WIMPs = $\frac{1}{2} \times (\text{ROMPs} + \text{DIMPs})$

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Published online: 11 May 2016

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The article on women in medical physics (WIMP) by Scott Crowe and Tanya Kairns [1] published in this issue of APESM created a lot of behind the scenes editorial activity at this journal. A finding of this study was that women currently constitute approximately 28 % of the medical physics workforce in Australia and New Zealand. It could be said that researching into the numbers of women active in medical physics and comparing them to those of men, is not within the core area of research expertise of many (any?) medical physicists. Consequently everyone feels as qualified as anyone else to comment about it. Furthermore it is an emotive issue. Perhaps this explains why the manuscript generated so much under water activity. As editor, I provided the authors with my thoughts and comments by way of an un-blinded review as even I felt qualified to comment on the topic. The authors suggested that I put my thoughts into an editorial.

Crowe and Kairns referred, among other things, to the number of articles published in this journal that had a female as first (or last) author, or as author of a guest editorial or invited article. These references make it appropriate for the editor of APESM to comment. While I have no influence over who submits a manuscript to APESM or in what order they list their authors, I do have control over who gets invited to write an article or editorial for APESM. Some of the data in the Crowe and Kairns paper was presented at the Wellington EPSM2015 conference at a talk [2] that I attended. The data included that only 7/45 (16 %) of the guest editorials in APESM had

been written by women. This is entirely my fault and I immediately set about making the data obsolete by ensuring that the next four editorials were female authored. And this was before I knew that a WIMP manuscript was to be submitted to APESM. In my defence, 5 of the first 16 guest editorials (31 %) were by women. This serves to illustrate that I can present the data in a way that favours me to make a point, and that perhaps I am not a reliable indicator of the influence of women in Australasian medical physics. I am unreliable due to my bias and my three-pronged strategy for sourcing guest editorials: whimsy, serendipity, and saying yes to whoever offers. Admittedly I tended to approach authors who were known to me (whimsy) and who have had considerable experience at working as medical physicists as I thought that they would have something to say (my bias). This category also includes the associate editors of APESM. I often use the opportunity of the EPSM conference to invite an editorial from someone that I am standing next to, or sharing the dinner table or a bus seat with, when the conversation makes it apparent that I am in the company of a knowledgeable person (serendipity). Four people have approached me with an offer to write a guest editorial and each time I have said yes. In addition, from time to time an author will approach me for advice about whether their idea for an article would be suitable for the journal. In this case we negotiate and sometimes we resolve that I “invite” the author to write the article.

Some of the flurry of editorial activity caused by the manuscript was due to differing opinions about how to properly collect and interpret the data, and what data to collect. It is common in articles about male : female ratios in many activities (particularly physics) to say the ratio favours men. And that this is not a good thing. And something should be done about it. However, to add some

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Table 1 Total ROMP, DIMP and nuclear medicine medical physicists in Australia and New Zealand and their years of experience in the workforce (modified from Round [5], Table 1, and Round [6], Table 1)

Years of experience	0–5 years	6–10 years	11–15 years	16–20 years	>20 years	
2007 ^a	114 (32 %)	81 (23 %)	56 (16 %)	39 (11 %)	66 (19 %)	Total = 356
2013 ^b	158 (29 %)	135 (25 %)	86 (16 %)	69 (13 %)	91 (17 %)	Total = 539

^a Vacancies not included^b Includes vacancies

balance, there seems to be far more females working as radiation therapists and radiographers. It is less common to see a breakdown of the ages of the men and women involved. For example, if for medical physicists aged >50 the male to female ratio in 2015 was (say) 85:15 and 15 % of Chief Physicists in departments were female, I would not be surprised. Furthermore, if 25 years earlier in 1990, the male:female ratio for junior medical physicists was also 85:15 there would be nothing remarkable about the proportion of female senior MPs in 2015 (except that there are far more men than women working as medical physicists).

Here is some more data to consider. It is quite likely that a medical physicist working today studied physics in their final year at secondary school. Hence that the Australian medical physics workforce today (ignoring recruitment from overseas) depends on how many school physics students there were at an earlier time. Between 1986 and 1990, 28 % of the nearly 20,000 year 12 physics students in South Australia, were girls [3]. In 2015 these physicists were in their mid-40s. Between 1994 and 1999 about 21 % of third year university physics students were females [4]. It may be unwise to draw a conclusion from these numbers, but perhaps the proportion of female medical physicists today is a reflection of the proportion of girls that studied physics in the 1980s and 1990s.

Howell Round has published the results from surveys of the Australasian clinical medical physics workforce [5, 6]. Some of his data, from surveys conducted 6 years apart, on the numbers of radiation oncology medical physicists (ROMPs), diagnostic imaging medical physicists (DIMPs) and nuclear medicine medical physicists is presented in Table 1. Unfortunately the data does not include details about the sex of the physicists. Nevertheless it can be remarked that: the number of physicists has increased dramatically, and that the proportion of the workforce in each experience category has not changed much. That is, the bulge in numbers of junior physicists (32 %) seen in 2007 does not seem to have produced a bulge 6 years later, in the proportion of physicists with 6–10 years of experience. This tempts me to speculate that the considerable

number of medical physicists recruited to Australia and New Zealand from overseas has kept the proportion in each experience category stable. I also wonder how the seniority and gender ratio of medical physicists recruited from outside Australasia has affected the demographics of Australasian medical physicists?

In 1979, about 11 % of the 115 (or so) medical physicists in Australia and New Zealand were women (pers. com. H Round). The Australian medical physics workforce has changed dramatically since then thanks largely to the Training Education and Assessment Program (TEAP) of the ACPSEM, and to the retirement of some senior male physicists who may have had 40 years of experience. As of September 2015, 100 ROMPs had graduated from the TEAP and 43 % of them were women (pers. com. ACPSEM office). Furthermore, 40 % of New Zealand's medical physics registrars are female (pers. com. H Round). Perhaps the proportion of female Chief Medical Physicists will also be above 40 % 25 years from now.

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