A workforce survey of New Zealand medical oncologists

Simon Bidwell, Andrew Simpson, Richard Sullivan, Bridget Robinson, Wendy Thomas, Christopher Jackson, Garry Forgeson, Michael Jameson, Trish Clarke

Abstract

Aim There is wide recognition that the challenge of providing health care into the future requires planning for a sustainable workforce particularly in the context of increasing service demand. The Medical Oncology Work Group (MOWG) undertook a survey of vocationally registered medical oncologists which aimed to support future workforce planning and the development of models of care.

Methods The survey was developed and carried out by the MOWG in conjunction with the Ministry of Health during 2009. Medical oncologists were sent the survey and forwarded unnamed completed responses to one of the authors (SB).

Results A total of 33 out of 40 practising medical oncologists completed the survey, representing an 82% response rate. The survey found that there is an emerging movement from a male-dominated workforce largely working full time, to a workforce with a higher proportion of females and part-time workers. The median full-time medical oncologist in New Zealand was responsible for 220 first specialist assessments (FSAs) per annum, 40 more than the number considered reasonable by the surveyed practitioners.

In qualitative responses, medical oncologists expressed frustration with lack of resources and high workloads that constrained their ability to appropriately deploy their skills and undertake teaching and research. Positive aspects included collegial collaboration and patient contact. Prominent suggestions for improving job satisfaction included use of skilled administrative staff or nurse specialists to free up time for oncologists to better use their skills.

Conclusion The survey highlights high clinical workload and frustration within the medical oncology workforce. In addition there is increasing service demand. This survey has formed the basis of work to develop new models of care in medical oncology.

There is wide recognition that the challenge of providing health care into the future requires planning for a sustainable workforce. In New Zealand, particular attention needs to be given to small and potentially vulnerable specialist workforces. This includes medical oncology, a specialty which is evolving rapidly due to technological and therapeutics innovation at the same time as cancer service demand increases because of demographic change and longer survival.1,2

Projections of the incidence of cancer from 2006–2016 suggest an increase of 29% for males and 11% for females.1

Within New Zealand, workforce pressures have been highlighted for more than a decade. The Ministry of Health’s 2001 report Improving Non-surgical Cancer
Treatment Services in New Zealand described issues for the specialist workforce in medical oncology as well as radiation oncology and haematology. The New Zealand Cancer Control Strategy and Cancer Control Strategy Action Plan identified improved workforce information and national workforce planning as vital to achieving the Strategy goals of reducing the incidence and impact of cancer and reducing cancer inequalities.

In 2007, the Cancer Workforce Stocktake and Needs Assessment identified a range of issues for the different specialist and generalist workforces involved in cancer control. It reported that although there had been significant workforce growth since 2001, there were still insufficient medical oncologists to meet either workload or population-based benchmarks. The Workforce Stocktake recommended that more detailed investigation be undertaken, particularly of issues affecting medical oncologist recruitment and retention.

Medical Oncology Working Group

The Medical Oncology Working Group has been active since 1999, when it was convened as an expert advisory group to the (then) New Zealand Cancer Treatment Working Party. In 2008, the Working Group was reconstituted as an advisory group to the New Zealand Cancer Treatment Advisory Group, which provides expert clinical advice to the joint Ministry of Health / DHB National Cancer Programme. The Working Group is largely made up of medical oncologists with representation from cancer nursing, pharmacy and service management. It includes representatives from all six cancer centre DHBs as well as representation from practitioners working in peripheral DHBs.

In 2009, the Working Group decided to undertake a survey of practising medical oncologists in New Zealand in order to better understand current issues and to assist future workforce planning and the development of models of care. The small and centralized nature of the workforce made it feasible to survey all practitioners, thus minimising issues with sample bias.

Method

The specific purposes of the survey were to collect information on the demographic makeup and distribution of the medical oncologist workforce and to quantify issues relating to medical oncologists’ workload. The survey was also intended to allow medical oncologists to contribute their perspectives on working in the New Zealand public health system, and the factors that have an impact on their level of job satisfaction.

The survey was jointly designed by the Ministry of Health and members of the Medical Oncology Working Group. It was circulated to all vocationally registered medical oncologists on 25 August 2009. The majority of vocationally registered medical oncologists are based in the six regional cancer centres and in 2009 there were an additional three based at peripheral centres (Nelson and Tauranga).

Working Group representatives issued several reminders about the survey to individual medical oncologists within their department. By 20 November 2009, a total of 33 competed surveys had been received by the Ministry of Health. Based on a head count by Working Group members from each centre, this represented 82.5% of the 40 individual medical oncologists that were practising in New Zealand at that time.
Results

Demographics—The survey results suggest that overall, the New Zealand medical oncology workforce is in a demographically healthy state, with 23 out of the 33 respondents under the age of 50 at the time of survey (Table 1). Two-thirds of respondents (22 out of 33) were male, and two-thirds (22 out of 33) worked full time. However, when reviewed in more detail, the results suggest an emerging movement from a male-dominated workforce largely working full time, to a workforce with a higher proportion of females and part-time workers.

Of those under the age of 45, 9 out of 16 (56%) were female, and 7 out of 16 (44%) reported working part time. Overall, females were more likely than males to work part time (45% vs 27%). The gender and age distribution in different DHBs generally reflected that of the country as a whole. Nine practitioners (27%) had undertaken their initial medical training overseas.

Table 1. Survey respondents by gender, age group and full time / part time status

<table>
<thead>
<tr>
<th></th>
<th>Age 35-39</th>
<th>Age 40-44</th>
<th>Age 50-54</th>
<th>Age 55-59</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Full time</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>6</td>
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<tr>
<td>Part time</td>
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<td>Total</td>
<td>4</td>
<td>5</td>
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<tr>
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<th>Age &lt;35</th>
<th>Age 35-39</th>
<th>Age 40-44</th>
<th>Age 45-49</th>
<th>Age 50-54</th>
<th>Age 55-59</th>
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<tr>
<td>Male</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Full time</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>16</td>
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<tr>
<td>Part time</td>
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<td>1</td>
<td>2</td>
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<td>3</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>22</td>
</tr>
</tbody>
</table>

Sub-specialisation—There are notable international trends toward subspecialisation in medical oncology. Survey responses suggest these trends are producing variable models of clinical practice in New Zealand. Respondents were asked to self-define their practice as “generalist”, “generalist with sub-specialty interests” or “sub-specialty only”.

Both respondents from peripheral centres described themselves as generalists, and 15 out of 18 respondents from cancer centres outside Auckland, the largest centre, classified themselves as generalists with sub-specialty interests. However, 10 out of 13 respondents from Auckland DHB described their practice as sub-specialty only.

Workload—Table 2 summarises the number of hours that survey respondents reported being contracted to work in the public system (defined as direct employment by a DHB), the average number of hours they actually worked, number and average
duration of clinics undertaken, number of hours of registrar support, and the number of first specialist assessments (FSAs) per annum under their care.

The number of FSAs is an indicator of the number of new patients, which has been recognised as a key determinant of clinical workload for medical oncologists. Survey respondents were also asked to state what they thought was a reasonable number of FSAs per annum for a full-time medical oncologist.

On average, respondents considered that a reasonable number was approximately 180. The median full-time practitioner reported being responsible for 220 FSAs per annum. Eight out of 22 full-time practitioners were responsible for more than 240 FSAs per annum, with a maximum of 280.

Part-time medical oncologists reported a proportionally higher clinical workload than full-time practitioners. Although the median part-time practitioner was contracted for 56% of the hours of a full-time counterpart, the number of FSAs seen per year was 68% of the number seen by the median full-time practitioner. Part-time oncologists also reported less registrar support than those working full-time.

Table 2: Medical oncologist workload by full time and part time

<table>
<thead>
<tr>
<th>Workload</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full time (N=22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contracted hrs in public system</td>
<td>48.8</td>
<td>50.0</td>
</tr>
<tr>
<td>Actual hrs worked in public system</td>
<td>53.5</td>
<td>54.5</td>
</tr>
<tr>
<td>Average clinics / week</td>
<td>4.6</td>
<td>5.0</td>
</tr>
<tr>
<td>Average hrs / clinic</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Registrar hrs / week</td>
<td>9.5</td>
<td>10.3</td>
</tr>
<tr>
<td>No. of FSAs under care</td>
<td>210.8</td>
<td>220.0</td>
</tr>
<tr>
<td>Reasonable no. of FSAs / year</td>
<td>177.6</td>
<td>180.0</td>
</tr>
<tr>
<td>Part time (N=11)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contracted hrs in public system</td>
<td>28.1</td>
<td>28.0</td>
</tr>
<tr>
<td>Actual hrs worked in public system</td>
<td>31.8</td>
<td>30.0</td>
</tr>
<tr>
<td>Average clinics / week</td>
<td>3.4</td>
<td>3.0</td>
</tr>
<tr>
<td>Average hrs / clinic</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Registrar hrs / week</td>
<td>2.8</td>
<td>3.0</td>
</tr>
<tr>
<td>No. of FSAs under care</td>
<td>152.4</td>
<td>150.0</td>
</tr>
<tr>
<td>Reasonable no. of FSAs / year</td>
<td>170.0</td>
<td>185.0</td>
</tr>
</tbody>
</table>

Respondents were also asked to report the number of days per annum they spent participating in regional or national committees, work groups or leadership roles. This excluded roles for which respondents were specifically employed, such as regional network clinical director. Full-time oncologists reported spending a median of 8 days per annum on regional or national commitments, while part-time oncologists reported spending a median 4.25 days on these commitments.

**Future preferences**—In response to a question about their preferred balance in three year’s time between public, private, teaching, research and non-work pursuits, oncologists overwhelmingly expressed a desire to work less in public (70% of respondents) and to spend more time on research (73%) and in non-work pursuits (67%). Increased teaching time was also popular, with 39% wanting to spend more time teaching. No respondent expressed a preference to spend more time doing public clinical work in three years.
Qualitative responses—30 out of 33 respondents answered at least one qualitative question. All responses were free text and there was no restriction on the number of points respondents could make in response to a question. The main questions and responses are summarised below.

If a New Zealand-trained specialist, what were your main reasons for staying in or returning to work in New Zealand? If an overseas-trained specialist, what were your main reasons for coming to work in New Zealand?

By far the most common reasons given for staying in, returning or moving to New Zealand related to family connections. Twenty-four out of thirty respondents mentioned family and several of these specifically said that they wanted their children to grow up or be educated in New Zealand. Fourteen respondents nominated quality of life or lifestyle as important reasons for staying in or coming [back] to New Zealand.

What do you consider to be the most difficult or frustrating aspects of working as a medical oncologist in the New Zealand public health system?

A number of interrelated themes emerged in the responses to this question. Sixteen out of twenty-nine respondents cited the lack of resources available to their service as an important difficulty. The most common complaints were limited funding and a lack of senior medical officers, while lack of physical space, nursing staff, administrative support, diagnostics and palliative care were also mentioned. Eleven respondents specifically mentioned lack of access to pharmaceuticals or new technologies.

Eight respondents complained of the administrative burden of day-to-day practice, particularly the paperwork and multistep processes involved in gaining access to existing cancer drugs.

Other common reasons for frustration included difficulty doing research (cited by eight respondents), lack of support for SMOs (seven respondents) and excessive workload (six respondents). One respondent felt that “dependence of all parts of system on SMOs (including management requests for advice / input) overwhelms the medical oncologist”

What do you consider to be the most positive or rewarding aspects of working as a medical oncologist in the New Zealand public health system?

There were some clear themes in the responses to this question. Sixteen out of twenty-nine respondents described their colleagues including nursing and allied health staff or the collegial atmosphere as the most positive or rewarding aspect of their work.

The other most common response category related to patients, with 14 practitioners mentioning either the nature of patients (nine respondents) or their ability to be closely involved in patient care (six respondents).

Eleven respondents cited some advantages of the system at the service level or for themselves personally. Five respondents mentioned the ability to be involved and collaborate nationally. Four respondents appreciated the public health system where there is “access to care for all patients” and “treatments available are reasonable within the New Zealand context”.


Despite the frustrations cited under the previous question, a handful of respondents felt there were good opportunities for innovation, research or continuing medical education. Three respondents reiterated their appreciation of the lifestyle outside of work, while two mentioned the flexibility in working hours.

What changes or improvements would make the biggest difference to your level of job satisfaction?

Responses to this question also revealed some clear themes. Twenty respondents mentioned some kind of reduction in workload or support to use their time better. Fourteen respondents sought relief from the burden of administration, paperwork or processes. The most common single suggestion to improve job satisfaction was additional administrative support, mentioned by nine respondents.

Ten respondents wanted a reduced clinical workload with time freed up to do other things including research and clinical trials (seven respondents) and continuing medical education (four respondents) as well as being able to provide better quality patient care. The most common suggestions to make this possible included the development of clinical nurse specialists (six respondents) and hiring more SMOs (five respondents).

Three respondents mentioned increased resources in general, and one mentioned better availability of pharmaceuticals, as changes that would improve job satisfaction. Five respondents felt that increased remuneration would make a significant difference to them.

Discussion

Medical oncologists report that they are working beyond ideal capacity. Currently they are seeing over 210 new patients per annum with an expressed ideal of 180 which is comparable to that cited in Australia of 150-180. A similar survey conducted in Australia and New Zealand reported 83% of medical oncology consultants and trainees were working more than their ideal due to workplace constraints.

There is a strong desire to decrease the clinical workload and increase other components of the job including research and teaching. This is common across both Australia and New Zealand. The median time that medical and radiation oncologists wish to spend in clinical work is 60% and the majority would like to spend up to 10% of their time teaching and up to 20% of their time in research. Administrative support was seen as a key area to free up time and to improve job satisfaction.

The demographics of the medical oncology workforce are changing with an increasing proportion of woman and part-time workers. A third of the medical oncology consultant positions in New Zealand are filled by women which is comparable to the 29% in Australia. The gender mix is more equitable in younger consultants with women contributing 56% of the 16 medical oncologists aged less than 45 years. Five of the 9 women in this age range were working part-time in comparison to 2 of the 7 men.

Overall a third of New Zealand medical oncologists were working part-time. Across Australia and New Zealand 38% of oncologists wished to work part-time and these
were predominantly women. The most common reason cited was children followed by lifestyle. Thirty percent of New Zealand oncologists over 50 years work part-time in the public sector, however the survey did not seek information regarding private practice.

Erikson reported that 32% of American Oncologists aged 50-64 years indicated that they were interested in working part-time and that 60% of fellows completing training in 2005 rated work-life balance as extremely important in determining post-training plans and only 20% rated salary/pay as extremely important. This would suggest that work-life balance has a greater weighting than salary, consistent with only 5 of 33 respondents in this study commenting on remuneration as an issue with job satisfaction.

The current workforce expresses a desire to decrease workload at a time that it is recognised that there is an increasing demand for service. This demand is driven by ageing population demographics with associated increase in cancer incidence, the increasing survival of cancer patients, and the development of new drugs, technologies and treatment opportunities, with more treatment interactions per patient.

The growth in demand has been estimated as 2% per annum in Australia between 2009–2014 and the American Society for Clinical Oncology (ASCO) has estimated that the demand for medical oncologists is expected to rise by 48% between 2005 and 2020. In contrast the number of medical oncologists in the United States is projected to only increase by 14% over the same time. This equates to a potential shortfall of 3,800 oncologists in the United States, equivalent to a third of the 2005 workforce.

Of note an ASCO survey of the medical oncology workforce in 1996 showed the ratio of medical oncologists was 1.8 per 100,000 adult Americans. By 2005 this had increased to 3.5 per 100,000 population with further increases required to meet future demand. By contrast Australia reports 1.4 medical oncologists per 100,000 population and at the time of the survey New Zealand had 40 positions (not FTE) for a population of 4.3 million.

While the United States estimates a shortfall of over 3,000 medical oncologists by 2020, Australia estimates a shortage of 84-156 full time equivalent medical oncologists by 2014 over a baseline of 234 FTE in 2009.

There is no single strategy that will service future workforce demand. Approaches have included increasing the number of medical oncology trainees however in the United States this will not meet the predicted shortage. Further strategies include broadening the oncology workforce to make greater use of physician assistants, oncology nurse practitioners, and pharmacists to support the medical oncology service. Additional approaches include using technology such as electronic patient management systems and prescribing to increase efficiency and as raised above there is the scope to decrease administrative burden.

The majority of medical oncologists are New Zealand trained and have elected to work in New Zealand for family and lifestyle reasons, however they are frustrated by limited resources, wish to decrease their clinical workload and increase the opportunity for research or teaching. In addition the workforce demographics suggest an increasing proportion of female and part-time oncologists. It would appear that
future modelling for the medical oncology workforce may be based on a smaller proportion of full time consultants (wishing to have a smaller clinical load) and a larger proportion of part-time staff.

It is also apparent that current workforce capacity is not sufficient to manage the increasing number of patients. We need to develop models of care that are able to cater for the increasing service demands and the changing demographics and structure of the oncology workforce.

The results of this survey have helped stimulate and inform a project, supported by the Medical Oncology Working Group and sponsored by the Ministry of Health, to develop new models of care for medical oncology in New Zealand.

Competing interests: Nil.

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