	2-3%	8-10%	0%	0%	9-11%	34-43%	~1%	8-10%
	Cloth masks	9-11%	36-45%	~1%	~2%	10-13%	40-50%	~1%	~2%	8-10%	31-39%	0-1%	~1%	2-3%	8-10%	0%	0%	9-11%	34-43%	~1%	8-10%
	Gloves	0-1%	0-4%	0%	0%	0-1%	0-5%	0%	0%	0-1%	0-4%	0%	0%	0-0%	0-1%	0%	0%	0-1%	0-4%	0%	0-1%
	Hand sanitizer	13-18%	54-72%	1-2%	2-3%	15-20%	60-80%	1-2%	2-3%	12-16%	47-63%	~1%	1-2%	3-4%	12-16%	0%	0%	13-17%	51-68%	1-2%	12-16%
 **20-65**	Respirators	1-2%	4-9%	0%	0%	1-3%	5-10%	0%	0%	1-2%	4-8%	0%	0%	0-1%	1-2%	0%	0%	1-2%	4-9%	0%	1-2%
	Surgical masks	7-9%	27-36%	~1%	1-2%	8-10%	30-40%	~1%	1-2%	6-8%	24-31%	0%	~1%	~2%	6-8%	0%	0%	6-9%	26-34%	~1%	6-8%
	Cloth masks	7-9%	27-36%	~1%	1-2%	8-10%	30-40%	~1%	1-2%	6-8%	24-31%	0%	~1%	~2%	6-8%	0%	0%	6-9%	26-34%	~1%	6-8%
	Gloves	0-2%	0-9%	0%	0%	0-3%	0-10%	0%	0%	0-2%	0-8%	0%	0%	0-1%	0-2%	0%	0%	0-2%	0-9%	0%	0-2%
	Hand sanitizer	8-11%	31-45%	~1%	1-2%	9-13%	35-50%	~1%	1-2%	7-10%	28-39%	0-1%	~1%	2-3%	7-10%	0%	0%	7-11%	30-43%	~1%	7-10%
 **Over 65**	Respirators	0-1%	0-4%	0%	0%	0-1%	0-5%	0%	0%	0-1%	0-4%	0%	0%	0-0%	0-1%	0%	0%	0-1%	0-4%	0%	0-1%
	Surgical masks	6-9%	22-36%	~1%	1-2%	6-10%	25-40%	~1%	1-2%	5-8%	20-31%	0%	~1%	1-2%	5-8%	0%	0%	5-9%	21-34%	~1%	5-8%
	Cloth masks	6-9%	22-36%	~1%	1-2%	6-10%	25-40%	~1%	1-2%	5-8%	20-31%	0%	~1%	1-2%	5-8%	0%	0%	5-9%	21-34%	~1%	5-8%
	Gloves	0-2%	0-9%	0%	0%	0-3%	0-10%	0%	0%	0-2%	0-8%	0%	0%	0-1%	0-2%	0%	0%	0-2%	0-9%	0%	0-2%
	Hand sanitizer	11-16%	45-63%	~1%	2-3%	13-18%	50-70%	~1%	2-3%	10-14%	39-55%	~1%	~1%	3-4%	10-14%	0%	0%	11-15%	43-60%	~1%	10-14%

Source: WHO, YouGov, interviews with public health experts (November-December 2020), survey conducted in the US, 28 May-3 June 2020; n=1,021

E: Usage rates by age group and PPE category are assumed to be consistent across regions

ESTIMATES

Weekly usage rate, unit[1]/week



1. Unit is per item or per pair in case of gloves, and is per litter for hand sanitizer
2. Usage rate per month
3. Corresponds to 2 frictions per day
4. Corresponds to 4 frictions per day

Source: WHO, interviews with public health experts (November 2020), Survey conducted in the US, 28 May-3 June 2020; n=100, Press search