Implementation of a telehealth based rural nuclear medicine training program for PDY/interns: An assessment of a pilot study in Western Australia.

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Background

A crucial aspect to addressing health inequality in rural sectors is increasing workforce participation. Many health disciplines have adopted rural specific training programs to develop young professionals and counteract isolation through innovative education activities. However, it is difficult for rural nuclear medicine (NM) departments to satisfy training criteria as the typical caseload and radiopharmacy (RP) procedures are often limited. Additionally, the traditional metropolitan model may not expose trainees to the distinctive competencies required of rural practitioners.

Methods

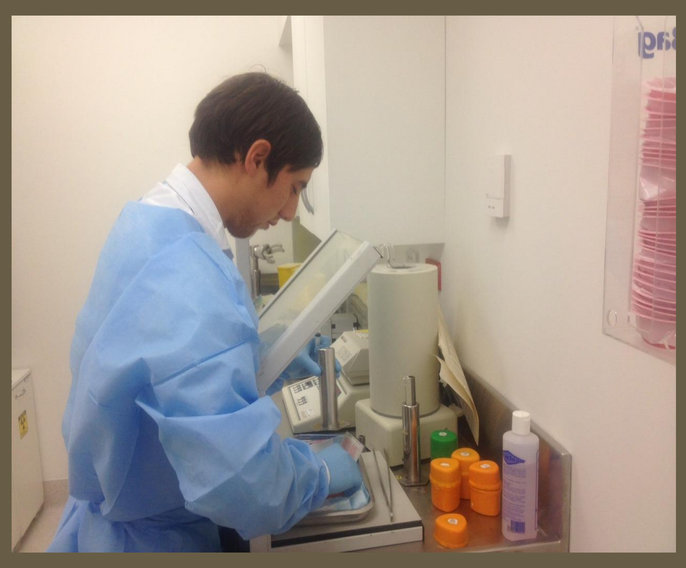
We examined the feasibility of a novel, telemedicine assisted training program for rural NM practitioners. The national regulator for accreditation approved a modified syllabus, complimenting existing guidelines. To ensure access to a full range of procedures, the trainee's roster required attendance at a regional, multi-modality imaging department, a stand-alone single scanner department and at a large teaching hospital in Perth. The program fostered a competency, rather than quantity based approach with additional involvement in the non-clinical aspects of the workflow. Telehealth sessions were employed for virtual training and the trainee was required to submit detailed interim reports on the skillsets attained.

Results

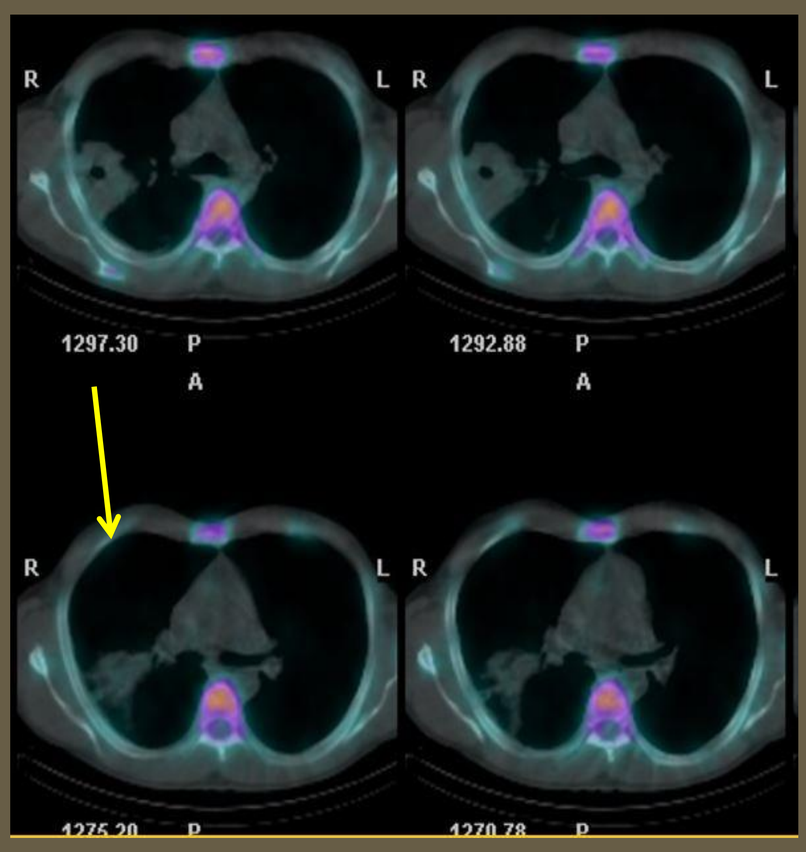
During the initial 3-month period, the trainee focussed on core competencies in high caseload session's predominately in RP, injection technique, scanning protocols and processing. Thereafter, a stronger emphasis was applied to other operational requirements such as bookings, teleradiology, medicare and clinician liaison. The trainee actively participated with virtual interprofessional case reviews, educational sessions and submitted interesting cases for a rural conference. Trainee's feedback was positive and there was a high degree of satisfaction in rotating between different work environments and use of a telemedicine.

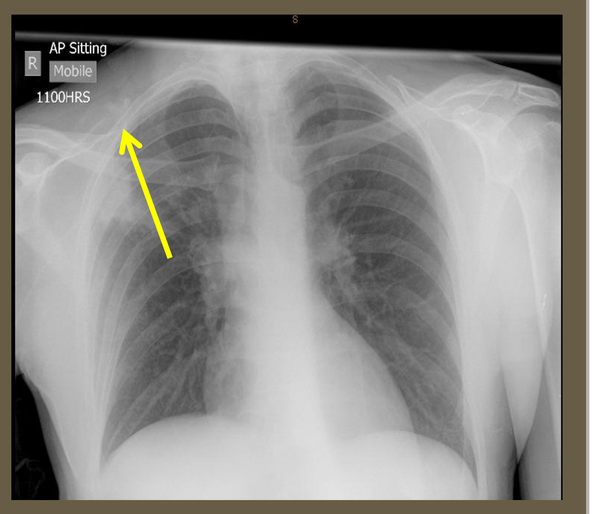
Discussion

A telehealth assisted, rural training program is feasible and exposes the trainee to broader range of NM practice. A 3-year clinical residency placement/scholarship has been initiated following the success of this trial. Further examination is required to determine whether this program encourages trainees to pursue a career in rural NM.

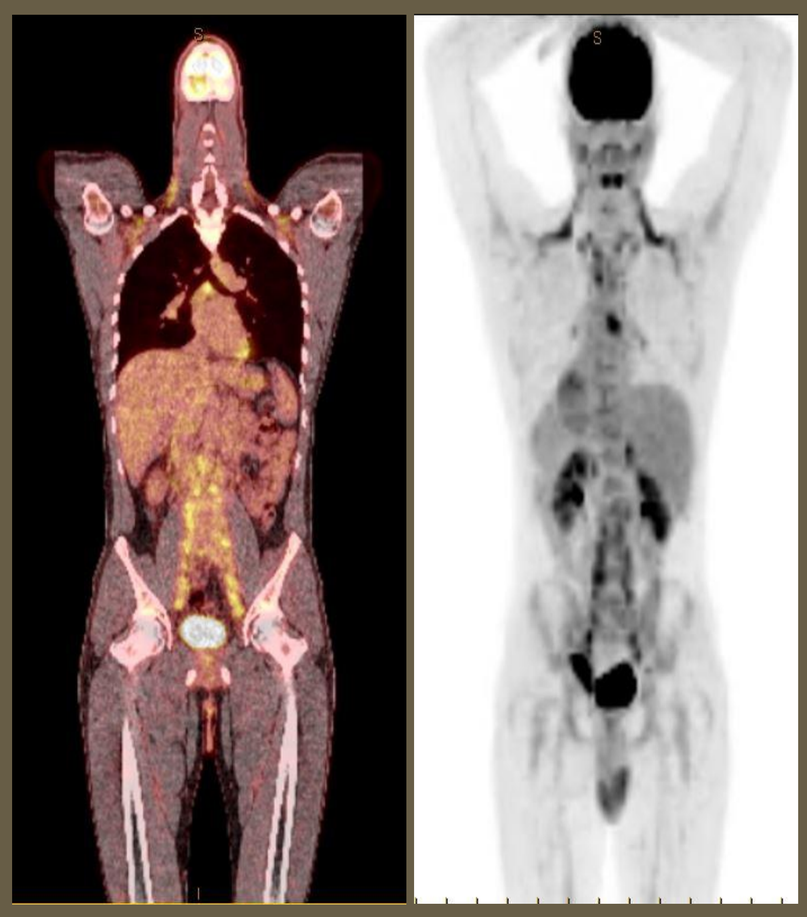


Teleconference supported supervision of radiopharmacy procedures and administration.





Co-registration of the bone scan SPECT with low dose correlative CT of chest reveals a peripheral area of consolidation/collapse in the right lung with central cavitation abutting the chest wall (see arrow). Intern directed via remote teleradiology (RIS/PACS) consultation & training.



FDG PET/CT scan with significant brown fat uptake. Physiologically, the brown fat cell is stimulated by noradrenalin (ND) released from sympathetic nerves and is linked to thermogenesis,
but the exact mechanism(s) is not known.

With cold-induced sympathetic stimulation, an influx of glucose via overexpression of glucose transporters occurs directly generating heat.

"Hot spot" scan features in the neck represent normal physiological uptake - not abnormal tumour uptake - immediately identified during continuous telemedicine consultation and supervision.