ProMedica Toledo Hospital in Toledo, Ohio was a recipient of the AHRA & Toshiba Putting Patients First grant. The award provided the opportunity for the radiology department to implement Tranquility, a program to benefit the pediatric population.

ProMedica Toledo Hospital’s radiology department is a full service imaging center that offers CT, MRI, nuclear medicine, ultrasound, special procedures, general radiology, and fluoroscopy. Radiology is staffed 24/7, 365 days a year in five of these areas and radiologists are on staff 24/7. The department serves both adult and pediatric populations. As with any medical procedure, there is the potential for fear and anxiety. This is particularly true among the pediatric population. Fear and anxiety can delay procedures and/or prolong the length of time it takes to complete a procedure, therefore increasing exposure. The radiology department sees around 60,000 pediatric patients a year and sedates around 20–30 children per month due to fear, anxiety, and/or the inability to remain still.

To mitigate fear and anxiety, a diversion program using sight and sound was proposed. The Tranquility program’s goal was to implement pediatric appropriate distraction and relaxation methods within the radiology department to reduce stress and radiation exposure for the pediatric population. The primary objectives of Tranquility were to (1) provide music therapy using iPods and portable iHomes (portable speakers) and (2) create a pediatric friendly environment by painting murals on a few walls throughout radiology. The decision to use music as a diversion technique was selected because of potential ease in implementing in a busy radiology department and because some research has shown that music therapy has positive effects in reducing stress and increasing immune responses.

Working with ProMedica Toledo Children Hospital’s Child Life program, an artist and music therapist were identified to help fulfill the goals and objectives of the program. The initial meeting with the music therapist was used to familiarize him with the project, the radiology department, and the pediatric population served. Due to the wide age span of the pediatric population and varied music interests of individuals, the music therapist suggested genres ranging from Veggie Tales and Disney to current pop and country music to classical. The music therapist suggested the purchase of compact discs (CDs) that can be transferred to the iPods. Fourteen different compilation CDs were purchased, as well as iTunes cards to supplement and update the music selection in the future. Three iPods and five iHomes were purchased. iHomes were set up in the CT, x-ray, nuclear medicine, and ultrasound departments.

To help determine family satisfaction with Tranquility, a brief voluntary survey was developed. The survey consisted of the following three questions:

- Did the music help to relax/soothe your child during the procedure?
- Was the environment suitable to your child’s requirements?
- How do you feel about the overall experience?

Although not part of the original plan, it was determined that fiber optic lights would complement the other diversion methods. The majority of the procedures are done with the children lying on their backs. The music and the fiber optic lights displayed on the ceiling provide both auditory and visual distraction. These lights were placed in the same radiology areas where the iHomes were placed: CT, x-ray, nuclear medicine, and ultrasound.

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As with any new endeavor, education and communication are critical to
engaging staff and ensuring that initiatives have the intended impact; in this case providing music therapy to pediatric patients to reduce stress and radiation exposure. Staff education was provided through multiple avenues, including regular staff meetings, leadership meetings, and the radiology newsletter. This multimodal approach ensured that staff were reached and provided with education on the project on multiple occasions. Staff were educated on how to use the iPods/iHomes, how to approach patients/parents with this new service, and how to distribute the survey.

After the exam, the staff performing the procedure asked the family if they would fill out a brief survey about the experience. Twenty-five surveys were completed with 24 indicating a positive experience. On the one survey that did not indicate a positive experience, the parent explained that her child had a hearing impairment and did not benefit from Tranquility. A few of the comments we received from patients/families included: “nice touch,” “helped my son relax,” “music helped him not think about the exam,” and “very relaxing.”

In addition to the positive feedback from families, there has been a reduction in the number of children requiring sedation. Prior to the implementation of Tranquility, 20-30 children per month required sedation. The sedation nurses have indicated that there has been about a 25% reduction in sedations since the implementation of Tranquility.

An unexpected outcome is the benefit this program has provided to patients with dementia. Seeing the benefit to the pediatric population, some staff took it upon themselves to introduce these diversions to patients with dementia and

Figure 1 - Tranquility Murals
Figure 2 - Tranquility Murals
In conclusion, the Tranquility program was a huge success and allowed us to put our youngest patients first. Through Tranquility, children were provided with a relaxing and calming environment, which resulted in the kids being able to be still and staff being able to perform the exams quicker and more efficiently. This translates into reduced stress and radiation exposure for patients.

Outcomes of the Tranquility program were shared at a radiology service line meeting, as well as a Patient and Family Centered Care meeting. The outcomes were well received by both groups and the program will be continued for the benefit of children and families.

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