

Abundance of research talent in internal medicine

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Internal Medicine is a broad medical speciality at the centre of clinical medicine and traditionally has strong ties with both fundamental and clinical research. Indeed, many of the current great advances in biomedical research, including molecular genetics and imaging technology, are applicable to Internal Medicine and the step from bench to bedside and vice versa is made ever faster. A recent survey of published research in Internal Medicine in the Netherlands showed the relatively strong position of the field as compared with other disciplines in medicine and confirmed the solid tradition to connect medicine to science in Internal Medicine.¹ To be able to maintain this situation, it is of utmost importance that the next generation of internists is equally attracted to research and successful alike. Although many of us have the impression that many young specialists in Internal Medicine or residents in training for internist are indeed eager to combine specialised medicine with research, there is no formal inventory to check the number of young individuals in Internal Medicine that are successful in pursuing a research career and a relative comparison with other research areas within and outside medicine is not available. One way of looking at this is to analyse the number of granted fellowships within the Incentives Scheme for Innovational Research ('Vernieuwingsimpuls') that was started about a decade ago by the Netherlands Organisation for Scientific Research (NWO), in collaboration with the Royal Netherlands Academy for Science (KNAW) and the Dutch Ministry of Education and Science. The aim of this programme is to '...promote innovation in the field of academic research. The scheme is directed at providing encouragement for individual postdoctoral researchers at various stages of their careers. Since it is vital to the universities that talented researchers should enter the profession and gain promotion within it, two main purposes of the Innovational Research Incentives Scheme are to provide the scope for adventurous, talented and pioneering researchers to conduct creative research of their own choice and to encourage them to make a permanent career of academic research.'² The fellowships

within this scheme enable the selected young researchers to develop their own innovative lines of research and the programme encompasses all research areas at large. The scheme consists of three types of fellowships, each directed at a different stage in researchers' academic careers. Veni grants (€ 250,000 for three years) are for excellent researchers who have recently obtained their doctorates and who have already demonstrated an outstanding talent for academic research. Vidi grants (€ 800,000 for five years) are for excellent researchers who have already been active in postdoctoral research for some years, thereby demonstrating the ability to generate original ideas and translate these hypotheses into research successes. Vici grants are for excellent senior researchers who have shown that they have the ability to successfully develop their own innovative lines of research and to act as coaches for young researchers. A Vici grant is typically € 1,500,000 for a period of five years. A recent evaluation of the programme has underscored its success in maintaining and fostering research talent in the Netherlands.³

An analysis of successful applications for Veni, Vidi and Vici grants in the last four years is shown in *table 1*. About 20 to 25% of the total number of granted fellowships are awarded within the discipline of biomedical science. Remarkably, more than half of these fellowships are granted in the area of Internal Medicine. Thereby, Internal Medicine wins about 10% of the total number of fellowships for talented researchers across all research areas in the Netherlands. Interestingly, this distribution is true for all three types of grants. *Figure 1* shows the subdisciplines of Internal Medicine in which successful young researchers can be found. Cardiovascular research and oncology are traditionally strong research fields in the Netherlands but also infectious diseases and immunology harbour relatively large numbers of fellowship awardees. *Table 2* shows that despite measures to increase the number of female researchers, the majority of Veni grant winners are still male. This is even more salient in Internal Medicine, which is remarkable since for many years the numbers of women and men in training for the specialism

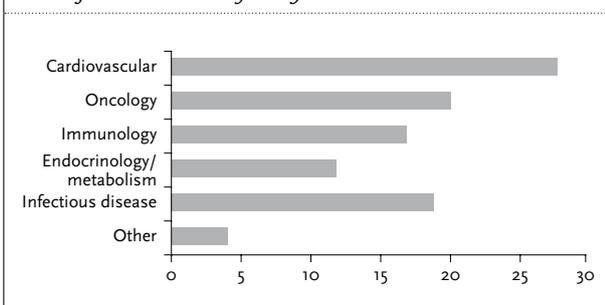
Table 1. Grants in the Innovational Research Programme ('Vernieuwingsimpuls') by the Netherlands Organisation for Scientific Research 2005-2009

	Veni programme	Vidi programme	Vici programme
Total number of fellowships	439	336	121
Fellowships in biomedical sciences	90	80	29
Fellowships in Internal Medicine	51	35	14

Table 2. Characteristics of granted fellowships in the Innovational Research Programme ('Vernieuwingsimpuls') by the Netherlands Organisation for Scientific Research 2005-2009

	Total Veni grants	Internal Medicine Veni grants
% Grants to females	38%	29%
Mean age of the fellowship winners (± SD)	29.7 (4.1)	32.3 (6.8)
Grants per university medical centre (range)	6-15	1-13

Figure 1. Grants in the various subdisciplines of Internal Medicine in the Innovational Research Programme ('Vernieuwingsimpuls') by the Netherlands Organisation for Scientific Research 2005-2009



are equal. Apparently, there are other factors that relatively prohibit women from pursuing a research career in Internal Medicine, which is also reflected by the fact that the proportion of women who are granted the more advanced Vidi and Vici fellowships is even progressively smaller (data not shown). Interestingly, despite the fact that many of the Veni fellowships in Internal Medicine are granted after completion of the six-year residency programme, the mean age of the Veni winner in Internal Medicine is only slightly higher compared with Veni fellows in other disciplines of science. Apparently, talented young individuals have the ability to somehow carry on with their research during their residency, rendering the postdoctoral period a highly efficient combination of medical specialisation and continuing research. Another interesting finding is that the number of Veni laureates within the area of Internal Medicine is not equally distributed amongst university medical centres (table 2), although relatively small numbers may have affected this outcome.

Taken together, there seems to be an abundance of research talent in Internal Medicine in the Netherlands, holding a great promise for the future and indicating that the discipline is likely to maintain its strong position at the crossroad of science and medicine. The Innovational Research Scheme indeed provides a useful instrument for young talented researchers in Internal Medicine to build on their research careers and thereby is an important supportive instrument for developing a new generation of academic medical specialists.

REFERENCES

1. Levi M. How academic is internal medicine in the Netherlands? A bibliometric analysis. *Neth J Med.* 2009;67:318-9.
2. Netherlands Organization for Scientific Research. Innovational Research Incentives Scheme Programme brochure round 2010 (Vernieuwingsimpuls Veni – Vidi – Vici). www.nwo.nl.
3. Technopolis. Evaluatie Vernieuwingsimpuls 2000 – 2006. www.nwo.nl.