BEYOND COVID – THE FUTURE OF HAND HYGIENE

How will the pandemic transform the world of tomorrow?

COVID & Flu
Lessons learned from the Southern Hemisphere and earlier this year.
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Hygiene Made Digital
SanTRAL® Plus joins OPHARDT Hygiene’s portfolio of connected devices.
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The Euro Bottle stands the test of time
Yet another pandemic demonstrates the value of this standard.
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Dear Readers,

Many of you have been on or near the front lines of caring for people during this pandemic. Even with good news emerging from vaccine trials, you are facing a surge of new cases that meet or exceed the case load from earlier in the spring. You have been front of mind for me and our whole team this year. The purpose and mission of OPHARDT, to break the chain of infection, has never felt more crucial and we are thankful for every way that we have been able to partner with you in that mission this year.

The vital work that you do during the flu season is being recognized in a new way this year. We took a look at what the data was showing us about the overlapping seasonal influenza increases and the COVID-19 pandemic (page 6 and 7).

As the flu and coronavirus affect dispenser use in hospitals and public spaces, we took time to interview Prof. Franz Daschner about the introduction of the Euro bottle almost 50 years ago and the advantages that an open bottle standard has in the middle of a pandemic (page 10).

Even as we all make major changes to cope with the new demands of this time, we wanted to look at what the future of hand hygiene might hold in the years and decades after the pandemic ends (pages 4 and 5). I believe that we are already seeing an acceleration of the adoption of new technologies for improving hand hygiene access, compliance, and monitoring. As an innovation and engineering-focussed company, we are not just thinking about the next quarter, but about the next 5, 10, and 15 years.

Grateful to be working together to break the chain of infection,

Heiner Ophardt, CEO

In 2020, OPHARDT HYGIENE more than doubled it’s workforce size—crossing the 1,000 employee mark for the first time. This led to a staggering 3.5x capacity increase for hygiene equipment globally.” - John O’Malley

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Project results show 2x increase in handwashing at schools

As some countries reopen schools and as others fiercely debate whether to, hygiene practices at our schools are focal points of attention and anxiety. For a prescient professor and OPHARDT Hygiene, it was already front-of-mind before the pandemic.

It’s personal
As a dad of a school-age kid, Prof. Dr. Karsten Becker, who now leads a department at the University of Greifswald, knew that schools had a problem. Children were not washing their hands often enough or for long enough, especially after going to the washroom.

To study this problem, he started looking for a company to partner with to help him design and produce a kid-friendly soap dispenser. That led him to OPHARDT Hygiene and one of its lead researchers, Dr. Siegfried Steltenkamp. This was the beginning of a massive project that involved 13 elementary schools in the northwest of Germany. This study tested whether children’s hand hygiene would be positively-affected by the introduction of kid-focused soap dispensers and hygiene education.

Designed to motivate
As researchers and engineers worked together, a set of features for this new dispenser design came into focus. The dispensers would contain smart monitoring for data-collection, some sort of visual guide and feedback, be vandalism-safe, and be visually appealing to kids.

After many iterations, the final, friendly and motivational design was a durable, smart dispenser that was able to simultaneously guide three students through the proper handwashing steps with the help of a series of flashing LEDs and colour-coded stickers.

Astonishing results
Before this project, kids would visit the school restroom, on average, three times per week, but only wash their hands once a week. After the project, visits to the washroom increased by one-third to a weekly average of 4.5 visits per student as preliminary data showed. Not only did children visit the washrooms more frequently, they also washed their hands twice as often. The combination of a motivational dispenser design, hygiene lectures, and practical, hands-on skill-building led to the greatest increase in handwashing.

School smarts
The data collection for this study was handled by OHMS, OPHARDT’s connected monitoring system, which enabled schools to track when the washroom door opened and when soap was dispensed. The resulting data was then available around the clock through the OHMS web application.

This study combined OPHARDT Hygiene’s readiness to create custom solutions, our obsessive engineering and manufacturing, and our ability to collaborate with top researchers to help break the chain of infection.
While it is hard to think beyond the day-to-day, our ability to keep people safe may depend on thinking a step ahead.

The positive initial results from multiple vaccine trials is uplifting news. It does not signal that an immediate end to this crisis is around the corner, though, as the earliest that truly large-scale distribution could happen would be between mid to late 2021. In the meantime, the pandemic stretches on and, as it does, our behaviours are changing. These changes may be permanent.

Habit-forming
Habits can take anywhere from 18 to 254 days to form, making the COVID-19 pandemic lengthy enough to instill deep habits. There is evidence that frequent, thorough handwashing is becoming habitual. In one study, 90% of Americans said they are washing their hands more frequently, with 77% washing their hands for at least 20 seconds.

The jump from pre-pandemic levels is eye-opening; survey participants who washed their hands six or more times per day increased from 37% last year to 78% this year. Participants believed that these new habits would persist after the pandemic by an overwhelming majority of 88%. Previous outbreaks led to sustained vigilance.

A study of people who were quarantined in Toronto during the SARS outbreak found that they reported continued conscientious handwashing and crowd avoidance. Just as disgust with public spitting and uncovered coughing or sneezing became the norm after the 1918 influenza pandemic, we may see that our higher standards of hand hygiene are here to stay. The influenza pandemic of 1918 spurred on the creation of public health agencies in many nations and the first instance of socialized healthcare. We may also see large and historic shifts following the COVID-19 pandemic, including the accelerated embrace of a host of transformative technologies.

Access, powered by the future
The pandemic has seen the rapid increase in the adoption of touchless technologies. At OPHARDT, touchless products have increased from 20% of our dispensing business to 55%. These devices, and people’s preference for them, will outlast the pandemic.

At OPHARDT we think about three key areas that are crucial for improving hand hygiene: access, compliance, and monitoring. The issue of access is particularly important when it comes to touchless dispensers.

While touchless dispensers have an obvious hygienic advantage to manual dispensers, that advantage means nothing if the dispenser’s batteries are not replaced on time. OPHARDT creates smart dispensers that help solve this problem by alerting staff when batteries are low, but we want to make battery replacement a thing of the past.

We are currently developing dispensers that are powered by fuel cell technology that runs on the isopropanol found in disinfectant. This always-on, battery-less dispen-
New technologies will play a very important role in increasing good hand hygiene.

Dr. Andreas Glöckner
Medical Director
bei OPHARDT Hygiene

Ser would have more than enough power to drive the dispenser motor and transmit data while saving time and reducing environmental impact.

**Smart devices and artificial intelligence**

Hand hygiene compliance will also be transformed by new innovations. Dr. Andreas Glöckner, OPHARDT’s Chief Medical Officer shared with us “We need smart technologies to measure the most important criteria of hand hygiene compliance, including when there’s a hand hygiene event (HHE), the amount of disinfectant or soap used, and the duration of the HHE.

New technologies will help us bring relevant information quickly to the point of care so that healthcare workers get electronic feedback on a nearby screen or direct feedback on the dispenser.”

On device feedback is still in its nascent stage. The ingo-man SmartNose gives feedback when the recommended amount of disinfectant has been used. Future dispensers may include reminders of the different stages of handwashing or disinfecting, timers, and even provide feedback from biosensors. Real-time feedback will be crucial to improving compliance for healthcare workers and encouraging healthy habits for the public.

**Small events, big data**

All of this work of increasing hand hygiene access and compliance will be hard to do without improving monitoring. Connected devices are able to dramatically improve monitoring, health outcomes, and customer satisfaction.

OPHARDT’s Hygiene Monitoring System (OHMS) has been able to increase disinfectant consumption in hospitals by 31% and help decrease hospital-acquired infections by 28%. These solutions, while very effective, are still relatively niche, a situation that we expect to change in the coming decades. Connected dispensers will provide hospitals and institutions with useful data that could provide powerful insights with the help of artificial intelligence.

**Pandemics: the new normal?**

Calling the COVID-19 pandemic a once-in-a-hundred years pandemic is accurate, but it might not remain accurate for long. Researchers are predicting an increase in the severity and frequency of pandemics, as climate change and sprawling exurbs bring novel interactions between humans and wildlife which may lead to cross-species infection transmission. The high use of antibiotics leads epidemiologists to suggest that future pandemics might be caused by “superbugs” which have mutated to be resistant to antibiotics, leaving us few tools to combat their spread.

The role of handwashing to stop the spread of future infectious diseases will be crucial. Our hands will remain one of the chief ways that diseases can be spread, responsible for helping spread 80% of communicable diseases, so proper hand hygiene will remain one of the most accessible and necessary tools to stop widespread loss of life.
As we head into autumn in the northern hemisphere, the seasonal flu is beginning to spread. Thousands of people are hospitalized each year as a result of the flu, with some years more severe than others.

In the 2017/2018 flu season, 60,000 people were hospitalized in Germany alone. As the ongoing coronavirus pandemic is already placing pressure on healthcare systems, hospitals around the world are bracing for capacity shortages, especially in intensive care units.

Just how bad the situation will be depends on how the two infectious diseases develop over the next few weeks and months. The influenza virus has shown quite variable activity in recent years, which makes it difficult to predict its course.

This year, critical focus areas include preventing the collapse of healthcare systems, as well as individual protection from infection itself. A recent study by researchers at the Max Planck Institute for Infection Biology in Berlin shows how impactful influenza and corona are. According to the researchers, influenza diseases increase corona transmission by a factor of 2.5 on average.

In order to reduce this interaction and the general risk of infection with the influenza virus, the Standing Commission on Vaccination (STIKO) at the Robert Koch Institute strongly recommends getting the flu vaccination, especially for high risk groups, including individuals over the age of 60, those with chronic illness, and pregnant women. Flu vaccinations and infection prevention measures provide protection. While

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**THE THREE W’S**

- Wear a mask
- Watch your distance
- Wash your hands

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What does the emergence of the seasonal flu mean for countries experiencing additional waves of the pandemic?
many trials are currently underway, there are no proven vaccines against the novel coronavirus to date. According to the Robert Koch Institute (RKI), under the best-case scenario, a suitable vaccine will not be available until early into 2021.1

Until a proven vaccine is widely available, we must refocus our attention on engaging in infection prevention measures each and every day: practicing physical distancing, performing thorough hand hygiene, and wearing a mask when out in public and when unable to maintain minimum physical distancing requirements.

Some public health officials are calling this trio of preventative measures the “three Ws.” Recent research shows that in countries with good compliance with these measures, 13.6 times fewer people died from COVID-19 between June 1 and August 20, 2020, than in countries with poor compliance.4

These infection prevention measures are even more important when we consider the fact that fewer people are opting for the seasonal flu vaccination.

The vaccination participation in the increased risk group—60 years and older—has fallen from 35% to a meager 20%.5

Even when a significant proportion of the population has opted for the seasonal flu vaccine, this does not guarantee protection against contracting the flu virus. Vaccinations against the seasonal influenza virus were only 30-60% effective during the 2019/2020 flu season.

"Individuals will play an important role in how the pandemic will develop in Germany. Protect yourself and those around you; please continue to follow the three W’s". – Lothar Wieler, President, Robert Koch Institute

Experiences from the Southern Hemisphere
The 2019/2020 influenza season ended abruptly with the introduction of strict hygiene measures to contain the COVID-19 pandemic, clearly demonstrating the effectiveness of keeping your distance, practicing good hand hygiene and wearing masks in containing the flu season as well. Data from the southern hemisphere also suggests the introduction of hygiene rules may affect the course of the 2020/2021 flu season. Out of the more than 83,000 specimens tested in Australia, Chile, and South Africa between April and July this year, only 51 tested positive for influenza (0.06% of cases). Compared to the same time periods in 2017-2019, more than 13% of cases analyzed tested positive for influenza.6

In this context, it is clear that the three W’s are still a critical component in protecting yourself and those around you from contracting both the seasonal flu and COVID-19. By doing our best to adhere to important infection prevention measures, we can also support healthcare institutions in providing optimal patient care.

SanTRAL® Plus makes hand hygiene in the washroom digital

The rock-solid, Made-in-Germany dispenser series offers numerous advantages for washroom operators and visitors, especially with its newly integrated smart functions.

It is the start of a new era for the timeless SanTRAL® line-up. A success since its launch in 1991, the stainless steel SanTRAL® series for washrooms has proven itself in demanding environments and grown into a complete collection of products for all hand hygiene needs.

From soap and disinfectant dispensers, in manual and touch-free versions, to paper towel and toilet paper dispensers, to waste bins, the SanTRAL® portfolio is the complete washroom solution. Now our made in Germany dispenser family becomes digital. With the new SanTRAL® Plus series, the dispenser system is now able to record usage data and optimize washroom hygiene. SanTRAL® Plus remains true to its roots as a reliable and flexible dispenser series.

Small but important details have been refined during development: the viewing window and lock have both been redesigned to be more visually pleasing. Speaking of looks, the SanTRAL® Plus series is available in three standard colors and three premium colors, so there is something for every setting. If you need a bespoke colour, you can choose a custom option from the RAL standard.

This new generation of dispensers keeps the iconic sloping roof of the SanTRAL® series which reliably prevents waste and unwanted objects from being placed on top of the housing.

With SanTRAL® Plus, our proven, open-bottle, stainless steel SanTRAL® series is set for the future. The advances we’ve made in this generation include a visual facelift with added premium finishes, but, most importantly, devices can now be integrated into our digital monitoring system.

Joel Ophardt
Marketing Manager

DID YOU KNOW?

SanTRAL® RAL-COLOUR

SanTRAL®...
Fill and refill
Another essential feature the SanTRAL® Plus series offers is the freedom to choose any refillable material. Washroom operators can comfortably switch between the refills of different manufacturers without having to change the dispenser.

In the case of the paper towel dispensers, an innovative universal dispenser guarantees compatibility with common paper types. With the soap and disinfectant dispensers, this is made possible by an open and refillable container. These are big benefits when it comes to affordability, flexibility and sustainability.

Pump it up
At the heart of this dispenser is our newest pump drive, the X10, which has been under careful development by OPHARDT Hygiene for years. This drive includes post-consumer recycled plastics for improved environmental performance. The pumps of the SanTRAL® Plus series for dosing liquid soap, disinfectant, foam and spray use the new X10 pump standard.

With a few simple steps, the different dosing pumps can even be switched among dispensers for total flexibility. Each pump contains our patented Clean-Tip™ Technology that prevents dripping with all pumps and ensures that the dispenser is always clean.

Get smart
The highlight of the SanTRAL® Plus is definitely the new smart functionality. This means that all dispensers in the new series are “smart ready” and can either come equipped with an intelligent module or be easily retrofitted afterwards. These smart dispensers are able to record their usage data automatically and then send it to the OPHARDT Washroom Monitoring System (OWMS).

Using the software, washroom operators always keep track of the individual dispenser data on fill levels, battery levels, and frequency of use.

A corresponding app for mobile devices can be used to send tasks to the cleaning and service personnel automatically and in real time. In this way, refill cycles can be optimized and the availability of filling goods can be increased efficiently, which leads to satisfied washroom visitors and guarantees a high standard of hygiene.

Efficient washroom maintenance could also lead to significant savings, making the interaction between SanTRAL® Plus and OWMS an attractive hygiene solution.

A couple of other smart features can be found on the SanTRAL® Plus series. The fill level and the battery level both have visual alerts directly on the dispenser and each device can be easily updated with over-the-air firmware updates, so there is no need to update each dispenser manually.

Hygiene made digital
The addition of the SanTRAL® Plus expands the portfolio of the products connected to OPHARDT Intelligent Solutions (OIS), which enables digitalized hand hygiene in the medical and public sector. The product launch of the SanTRAL® Plus series is taking place in stages. At the beginning, the essential core products of the new dispenser generation will be introduced to the market and then the product line will be gradually expanded.
Prof. Franz Daschner on the Euro bottle and the Euro dispenser

We talked to Prof. Franz Daschner about the introduction of the Euro bottle almost 50 years ago and its advantages for hospital hygiene today.

At the Institute for Infection Prevention and Hospital Epidemiology in Freiburg, Germany, we met a true hand hygiene pioneer: Prof. Franz Daschner. We talked to him about the introduction of the Euro bottle almost 50 years ago and its advantages for hospital hygiene today.

In the 1970s, collaboration between OPHARDT Hygiene and Prof. Dr. Franz Daschner led to the development of the standardized Euro bottle. Today, the Euro bottle is widely used in German hospitals, surrounding European countries, and beyond.

What were the reasons for the introduction of the Euro bottle and the Euro dispenser back then?
Quite simply: Before the Euro bottle existed, hospitals carried different dispensers from different manufacturers with different bottles. This was a total mess, especially when it came to maintaining and filling the disinfectant bottles—but also when it came to pricing, of course.

The chemical manufacturers could dictate the price of the hand disinfectant and soap as long as their dispenser system was used in the hospital.

Why is the open Euro bottle format all the more important for clinics and hospitals today?
As a hygienist, I can’t imagine anything better—especially during the COVID-19 pandemic—than a standardized disinfectant dispenser that can hold the products of different manufacturers.

At the moment you have to buy a lot of hand disinfectants and there was even a shortage of hand hygiene products at the beginning of the pandemic. It is all the more crucial that a dispenser format is available that is compatible with the bottles of all manufacturers.

The KRINKO (Commission for Hospital Hygiene and Infection Prevention) guideline from 2016 clearly recommends the use of an open dispenser system.

What do you say to medical institutions that still rely on manufacturers proprietary disinfectant dispensers?
Clinics or procurement departments that buy a hygiene dispenser that only fits a hand disinfectant from a specific company are behind the times. It goes without saying that, from an economic perspective alone, an open system such as the Euro dispenser is absolutely necessary.
The high rate of nosocomial, or hospital-acquired, infections is a pressing issue for our healthcare systems.

There are 1.7 million healthcare-associated infections annually in America, with 98,000 related patient deaths. Hospitals that use OHMS have found a 31% increase in hand disinfectant consumption and a 28% reduction in hospital-acquired infections.

We developed the KX dispenser to be one of the most versatile dispensers on the market. Not only does it fit into tight spaces, it is also extremely customizable and able to include unique branding or hygiene instructions.

The KX has become even more versatile and joins the ingo-man® plus and SanTRAL® Plus dispensers, as part of OPHARDT Hygiene’s collection of connected devices. On top of measuring battery life and fill levels, the Smart KX dispenser is able to securely share data on when it was activated, where the dispenser is located, and provide feedback via an LED on the dispenser.

Using the OPHARDT Hygiene Monitoring System® (OHMS) software, hygiene experts can precisely analyze and effectively improve hand hygiene behaviour. With just a few clicks of a button, hygiene professionals can identify rarely used Smart KX dispensers, allowing them to be repositioned to improve infection prevention.

OHMS also enables healthcare institutions to monitor the average volume dispensed per hand disinfection and create focused coaching based on performance data. Retaining the KX’s whisper quiet dispensing with Quiet Drive + technology, its optional adjustable dosage, and its simple quick-change bottle replacement, the Smart KX builds on an impressive dispenser to help solve the pressing problem of hand hygiene monitoring.

PROFESSIONAL OPINION

With OHMS we can spot areas of improvement quickly and offer training sessions based on the data collected by the system. This allows us to adapt to any given situation. The instruments used to measure hand hygiene to date had weaknesses, were time intensive, and imprecise.

Jan-Henrick Wischer
Specialist Nurse for hospital hygiene at EVK Lippstadt
New recycling certification for pump and bottle combinations

Following independent, third-party analysis, three of our pump and bottle solutions have been certified “Made for Recycling.”

Another step for OPHARDT towards helping create a more circular economy.

OPHARDT Hygiene is committed to transitioning to a circular economy to extend the use of valuable materials and reduce landfill waste. We are making progress to this goal on both fronts, through the materials we use and the products we make. On the input side, we are increasingly using post-consumer recycled plastics. On the output side, we have recently certified multiple pump and bottle combinations as meeting a stringent recycling standard. These pumps join our DHP—disposable hygiene pump—as OPHARDT products that meet the strict „Made for Recycling“ criteria of Interseroh, a European-based company which uses a comprehensive, scientific based assessment to determine the recyclability of products.

The pump and bottle combinations that became certified are our X38 II vented pump and HDPE bottle, X38 II non-vented pump and HDPE bottle, and our X38 FCB 0.8ml non-vented pump and LDPE bottle.

To learn more about our contributions to the circular economy, visit our website, or read our latest sustainability report detailing our activities and initiatives.

OPHARDT Hygiene Webinars

OPHARDT Hygiene leads through the world of dispenser systems with regular webinars. Stay up-to-date with the latest information on our hygiene products and solutions.

You can find out more about our upcoming webinars at www.ophardt.com/en/webinar and in our monthly email newsletter.

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