role of microscopists in promoting awareness. In Palawan, microscopists are also trained as community health workers who perform diagnostic and therapeutic management. The results showed that 78.8 percent of patients who received formal care had joined community awareness activities conducted by microscopists. These activities seem to be positively related to knowledge of symptoms, as well as the increased tendency to seek appropriate treatment.

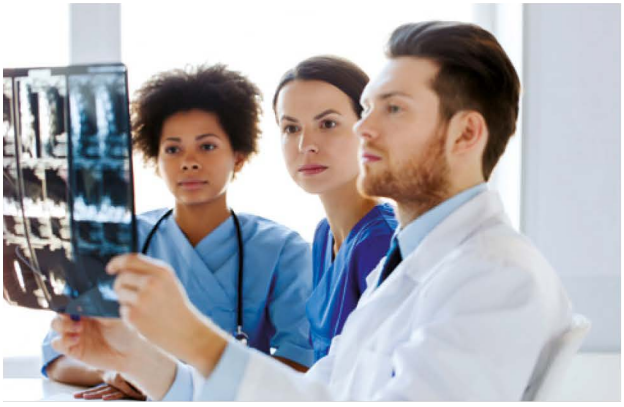
The authors of the study claimed that microscopists are not only providing diagnosis and treatment, but also delivering important knowledge that help people seek medical intervention. Thus, the researchers emphasize the importance of making residents aware of the nearest health center where microscopists provide free and appropriate treatment.

X-ray quality training has long-lasting benefits

DR LIGAYA SOLERA

Chest X-ray (CXR) is one of the most important and widely used diagnostic tools in medicine. In the Philippines and in other countries with a high pulmonary tuberculosis (PTB) rate, CXR is particularly useful for diagnosing PTB in sputum-negative patients as well as screening those at high risk of PTB, including patients with HIV and individuals who are in frequent contact with infectious PTB patients. CXRs should be of good quality in order for physicians to make accurate diagnoses and correct treatment decisions.

In 2009-2010, radiological technicians (RTs) from 19 X-ray facilities in Manila and Quezon City attended an intensive 4-day training course on quality assurance for chest radiography. Right after the training course, comparison of



participants' pre- and post-training CXR films showed significant improvement in areas such as contrast, sharpness and absence of artifacts. [*Int J Tuberc Lung Dis* 2012;16:379-83] Three years later, the participants were reassessed to find out whether or not the improvement in the quality of their CXRs would be sustained over time and to determine if a monitoring visit would bring further benefits.[*Public Health Action* 2015;5:83-8]

Monitoring CXR quality 3 years post-training

A team of CXR specialists conducted monitoring visits to the X-ray facilities involved in the 2009-2010 training course. The original 36 participating RTs were interviewed and required to submit CXR films for evaluation; 23 complied. Each RT submitted 12 CXR films – films of 3 female and 3 male patients taken before the monitoring visit, and films of another 3 female and 3 male patients taken post-monitoring – which were then assessed by experts blinded to the date the films were taken. The pre- and post-monitoring films were also compared with the films taken by the participants before and after the 2009-2010 training course.

Statistically significant improvements were found between the films taken before the training course and the films taken before and after the monitoring visits in terms of:

- Density($P = 0.001$ and $P = 0.01$, respectively)
- Contrast ($P = 0.02$ and $P = 0.02$, respectively)
- Sharpness ($P = 0.02$ and $P = 0.01$, respectively)
- Artifacts ($P = 0.002$ and $P = 0.007$, respectively)
- Total assessment ($P = 0.003$ and $P = 0.0008$, respectively)

There were no statistically significant differences in quality between the CXR films taken before and after the monitoring visits.

Implications for CXR training

Based on the sustained improvements in CXR quality three years after the quality assurance training course – even without additional or continuous educational activities for the participating RTs in the intervening years – the study authors conclude that the benefits of such CXR training courses appear to be long-term. They recommend that:

- The Philippines' National Tuberculosis Control Program (NTP) expand the training course nationwide
- NTPs in other countries adopt the same training course, which is based on readily available handbooks and training materials

Post-training monitoring, on the other hand, does not appear to confer additional benefits on CXR quality. The authors did note that post-training monitoring was only done once or twice per facility and that more frequent monitoring might have resulted in significant differences in quality between pre- and post-monitoring CXR films.

The study did not examine whe-ther the statistical differences in CXR quality had a significant impact on clinical decision-making.