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## Background

In the Philippines, brachytherapy is becoming more available but its applications remain largely limited to gynecologic and prostate cancers.

Despite emergence of more sophisticated delivery techniques of external beam radiotherapy, brachytherapy remains a very effective, if not essential treatment, for many other cancer types, such as early and low-risk breast cancer, non-melanoma skin cancers, head-and-neck cancers, and paediatric and adult sarcomas. It is an especially useful option for very focal irradiation for palliation and/or control of recurrent, previously irradiated cancers.

## Fellowship visit to UCLA

I went on a clinical and research fellowship in brachytherapy at the **University of California** in Los Angeles, USA in July 2014 under the UICC ICRETT programme.



The purpose of the fellowship was to learn practical considerations and technical procedures related to patient selection, work-ups, selection of fraction-dose-time regimen, creation, design and insertion of applicators or molds, planning and dosimetry, actual delivery, management of acute effects and follow-up and monitoring of outcomes and late toxicities. I also wanted to evaluate the feasibility of expanding brachytherapy applications in low and middle-income countries, such as the Philippines.

At UCLA, I got acquainted with brachytherapy applications in different cancer sites, identified requirements for personnel training, radiation safety, and materials and logistics, and evaluated the feasibility of expanding applications given the current state of oncology practice in our country. I also attended tumor board meetings and observed brachytherapy procedures. I worked with my mentor to review outcomes among patients treated definitively with brachytherapy boosts for oropharyngeal squamous cell carcinoma at UCLA. Our findings were presented at the American Brachytherapy Society Meeting in April 2015 and published in the ABS Brachytherapy journal.



## Further training

Motivated by this fellowship, I pursued further training in two UICC member centers - **Ho Chi Minh City Oncological Hospital** and **Tata Memorial Hospital**. Both are, like the Philippines, low-middle income settings. In these centers, I learned how resources are optimally utilized, and appreciated how brachytherapy can be a truly effective, convenient and economical option for patients, in either curative or palliative settings. I have established partnerships with both centers for continual guidance and educational efforts, especially in the early phase of our expansion. At Tata Memorial Hospital, I have explored the feasibility of doing collaborative research such as on ultrasound-based optimization in intracavitary brachytherapy for cervical cancers.

I subsequently underwent two-year clinical training and research at another UICC member organisation, the **Gustave Roussy** in Villejuif, France, where I learned image-guided brachytherapy techniques and published research on nodal dose and control in cervical cancers.

## Return to the Philippines

I returned to the **Benavides Cancer Institute, University of Santo Tomas Hospital**, Manila in November 2017 and have begun to introduce advanced brachytherapy techniques in gynaecology and head-and-neck cancers, to train residents in the technique, and to initiate collaboration with government centres towards extending the application of brachytherapy to paediatric and adult sarcomas.

## Next Steps

I am currently working on a novel intra-cavitary applicator for nasopharyngeal cancer, an endemic disease in the Southeast Asian region. Our initial findings have been recently published in the ABS Brachytherapy journal ([click here](#)).

*"The 2018 WCC Congress in Kuala Lumpur is a perfect platform for me to present a novel intra-cavitary applicator for nasopharyngeal cancer and our dosimetric findings, and hopefully get in contact with potential partners for the fabrication of the prototype."*