A design element that must operate with the precision of engineering infrastructure, plumbing fixtures and fittings play important aesthetic and functional roles in the health care environment. Perhaps most importantly, they must help keep the health care environment hygienic without themselves becoming a vector for the spread of bacteria. Additionally, they must carefully regulate water usage and temperature to avoid literally draining resources and causing physical harm to patients and clinical staff.

Health care hierarchy

In order of hierarchy, the health care market for fixtures and fittings is interested in hygiene, energy efficiency, total cost of ownership and sustainability,” says Rick Norton, product manager, Sloan Valve Co. (www.sloanvalve.com). 

Hands-free faucets and flush valves are a big trend for hospitals, both for their hygienic benefits and water-saving properties,” adds George Speare, senior product manager, Moen Commercial (www.moen.com/commercial). Plumbing fixtures can pose a health hazard when it comes to the spread of germs in public restrooms, especially in health care facilities.”

Amy Thompson, product coordinator, Speakman Co. (www.speakmancompany.com), New Castle, Del., sees more hospitals requiring lower-down water products such as showerheads, faucets and valves to reduce costs and lessen their carbon footprint. “The trend toward these products, which reduce water consumption, has been growing for the last several years,” she notes.

Vic Hines, senior field technical representative for Charlotte Pipe and Foundry Co. (www.charlottippipe.com), Charlotte, N.C. Instead of glass and plastics, he says, chlorinated polyvinyl chloride (CPVC) is being used successfully in many health care facilities. ‘Many facilities managers and owners are realizing that, during long periods of economic slowdown, a ‘Chevy’ system will function just as well as a ‘Caddy’ system.”

Experts agree that the trend to improve hygiene levels is fueling advances in sensor-operated devices that eliminate surface contact with the units. In addition to preventing infection, these products enhance facilities maintenance and improve water conservation. At the same time, accessible hand-cleaning stations, along with communication to encourage frequent hand washing, is becoming more prevalent.

Reflecting this trend, Chicago Faucets (www.chicagofaucets.com), Des Plaines, Ill., has developed sensor-operated faucets featuring remote-control technology that allows diagnostics and adjustment of the advance of sensor-operated devices that eliminate surface contact with the units. In addition to preventing infection, these products enhance facilities maintenance and improve water conservation. At the same time, accessible hand-cleaning stations, along with communication to encourage frequent hand washing, is becoming more prevalent.

Concern with HYGIENE is fueling advances in sensor-operated devices.
from a handheld-enabled device, according to John Fitzgerald, vice president of marketing. Several models incorporate settings for scrub sinks and scheduling of regular faucet flushing, he says.

Adding antimicrobial elements to touch points is another trend in addressing infection control, says John Hasa, product manager, Bradley Corp. (www.bradleycorp.com), Menomonee Falls, Wis. For example, Bradley's Terreon bathroom products incorporates bacteria-resistant glazes to its bathroom fixtures to touch points is marketing. Several models to touch points is marketing. Several models

Dawn Robinson, special market programs manager.

“Our Vitra hygiene technology adds silver ions to the glaze on the ceramic, which makes it difficult for bacteria to breathe on its surface,” she explains. “This kills 99.9 percent of bacteria that come in contact with the ceramics.”

Conservation focus

Innovations in water conservation focus on plumbing fixtures that operate on demand as well as lower flow rates and flush control. For example, Alsons Corp. (www.alsons.com), Hilldale, Mich., has developed an ActivTouch hand shower that facilitates water conservation. The pause-control button allows the user to reduce flow to a trickle when full water is not needed,” explains John Davies, vice president, sales.

Water-saving urinals from Gerber Plumbing Falmu (www.gerberonline.com), Woodridge, Ill., also reflect this trend. The company’s North Point urinals use 0.125 gallons of water per flush. “They perform better than waterless urinals because the flush allows the least amount of water to effectively remove waste. This is important in health care environments where excessive flushing is common,” says Kevin McJoynt, vice president of marketing.

Winston Huff, project manager with Smith Seckman Reid Inc., a consulting architect and contractor.”

Nortier also warns that reduced water use at the faucet can hinder the control of Legionella, which thrives in stagnant water. Reducing plastic waste in public restrooms is a green benefit of a bottle-filling station produced by Halsey Taylor (www.halseytaylor.com), Oak Brook, Ill. The station provides hospital end-users with cold, filtered water for bottles and cups, which eliminates the need to discard plastic water bottles. To help convey the environmental impact of using the filling station, a “green counter” displays the number of disposable water bottles that have been saved from landfills, says Rod Magnuson, director of commercial products. Vacuum plumbing systems, which can be routed above ground, offer an environmentally friendly alternative to gravity drainage, says Tony Carrozza, vice president, Whitehall Manufacturing (www.whitehallmfg.com), City of Industry, Calif., and allow more flexibility in system design and installation. “Vacuum plumbing may be specified for new construction or retrofit projects to earn LEED certification,” Carrozza explains. “It only requires one-half gallon per flush, whereas the average low-flow toilet still requires 1 gallon. Also, because the entire system is installed above ground, contractors don’t have to X-ray the existing post-tension slab for reinforcement, or plan around existing buried utilities or soil conditions.” In fact, Whitehall supports an overall strategy when
installing plumbing fixtures and fittings in hospitals. Selection of low-flow fixtures is important, but many other factors must be addressed. “A hospital’s budget, design constraints, durability requirements and cleanliness are part of the bigger picture,” Carroppa notes. “We support the shift to products that consider all in one, while reducing a negative impact on the environment.”

Safety is key
Anti-scald shower valves are a key to ensuring safety, experts agree. These products reduce the chance of thermal shock and scalding, traditionally the cause of many bathing-related accidents. Also, sensor-operated faucets prevent water over-run—the cause of wet, slippery floors. Minimized ligature points is another safety feature, which can prevent patient injury and self-harm. “Anti-scald shower valves are important in health care facilities because users often have compromised mobility and are more susceptible to scalding,” says Delta’s Martin. “Both pressure balance and thermostatic valves reduce that risk.” Delta offers several thermostatic mixing valves for lavatory use, which control maximum hot-water temperature, plus pressure-balance and thermostatic shower valves. Similarly, Moen Commercial faucets feature a thermostatic mixing valve designed to prevent scalding and shock during hand washing. This valve blends hot water—stored at temperatures high enough to kill bacteria—with cold water to ensure constant, safe temperatures and prevent the spread of disease.

Chicago Faucets also offers thermostatic mixing valves for its sensor-operated faucets to ensure precise control of temperature at the outlet. Symmons Industries Inc. (www.symmons.com), Braintree, Mass., offers a “safe shower” experience, according to Beth Mercurio, vice president of marketing. “The company’s premium trim plates are compatible with their anti-scald, pressure-balance valve,” she notes. “This opens up new design options for a less commercial look.” Another Symmons product popular in the health care industry is the Visu-Temp with Clear-Vue shower system which displays the water temperature through a clear gauge for added safety. The minimization of ligature points in product design, which means that connection points are concealed and cannot be tampered with, is an important feature of Bradley’s anti-ligature series, which includes hand-washing, shower and accessory options. For example, lavatory features—contoured design, fully enclosed plumbing via a stainless steel trap cover, and spray-head faucet mounted flush to the basin—all minimize ligature points, which prevent injuries and patient self-harm, says Haas.

Keep striving
As plumbing manufacturers keep striving to meet health care’s rigid requirements, these issues will continue to be at the top of their product agendas.

Neal Lorenzi is a freelance writer based in Mundelein, Ill.

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