Nursing contributions to medical inventions and innovations aren't unheard of, but the role nurses play as frontline healthcare professionals begs the question: Can nurses contribute more? After all, we do spend the most time with patients and understand what's needed to enhance their experience, care, and outcomes.

So, how does healthcare take advantage of this untapped resource? Are you interested in making a contribution to medical device development? In this article, we'll look at some recent nursing inventions and discuss how the profession can provide nurses with a path to education that encourages invention and innovation.

Where are the nurses?
Did you know that 42 nurses have been responsible for 94 inventions from 1865 to 2003? Here are some of the more recent contributions.

**Bili-Bonnet**—A neonatal intensive care nurse invented this latex-free compression net bonnet that holds eye guards in place to reduce the risk of ultraviolet light exposure when neonates are treated for jaundice.

**Aqua-Box**—This wall-mounted canister allows contaminated fluids to be treated with a U.S. Food & Drug Administration-approved disinfectant for safe disposal.

**Neonur**—Used to measure the complex choreography of sucking, breathing, and swallowing that can indicate developmental issues in premature infants, this device decreases the risk of failure to thrive, which affects half of all newborns with congenital heart defects.

However, an investigation of medical innovations from the United States Patent and Trade Office shows that 5,639 medical device patents have been awarded from 1976 to 2015, but fewer than 5% (P = 0.006) are associated with nurses. This would seem to demonstrate that valuable discovery and innovation opportunities are being missed because of the lack of nursing engagement.

How can the profession better prepare nurses for innovation?
Nursing students have always had the opportunity to pursue nursing and basic science or nursing and engineering education, but independent of each other. A better way to encourage nurses to contribute to technology innovation might be with dual-degree programs. If baccalaureate and advanced practice nursing education institutions offered structured nursing and science or nursing and engineering curricula, students would have an opportunity to build foundational skills that would better position them to participate as future healthcare innovators and inventors.

Ultimately, dual-degree programs would produce a new demographic of nurses who would be uniquely trained to comprehend technical challenges and prepared to methodically and systematically explore and develop solutions to resolve patient-care issues. (See Pioneering institutions.)

What can you do?
As primary healthcare providers, nurses should be at the forefront of invention and innovation, but they’re not. Encouraging them to contribute to the creation of medical devices that improve patient care and safety requires providing them with the foundational education in science and engineering that gives them the confidence to step up.

Creating dual-degree programs will result in the development of nurse-scientists and nurse-engineers who lead patient care into the future.

You can help in this effort by encouraging nursing schools and nursing organizations to make the development of these dual-degree programs a priority. Aspiring nurses interested in invention and innovation can consider applying to a school that already has a dual-de-
gree program. Practicing nurses (at the baccalaureate and graduate level) can consider additional basic science or engineering training or other degrees to support their efforts, as well as seek opportunities at institutions that recognize and embrace the concept of the inventive nurse.

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