Given the new exposure that many home-related health topics have had, from the exploding rate of asthma in the U.S. to the controversial debate on radon emissions from granite countertops, these issues should gain a certain new importance in the updated dialogue between client and designer.

According to the U.S. Environmental Protection Agency, indoor air quality is among the five biggest threats to human health. In their comprehensive book, Green Remodeling: Changing the World One Room at a Time, David Johnston and Kim Masters, a LEED AP, offer a long list of materials...
and components that could be making consumers sick.

These are categorized into particulates, combustion gases, volatile organic compounds (VOCs), radioactive contaminants (e.g. radon), environmental tobacco smoke, moisture and mold.

Particular attention to moisture and mold should be paid to ensure a healthy bath: Are there any other spots in the home where moisture control and air circulation are more important than in the bath?

Water is the central element in the bathroom experience; whether for luxury reasons or just the daily necessity of handwashing, water defines the bath.

It’s important to note that water quality is not just a topic for the kitchen. Standard undercounter filtration units are good for the pour-point, but what about the rest of the home?

**Venting Frustration**

Central to any discussion of the bath are the problems that moisture poses. Anyone who has ever been in a hotel room with a poorly ventilated bath has experienced the fogged-up mirrors and windows that occur after a hot shower. This is a bad sign. Moisture with nowhere to go just sits atop any nearby surface, blackening the backs of wallpaper, gathering in hidden crevices and settling into carpets.

Unfortunately the problem of air quality goes well beyond the bath to the HVAC system and to choices made during the original construction of the home. Currently, according to the National Association of Home Builders, more people are choosing to remodel their existing homes instead of building from scratch, and most dealers surveyed by KBDN this year have reported that, indeed, a majority of their business has come in the form of clients looking to update a kitchen or bath.

So, chances are good that you’re designing vent fans into existing HVAC systems. But there’s more to air quality than a fan, and not all fans are created equal.

Newer homes are built to be more air tight than their older counterparts. While this is good for energy and heat conservation on the one hand, it’s terrible for indoor air quality on the other. Negative air pressure, which is often associated with forced air
or central air systems, will actually pull toxins from cabinetry and carpeting, so it’s critical to have the correct air balance, and not choose vent fans that are too powerful for the amount of air for which they will move and filter.

To address this problem, some manufacturers are creating component ventilation; that is, they have created products to retrofit to a home’s existing HVAC ducts to improve efficiency not just within a single room, but throughout the entire home ventilation system.

Broan launched SmartSense this year which, according to the company, automatically coordinates the operation of ventilation fans, running them intermittently throughout the day when necessary. Up to 10 fans throughout the home can be coordinated.

There are also a variety of products aimed at the green market to fit this need, including Panasonic’s WhisperGreen. Energy Star certified, the fans in this series are designed to work continuously as needed.

The American Society of Heating, Refrigerating and Air-Conditioning Engineers wrote the standard (ASHRAE code 62.2), which is the baseline ventilation requirement for all major building programs and many building codes. To learn more about ASHRAE, the codes and what products are in specific compliance for the green standard, visit the association’s Web site: www.ashrae.org.

If your clients are concerned about these issues, talk them out of excess fabric in the bath and powder room. Advise them that bathmats need to air dry, as do shower curtains, if you aren’t installing an enclosure. And it’s a good idea to keep both out of the shower, and to wipe down the curtain after every shower, as well.

If your clients have any kind of asthma, allergies or other breathing issues such as emphysema or COPD, it is crucial to educate them about what in their new remodel might trigger their symptoms. Remember, the time to find out this information is in your pre-project client questionnaire, not after the project is underway.

As mentioned previously, the problem of poor indoor air quality hasn’t gone unnoticed by the EPA. The agency has partnered with the Lawrence Berkeley National Laboratory to create the Indoor Air Quality Scientific Findings Bank, a
New Carpet Smell

New carpet smell is actually a bouquet of VOCs off-gassing into the air. Proper ventilation is, of course, pivotal to an effective and sustainable design, but avoiding products that off-gas is an important preventive step. Everything from the medium density fiberboard under the laminate countertops to the finish on a treated hardwood floor has the potential to off-gas formaldehyde, an established human carcinogen.

With the spread of the green movement, the spotlight has been on VOCs and, in certain products, their days are numbered. Countertops that emit low or no VOCs and don’t require harsh chemicals to clean are a good place to start – but how will you identify what’s safe from what’s not?

The GreenGuard Institute (www.greenguard.org), a third-party certifier, tests for VOCs in the products it certifies (such as Silestone, Cambria, Samsung Staron, Wilsonart and dozens of other brands large and small that are certified to be low VOC). But a low- or no-VOC countertop isn’t much good if harsh cleansers are used during cleanup. Mineral oil brings out the sheen in natural stone, while other surfaces can be swabbed with a solution of water and white vinegar, according to Johnson and Masters.

There is a controversial dialogue in the news right now about the alleged elevated levels of radon gas in kitchens or baths that contain granite countertops. Radon is a radioactive gas emitted from the breakdown of uranium in the bedrock upon which a house stands. Granite is the bedrock that produces it. The jury’s still out on granite countertops’ rate of radon emission/nonemission, but if your client is concerned, there are certain regions in the U.S. where the incidence of radon is higher in the bedrock. To check that out, the EPA keeps a Web site of stats on a dedicated microsite: www.epa.gov/radon.

Paint can also be an issue due to its chemical make up. Established paint manufacturers are now producing low-VOC and no-VOC paint options, as are younger companies that specialize in no-VOC paints, such as AFM Safecoat and Mythic.

Water, Purified
Bath water is different from kitchen water sources for a few reasons – the most glaring being that you’re typically not ingesting water from bathroom sources, save a few late-night bouts of dry mouth. But does that mean you’re protected from the ill effects of possibly contaminated water? Not at all. Chemicals can permeate the skin while showering or while rinsing after tooth brushing. So what’s the answer?

Reverse Osmosis, a system of filtration that forces water through a membrane to comprehensively filter out particulates and metals – thought by many experts to be the best filtration system – is not always necessary. In places where water is notoriously alkali, or in places where metal contamination is high, though, Reverse Osmosis is a good option.

For high-volume situations, a point-of-entry “prefiltration” water system might be a good fit. Many homes now have undercounter water filtration units, or dedicated fountains that sit next to the kitchen faucet, but few people put dedicated systems beneath the bath sink. Prefiltration units take out sediments and particulates including chlorine at the point that the water enters the house, which, depending on usage, can be more efficient and economical than installing drinking-grade units from each faucet in the home. Whirlpool’s Gold point-of-entry system is one such product that can address these needs.