

APSIG at heart

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In mid June of this year, a Caesium-137 brachytherapy treatment unit will be delivered to the Papua New Guinea National Cancer Treatment Centre in the City of Lae which is situated in the country's north. The delivery of this radiotherapy unit will significantly improve the tumour control outcomes of many women suffering cervix cancer when combined with external beam treatment by the centre's sole Cobalt-60 teletherapy unit. The cost of supplying this refurbished unit was funded by PNG's Cancer Relief Society and not by any Australian fundraising body. I include this last point because of what I am about to discuss below.

While the purchase of any new piece of treatment equipment in radiotherapy could be considered cause for celebration anywhere, consider the fact that PNG has a population of more than 6 million people and presently has only one Cobalt-60 unit. In comparison, Australia has access to five or more modern linear accelerators per million population, which is astounding considering PNG is our nearest neighbour, only 150 km or so off Cape York. If you also consider the International Atomic Energy Agency (IAEA) reported there will be a dramatic increase in the incidence of cancer in developing countries and 5,000 treatment machines are needed while only 2,200 are available, Papua New Guinea is just the closest example of a very large crisis to come. There are many more alarming statistics to mention but I hope you already see my point.

My involvement with the PNG treatment centre started in 2008 and before I was asked to go, I am embarrassed to admit that I had not given much thought to the state of

cancer care in developing countries. My experience with helping others restart treatments at the PNG cancer centre significantly affected my thinking. Obviously I am going to say I realized how lucky we are in Australia but the extent to which cancer affects those with little or no treatment could move a person to tears.

Frustratingly, developing countries that are fortunate to have radiotherapy can be hampered by a lack of suitably trained staff and modern equipment. Similar stories to the one I've described above could be said of many countries and a number of our college members could speak about them as I have.

One of the ways that my outlook has changed is how my skills as a Medical Physicist can be used in other countries for the benefit of others who need them. Through training and education, remotely and person to person, great strides can be made in helping improve the quality and safety of radiotherapy and other application of Medical Physics and Engineering in other countries. It is important to note that the additional work required to support these efforts is small, but the benefits to others can be immense. I joined the Asia-Pacific Special Interest Group (APSIG) of the ACPSEM in pursuit of this effort since APSIG's primary aim is to support Medical Physics activities in the Asia-Pacific region. A brief summary of APSIG activities are listed below. I have left out the names of those involved in most cases due to there being so many!

- (1) *Direct education and training:* ACPSEM members and APSIG members in particular, have been helping develop links and/or direct educational support through visits and lectures in countries including India, Indonesia, Papua New Guinea, Philippines, Vietnam and Sri Lanka among others. APSIG members have also been actively engaged in supporting

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the IAEA in Regional Support Agreements (RCA) and are coordinating (Brian Thomas, bj.thomas@qut.edu.au) or performing numerous expert missions to Indonesia, Malaysia, Philippines and Thailand. Starting soon is an RCA project in 3D based gynaecological brachytherapy and there are other future projects where Medical Physics applications to radiation (not just therapy!) will play a key role. A number of visiting Medical Physics Fellows are also hosted by Australian facilities through funding by the IAEA for the purpose of learning and development.

- (2) *Remote education and training*: A significant amount of information is available and can be exchanged over the internet. Using remote access software and low-level video conferencing packages such as Skype, training of Medical Physicists can be performed. APSIG Committee members (Anna Ralston, May Whitaker, Thomas Kron) have given lectures for the Remote Real-time Education in Medical Physics Program. This online education program is a collaboration of the Department of Medical Physics at the Toronto-Sunnybrook Regional Cancer Centre in Canada and the Department of Radiology at the University of Malaya in Malaysia and is freely available to students, teachers and Medical Physicists in the Asia-Pacific region.

Presently an e-learning package is also being developed by Anna Ralston and May Whitaker which is based on the IAEA Handbook of Radiation Oncology Physics and would provide hands-on training to viewers. It will include video clips demonstrating tasks such as how to do an IAEA TRS-398 calibration, how to do monthly QA tests and how to set up a motorised water tank. It is not intended to replace textbook-based learning for trainees, rather it is a CPD resource for working physicists. This DVD, presently being filmed, will be piloted in Vietnam (with subtitles) along with other supporting material. Anna Ralston recently visited the IAEA in Vienna and the IAEA are keen to make the video series an official IAEA educational resource and will place it on their website for all countries to use.

- (3) *Equipment donations*: Equipment including radiation detectors, mobile radiation shields, a digital radiography system and patient fixation devices have been donated to PNG and Vietnam as well as text books to the University of Indonesia so far. All types of equipment could make a considerable difference to developing countries provided it is serviceable and training is provided on its use. In fact, I am sure many members could look around their facilities and identify at least one piece of redundant stored

equipment for donation that may not necessarily be used in the future otherwise. If so, please contact me.

- (4) *Volunteer programs*: The ACPSEM is a recognized Partner Organization of the Australian Volunteers for International Development (AVID) and a 3 month assignment to Papua New Guinea has already taken place for training and support of the radiation therapy staff at the Cancer centre. This was fully funded by the Australian Government Overseas Aid Program, AusAid. Training projects are available to all Medical Physicists and I invite you to contact me if you know of somewhere in need of support in a developing country to write up a proposal. Equally if you are interested in volunteering for such an assignment, then please contact me. There are many funding and support opportunities in Australia to send volunteers overseas, and for training people from developing nations. Apart from the AVID Program, AusAid also provides scholarships, fellowships and various awards that could be used by our members to bring people to our shores for development of their Medical Physics skills and I strongly encourage you to do so.

- (5) *Fundraising*: Over the past 2 years, members of APSIG and their colleagues and friends have raised money in events such as Sydney's *City to Surf* and *Bay Run* as well as Melbourne's *Run Melbourne* fun run to support the PNG National Cancer Treatment Centre. Over \$24,000 has been raised so far and this money has ensured internet communication remains open between PNG and supporting hospitals in Australia but most importantly, provided an additional treatment planning system for the centre and paid for an additional visit to PNG by a Medical Physicist and Radiation Therapist to train staff. The success of this fundraising has only been possible because of the cooperation of the ACPSEM Medical Research Foundation and the use of a donation webpage called Every Day Hero (everydayhero.com.au). This year, APSIG are fundraising for training of Medical Physicists in developing countries of the Asia-Pacific so keep a look out for your friendly APSIG representative—your contribution through the ACPSEM Medical Research Foundation can make a big difference! Remember, if you are participating in any event worthy of sponsorship, whether it be a fun run, bike ride or pie eating contest, you can raise funds for APSIG, just let me know so we can support you.

Of course, APSIG is not limited to the list of activities above and new ways of helping our neighbours in the Asia-Pacific are also sought. I can certainly promise that I

will personally continue in this aim. I would like to note that I am sure there are other members that I have not mentioned that support other countries and I invite you to let APSIG know of your activities.

In conclusion, the opportunities for our members to help our counterparts in other countries are many but these opportunities must be taken up if we are to make a bigger difference to those in need.