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The 2013 Recommendations for Medical Specialist Training

Utrecht, October 2013

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In the medical, dental, clinical technological and mental health areas of training

Utrecht, october 2013

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Statutory objectives:

a. To draw up requirement estimations on the basis of, amongst other matters, the anticipated healthcare demands in relation to the different medical and dental specializations;
b. To provide information for the healthcare sector and for the government in relation to those demands and the relevant workforce capacity requirements for the medical and dental undergraduate and postgraduate intake and subsequent specializations;
c. To assess the capacity level as far as basic medical training at medical schools is concerned and to subsequently advise the government accordingly.

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1. Introduction

This full report published by the Advisory Committee on Medical Manpower Planning (ACMMP) for 2013 (hereafter the Advisory Committee's Plan) provides intake recommendations for the following main areas: the mental healthcare professions, the 27 clinical or hospital-based specialist fields and the 3 clinical technological specializations, general practice medicine, the dental care sector (dental surgeons, orthodontists, dentists and oral hygienists) the specialists in the areas of geriatrics, social medicine and for the mentally disabled. For each of these fields there is also a separate sub-report complete with all the relevant background information. These seven sub-reports can also be studied as separate entities.

1.1. Objectives of the Medical Committee for Medical Manpower Training

The Advisory Committee was established in 1999 by various healthcare stakeholders. The statutory objectives of the Advisory Committee (the ACMMP) are:

a. To draw up requirement estimations on the basis of, amongst other matters, the anticipated healthcare demands and projections in relation to the various medical and dental specializations;
b. To provide information for the healthcare sector and for the government in relation to those demands and the relevant workforce capacity requirements for medical and dental as well as subsequent specializations;
c. To assess the capacity level as far as basic medical training at medical schools is concerned and to subsequently advise the government accordingly.

Since 2000 the Advisory Committee has been releasing periodical projections pertaining to such matters as the desired intake level for the various recognized medical and dental specialization courses. The Committee simultaneously makes recommendations in relation to the intake level perceived to be necessary for the medical schools. The main aim behind such recommendations is to reduce any undesired discrepancies which might exist between the demand for healthcare and the provision of care to ultimately eradicate such discrepancies.

The ACMMP furthermore furnishes both the government and stakeholders in the field with information so that the relevant parties can create policies surrounding such issues as the numerus clausus, foreign influx, substitution and new courses. At the request of the Dutch Ministry of Health, Welfare & Sport, the Advisory Committee is currently cooperating in an initiative set up by the European Union on estimation instruments so that access can be gained to the procedures in other countries and comparisons can be drawn. The Advisory Committee furthermore participates in symposia, in 'invited expert meetings' and in sounding board sessions.

The Advisory Committee has 24 seats, eight of which are occupied by health insurers, eight by educational institutes and the remaining eight by various of the professional organizations. This equal representation of the three relevant parties is consistently retained in all the deliberation bodies within the ACMMP. The Advisory Committee is subsidized by the Dutch Ministry of Health, Welfare & Sport.

1.2. Developments concerning the responsibilities of the Advisory Committee on Medical Manpower Planning (the ACMMP)

Since it was first established, the Advisory Committee has not only gained much experience but it has also amassed considerable knowledge, all of which can be applied to policy recommendations and projections concerning intake levels in professional areas other than the traditional ones.

- In 2006 the Committee for the Innovation of Dental Healthcare recommended that as of 2008 the professional groups for dentists and oral hygienists should be monitored by the Advisory Committee. What directly gave rise to this recommendation was the fact that since the year 2000 the Advisory Committee has been following developments within the related professions of dental surgery and orthodontistry and producing recommendations concerning the intake in these two professional areas. In 2008, at the request of the Ministry of Health, Welfare & Sport (hereafter HWS), the Advisory Committee started monitoring capacity developments within the primary dental healthcare sector;
- Also at the request of HWS, the Advisory Committee embarked, in 2009, on project-oriented research into the targeted and actual capacity developments within the five IHCP-registered professions in the field of mental healthcare. The first directional recommendations concerning the ideal intake level for these courses was presented in 2011. Since 2012 this activity has become a structural part of the Advisory Committee's core activities. In this Annual Report, 'sub-report 7: the mental healthcare professions' has, for the first time, become an integral part of the Advisory Committee's projections.

1.3. How this sub-report is structured

Chapter **2** describes the developments in terms of the **provision** that has been made since 2005 within the different professional groups listed in the Advisory Committee's Plans. This also extends to professions for which the Advisory Committee does not provide direct intake advice but which are relevant to the type of intake recommendations ultimately made, for instance in connection with the possible substitution of activities linked to these professions.

The Advisory Committee aims to guide future planning within various professional groups by providing advice on the desired intake ceiling in the case of all the recognized further medical professional training areas. Hence the reason for the inclusion of a chapter on the history of intake recommendations at the beginning of the present report. In Chapter **3** it will be the recommendations made by the Advisory Committee since the year 2000 and the actually realized training numbers that will be discussed. That chapter will close the reflections on the Committee's developments in relation to **intake** recommendations.

The next chapter will deal with a crucial aspect of the recommendatory model, namely that of the different unexpected developments in the field of healthcare. Chapter **4** describes the **anticipated healthcare** developments between now and the year 2031, expressed in terms of the required ftes for care provision. A new component there is the fact that – upon the recommendations of the SEO Economic Research body in Amsterdam – the care demand will also in future be presented in terms of annual growth and shrinkage percentages so that the reader is able to form an impression of the changes in relation to other developments, such as for instance the percentages given in the relevant report published by the national Central Planning Bureau.

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Chapter **5** deals with the future provisions. In the year 2031 such provisions will consist of:

- the present provision corrected for retirement or other reasons professionals may have for leaving the work process and/or for working either more or less;
- the future supply of professional practitioners consisting of those now being trained or due to embark on training courses in the next calendar year;
- the future supply of professional practitioners who still have to enter the relevant educational process within two or more calendar years.

The Advisory Committee on Medical Manpower Planning merely influences future capacity by putting forward **recommendations on the required inflow** of professionals into the various training courses. The recommendations will only affect the intake levels not yet foreseen and planned for the coming years. However the supply of trained professionals will be corrected in line with anticipated demands in the work process and the substitution of professionals originally trained in other areas (i.e. horizontal and vertical substitution). The intake recommendations are described per professional group and the entire range of the various recommendations will be based upon the scenarios compiled and presented by different Chambers, workgroups and the Advisory Service for the mental healthcare group of professions during its appraisals.

In many professions the extent of the recommendations is influenced by whether or not the possibilities for the introduction/expansion of vertical **substitution** are exploited. Chapter **6** deals at length with the vertical substitution possibilities for the different areas of interest. Here also considerations are formulated concerning substitution involving nurse practitioners and physician assistants.

The desired intake rate for **medical school students** is focused on in Chapter **7**. The Advisory Committee has laid down its recommendations concerning medical school intake levels as a statutory objective. In 2010 the recommendations concerning the desired intake rate for medics led to a broad discussion on the matter of abolishing the numerus clausus. The numerus clausus is not in itself a legal stipulation. The Dutch Higher Education and Scientific Research Act only lays down guidelines concerning the constraints for the employment market which can be introduced by the relevant minister responsible for education whilst the capacity cap can be dictated by the various universities. The intake recommendations for medical school university education are designed to ensure that there is proper correspondence with regard to future linkage between medical school training and all the recognized further medical and specific courses people can follow.

The salient future **points of consideration** for the various professional groups are all mentioned in Chapter **8**. It was not possible to include all the matters mentioned in the letter accompanying the presentation of the current Advisory Committee Plans.

In both the Advisory Plans and the sub-reports, frequent reference is made to all sorts of specialist terminology and abbreviations which do require some explanation. The reader is therefore referred to the following website: www.capaciteitsorgaan.nl for our thesaurus. The thesaurus contains a list of terminology related to our projections, a list of abbreviations and an explanatory wordlist.

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The appendices present the conceptual projection model – unchanged since 2000 (Appendix 1), the composition of the Plenary Body (Appendix 2) and the Bureau staff. The summary of all 7 accompanying sub-reports is attached in the form of Appendix 3. The thesaurus containing our estimates is kept up-to-date by NIVEL (the Netherlands Institute for Health Services Research) and can be found on the above-mentioned website.

2. Present provisions: the 2005 – 2013 quantitative developments

The various professional groups, clustered together where possible, will be discussed in the sections below. In conjunction with the changes currently taking place within the KNMG (the Royal Dutch Medical Association) the newly coined term 'medical specialist' will be used to indicate that certain doctors may have been registered under the auspices of the relevant Medical Specialists' Registration Committee. This incorporates and replaces the former registers for MSRC (medical specialists), HVRC (GPs, specialists for the mentally disabled and geriatric specialists) and SGRC (social medicine). The term 'profile doctors' is applied to professionals with a basic MD training who have completed a profile training that meets the regulations laid down by the Board for Medical Specialisations (CSG) and who have subsequently registered themselves in one of the profile registers kept by the Royal Dutch Medical Association (the KNMG).

2.1. Medical professions

2.1.1 The numbers of registered medical specialists

Table 1 shows the numbers of registered specialists per specialization in the years 2005, 2010 and 2013 including the percentages of women.

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Table 1: The number of registered medical specialists and the percentage of women as of 1st January 2005, 1st January 2010 and 1st January 2013

Specialization Year	2005		2010		2013	
	Number	% ♀	Number	% ♀	Number	% ♀
Anaesthesiology	1,279	23	1,605	28	1,805	31
Cardiology	737	9	912	15	1,072	18
Cardio-thoracic surgery	116	6	136	12	143	11
Dermatology and venereology	404	34	472	43	538	47
Surgery	1,122	11	1,218	17	1,386	19
Internal medicine	1,818	28	2,006	36	2,188	39
Ear, nose and throat (ENT)	462	12	489	12	531	22
Paediatrics	1,225	45	1,401	58	1,532	60
Clinical genetics	77	68	110	74	132	76
Clinical geriatrics	137	61	174	64	210	69
Respiratory medicine	438	19	524	26	622	32
Gastroenterology	239	15	364	23	442	26
Medical microbiology	222	35	249	37	273	40
Neurosurgery	119	2	136	10	152	9
Neurology	725	21	826	31	931	35
Nuclear medicine	111	30	152	35	179	37
Obstetrics and gynaecology	908	34	978	46	1,072	51
Ophthalmology	641	35	671	38	729	41
Orthopaedics	539	4	633	8	743	10
Pathology	350	35	391	37	437	40
Plastic surgery	217	13	270	20	306	26
Psychiatry	2,534	35	2,966	42	3,299	45
Radiology	916	15	1,059	21	1,193	24
Radiotherapy	198	30	256	45	287	50
Rheumatology	198	37	248	44	293	50
Rehabilitation medicine	369	46	455	55	507	58
Urology	332	5	372	13	427	19
Total hospital-based specializations	**16,484**	**26**	**19,073**	**34**	**21,726**	**37**
General practice medicine	10,061	35	11,121	42	11,912	45
Specialists in geriatric medicine	1,256	59	1,475	61	1,491	64
Specialists for the mentally disabled	170	56	175	65	200	73
Employment & Health social medicine specialists	2,878	-	3,219	35	3,000	35
Social & Healthcare medicine specialists	1,157	-	838	59	738	59

Source: Registration Committee Medical Specialists (RGS) as of 31 December 24.00 hours in the previous year

The table shows that the numbers of registered medical specialists have evolved in different ways. For each specialist field within the specializations there is evidence of an increase in the absolute numbers of registered specialists when compared to the years 2010 and 2005. The total growth between 2005 and 2013 amounted to 32% or, in other words, a 4% rise per year. The increase varies from field to field. Nuclear medicine is a relatively young field showing a rise of 61% since the year 2005, whilst in the past 8 years internal medicine has merely grown by 20%. Only 7 of the 27 specializations have more than 50% women in their ranks. These include the traditionally popular fields among newly trained female MDs such as: paediatrics, obstetrics and gynaecology but also clinical genetics, clinical geriatrics, radiotherapy, rheumatology and rehabilitation medicine. With 9% of the specialists in its ranks being female neurosurgery is the final category following closely behind cardio-thoracic surgery.

The general practitioner specialization saw a relative growth of 18% between the years 2005 and 2008. In both those years, 2005 and 2008, the Advisory Committee campaigned for a lower intake level for this particular specialization in conjunction with what is termed reserve GP resources in the form of locums. This has therefore slightly halted the speed of growth since 2005. Another possible significant factor is the fact that within this profession the percentage of registered/actively employed women is higher than among clinical specialists which means that the added effects that feminization has had (due to the lower average fte level that women claim to work) upon the required number of specialists is smaller. Since 2010 hardly any extra specialists in geriatric medicine have joined the ranks. One major reason for this is the fact that since 2006 the recommended intake level for that particular specialization has not been met due to the low recruitment numbers. It is, however, anticipated that as of 2014 this situation will improve thanks to the combined efforts of training establishments, educational institutes, the Royal Dutch Medical Association and the professional body, Verenso. The numbers of registered Specialists for the Mentally Disabled (AVG) have been rising since 2010. In 2007, during the first collective re-registrations for this relatively young profession, not many specialists decided to register again which meant that between 2002 and 2010 the number of practising professionals remained relatively stable despite the reasonably high intake rate. What is furthermore striking is the high percentage of women engaged in this medical field, a level that can only be said to be approximated when it comes to the sector specialized in geriatric care.

Within the group involved in social medicine it is notably the dynamics being seen in industrial healthcare that is responsible for the drop in the numbers of specialists within the main Employment & Health (A&G) area. The changes in the Occupational Health and Safety Act have limited the deployment of industrial medical officers both intrinsically and financially. As a result, since 2006, the Employment Services have been very reserved about training industrial medical officers. This is reflected in the numbers of registered industrial medical officers which, some 4 years later, began to fall and which, in view of the current numbers of medical trainees (MTs), will continue to decrease for the next 5 years, regardless of all the educational efforts that are made and not counting all the industrial medical officers who have switched to medical advisory work within insurance companies. Within the main branch known as Social and Healthcare Medicine (M&G) the attention in the past 6 years has focused especially upon the new two-year-long profile training. Only since 2012 has the training of these professionals gained a new impetus through, on the one hand, subsidies obtained from the

Ministry of Health, Welfare and Sports (HWS) in conjunction with a number of 2nd phase trainings and, on the other hand, the medical insurance companies who encourage their medical advisors to embark on this training course. The number of registered Social and Healthcare Medicine doctors will continue to diminish in the next 4 to 6 years.

To sum up, in terms of the numbers of recognized medical specialists, no quantitative developments can be observed that had not already been anticipated in the 2010 explication of the Advisory Committee's Plans.

Alongside all the recognized specializations there are also a further three clinical technological specializations (clinical chemistry, clinical pharmacy and clinical physics) requiring no specific medical background, although occasionally such persons have been medically trained. Since 2008 these specialists have also been included in the Advisory Committee's prognoses. Finally the Board of Medical Specializations (CSG) has recognized a number of medical profiles since 2006 which, after a 2 to 4 year training, give incumbents the right to a civil legally protected title; this is termed a stamp of approval. The numbers of recognized profiles will continue to increase in the coming years. Such professions help to create a new dynamics in the medical employment market. In Table 2 the quantitative details, insofar as they are known for the period in question, are specified.

Table 2: The number of registered clinical technological specialists, profile doctors and the percentages of women as of 1st January 2005, 1st January 2010 and 1st January 2013

Clinical specialization/profile Year	2005		2010		2013	
	Number	% ♀	Number	% ♀	Number	% ♀
Clinical chemistry	251		236	29	290	34
Clinical physics	245	9	321	16	363	20
Hospital pharmacy	337	40	416	48	480	51
Profile: Policy and recommendations *			178	46	164	45
Profile: Forensic medicine *			190	24	148	26
Profile: Infectious disease management *			76	45	96	48
Profile: Preventive youth medicine *			795	91	893	91
Profile: Medical Environmentology *			11	44	13	62
Profile: Medical evaluation and advice *			64	54	63	50
Emergency first aid doctors' profile			137	63	297	64
Profile: tuberculosis treatment *			19	53	24	54

Source: RGS

*: what is given here is the number of registrations; the number of doctors with just one registered profile amounts to 712.

In the profile trainings the percentages of women are higher than in the case of most recognized specializations. In part this is attributable to the fact that profile trainings have only existed for a few years, which means that the intake rate in relation to those new profiles tends to represent

more of a snapshot view of the gender balance among graduate doctors. Within the main Social and Healthcare Medicine sector there are, at present, more profile registrations than registered doctors for this specialization. This is because people often have more than one profile registration.

2.1.2 Numbers of practising medical specialists

As of 1st January 2013 there are, in the Netherlands, 22,600 MDs below 65 years of age alongside the 39,067 registered medical specialists and the 1,698 registered profile doctors. Out of that group some 9,158 are busy training to become either a medical specialist or a profile doctor. Of the remaining 13,442 graduated MDs, 1,485 are no longer working and 333 doctors are drawing disability benefit. The percentage of IHCP-registered doctors in normal employment is 92%. Starting in the year 2017 this percentage will begin to rise in connection with the planned introduction of re-registration measures for IHCP-registered doctors (and profile doctors). Not all MDs can meet or wish to meet the demands required to re-register. The percentage of active MDs may easily be compared with the percentages of medical specialists still actively employed. These percentages are presented in Table 3. For the clinical specializations it is an aggregated figure that is given. More details on these statistics can be found in sub-report 1.

Table 3: Actively employed professionals: percentage of registered medical specialists, profile doctors and MD graduate doctors younger than 65 years of age on 1st January 2005, 2010, and 2013

Professional group Year	2005		2010		2013	
	Number	% employed	Number	% employed	Number	% employed
Clinical specialists	16,484	86.6%	19,073	91.0%	21,726	89.1%
General practitioners	10,061	88.0%	11,121	93.3%	11,912	93.5%
Geriatric medicine specialists	1,256	93.7%	1,475	92.8%	1,491	97.5%
Specialists for the Mentally Disabled	170	100.0%	175	91.7%	200	93.0%
Social Medicine	4,035	76.8%	4,057	91.5%	3,738	94.5%
Clinical technological specialists	833	-	973	92.5%	1,133	94.4%
Social medicine profile doctor	-	-	612	99.0%	1,401	97.8%
A&E doctor profile	-	-	137	100.0%	297	89.3%
MD graduate doctors under 65	19,500	-	20,300	93.9%	22,600	92.0%
Total	52,339	84.0%	57,923	91.5%	64,498	91.7%

Source: RGS/ SSB/ NIVEL

What is clearly visible is the fact that the percentages of professionals still actively employed has, in the case of most main groups, increased in comparison to 2010. The decrease seen in the numbers of clinical specialists in 2013 is probably attributable to the other way of determining whether or not someone is still working, in other words, by studying the Social Statistical Files (SSB) database. This database gives a great deal of insight into the working careers of specialists without them having to produce the information themselves. Registered specialists who live and/or work abroad or who work outside their particular sector are not included in this database but do appear in the RGS database. That is the only disadvantage of the SSB database, plus the fact that because of the slow validation procedure the data collection always lags two years behind the facts. With the remaining main groups

other methods, invariably in the form of surveys, are used to establish the exact numbers of actively employed specialists. The data gathering method adhered to remains the same as in the different previous estimates. The reasons why the percentages of working profile doctors in the years 2010 and 2013 are so high is probably due to the fact that these profiles have only recently been established.

From this table it may not, however, be concluded that 8.3% of all doctors are unemployed. A large number of these doctors work in education, are engaged in research, are currently working abroad or have, in the last 5 years, retired having reached the end of their working careers but have simply failed to take the trouble to remove their names from the relevant specialists' register. The registered level of unemployment within the medical professions was 117 at the end of 2012 in the MD group and 79 within the medical workforce as a whole (31 industrial doctors and 48 general practitioners)[1], all of whom were previously in employment.

During the past 3 years, the numbers of doctors annually involved in patient care has in reality increased by 6,147. This therefore represents an increase of 10.6% compared to 2010, some 37% of which is directly attributable to the number of actively employed MD graduates.

2.1.3 Average number of medical specialist ftes

Throughout the general medical workforce the number of registered medical specialists is higher than the number of specialists who are actually working. The number of specialists actively employed is thus corrected in the prognoses with regard to the average number of ftes worked. Discrepancies can be seen between the male and the female population but also between the actual professions. The values per specialization with regard to the different estimates can be found in the relevant sub-reports. Table 4 shows the aggregate values for men and women according to each of the main groups.

Table 4: Professional practitioners actually in employment: average fte for the working specialists, Profile doctors and MD graduates below 65 years of age as of 1st January 2005, 2010 and 2013

Professional group Year	2005		2010			2013		
Actually working|fte|fte		Total		♂	♀		♂	♀
Clinical specialists	14,275	0.90	17,350	0.94	0.82	19,100	0.95	0.90
General practitioners	8,854	0.82	10,371	0.84	0.63	11,138	0.83	0.64
Specialists in geriatrics	1,177	0.76	1,443	0.91	0.74	1,486	0.96	0.82
Specialists for the Mentally Disabled	170		192	0.91	0.80	208	0.96	0.82
Social Medicine	3,099	0.83	3,815	0.89	0.72	3,756	0.89	0.72
Clinical technological specialists	833		925	0.96	0.89	1,070	0.97	0.89
Social medicine profile doctors			612	0.59	0.47	699	0.63	0.47
A&E doctor profile			137	0.96	0.92	256	0.96	0.92
Graduate MDs younger than 65 years	19,500		19,062			20,792		
Total| weighted average		0.86		0.90	0.73		0.91	0.78

Sources: RGS/ SSB/ NIVEL

1 UWV (2013): Healthcare: sector descriptions.

The statistics for 2005 are not complete, nor have they yet been broken down according to gender. For 2010 and 2013 all these facts and figures are available. The most important observation is that within the medical workforce the average fte has risen compared to 2010, especially in the case of women. It may be asserted that within the space of three years the average fte for women has thereby become 'masculinized'. This therefore leads to the conclusion that the available ftes, when compared to 2010, have risen due to, on the one hand, a rise in the numbers of doctors in jobs (Table 3) and, on the other hand, an increase in the average number of ftes worked, notably by female doctors (Table 4).

The question that then arises for the longer term is whether one should speak in terms of an increase in the average ftes amongst men and women or whether it should be regarded more as a return to the situation seen at the beginning of this century. From research conducted in 2000 among hospital-based specialists, general practitioners, specialists in geriatric medicine and the four dental workforce groups it emerged that the average fte for all these professions in 2000 amounted to, in total, an average of 0.95 fte for the men and 0.77 fte for the women. Put alongside similar figures for 2005 one could sooner think in terms of a decrease in the average numbers of fte since 2005 was followed by a recovery. Viewed from that angle, one should not expect to see a further rise in the average fte level in the coming years.

The increase in the available ftes within the medical workforce in comparison with 2010 amounted to a total of 3,060 ftes or, in other words, 10.5%. In the three years in question, the available ftes rose by 14% among hospital-based specialists and 6.2% among general practitioners. In the 2005 to 2010 period the changes in the available ftes for hospital-based specialists was 21.1% and 9.4% per year between 2005 and 2010 and 4.7% per year between 2010 and 2013. In the case of general practitioners that was 1.9% per annum in the period between 2005 and 2010 and 4.7% per year between 2010 and 2013. With social medicine the available ftes had dropped by 5% compared with the year 2010. This was almost exclusively caused by the fall in the number of industrial medical officers and Social and Healthcare medical specialists still working.

2.1.4 Average retirement age for medical specialists

The SSB records also indicate the age at which various doctors have entered into retirement. Figure 1 therefore gives the retirement ages for a number of medical specialist fields.

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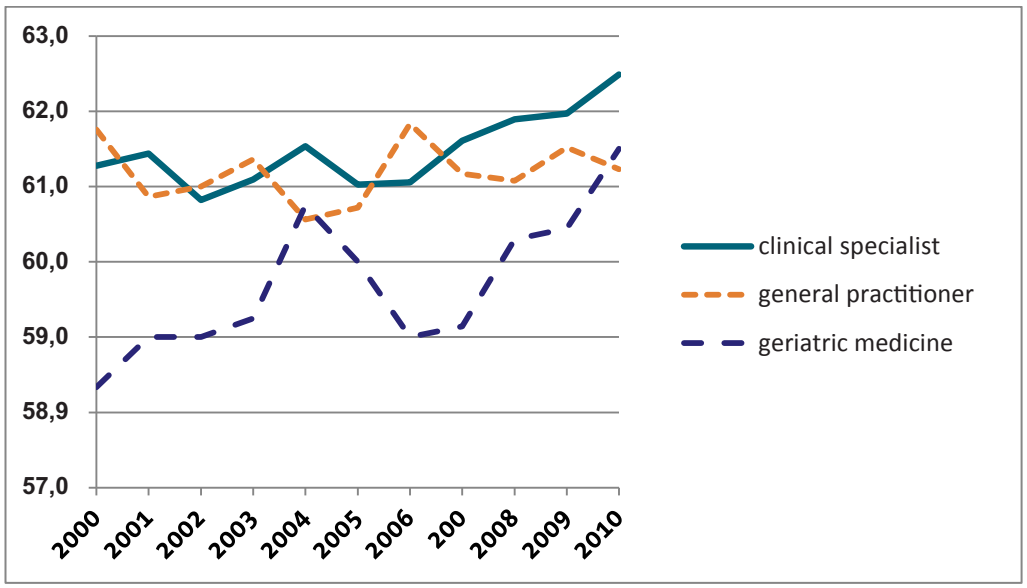
Figure 1: The retirement ages per medical specialist field



Source: CBS/SSB

Figure 1 shows the different retirement ages for the medical specialists group, for general practitioners and for professionals specialized in geriatric medicine in the 1999 to 2010 period. The figure indicates how the retirement age for clinical specialists has risen from 61 years of age in 2000 to 62.5 years of age in 2010. The sharpest rise occurred after 2006, the year when the Dutch Health Insurance Act was introduced. For specialists in the field of geriatric medicine the retirement age in the same period rose by 2.5 years. Where general practitioners are concerned, there is no rising or falling in the retirement age to be detected in this figure. This is attributable to the conflicting tendencies seen in the retirement age trends. In other words, for the independently established GPs the retirement age rose by 2.3 years whereas in the growing group of practitioner locums it dropped by 0.7 years[2].

Alongside the rise in the number of newly registered clinical specialists, it is also the rise in the retirement age that has led to the relatively large increase in the number of actively employed hospital-based specialists in comparison to, for instance, general practitioners. If clinical specialists remain in their jobs for, on average, one and a half years longer then this will lead to a one-time increase in the complete capacity level of approximately 4%. At present, the most recent figures available to us are those that date from 2010 but this development may also partly account for the change in the balance between demand and supply that first became manifest at the beginning of 2013 when new parties entered the market.

2 NIVEL (2009): Record of the retirement age of general practitioners (Utrecht).

Apart from this rise in the retirement age it is expected that in the coming planning period the raising of the legal OAP age will gradually be reflected in the retirement pattern. The social medicine workforce, the specialists working in geriatrics and the specialists for the mentally disabled are almost always in salaried employment. In the case of clinical specialists, this may be said to apply to approximately 50% of the workforce. Where general practitioners are concerned, the vast majority are still independently established in their practices. The tendency, though, is for younger GPs to opt more frequently for fixed tenures of employment but taken across the board that does not yet constitute a particularly large group.

2.1.5 Intake level for medical specialists qualified outside the Netherlands

The available capacity is influenced by the inflow and outflow within the profession. The inflow is largely realized thanks to the combined efforts of trainers and educational institutions.
In addition to this particular inflow there is also a certain intake of medical specialists originating from abroad. It is an influx with its own special dynamics. Those who arrive with their own foreign qualifications as specialists are not required to follow an extensive period of training in the Netherlands but can simply immediately flow into the employment market. It is a well-known fact that a certain portion of this group of specialists will again leave the country some 5 years after having arrived in the Netherlands. The movements of this particular group have been carefully monitored since 1999. In practice, this intake is only of relevance to hospital-based specialist trainings. On an annual basis between 100 and 200 such specialists with qualifications received outside the country are actually entered into the Registration Committee Medical Specialists' (RGS) database.

It was in 2009 that the European Union had expected to see, for the first time, a deficit in the numbers of doctors operating within Europe. It was a prognosis that only became stronger in ensuing years. Europe-wide it is predicted that we shall see a shortage of around 200,000 doctors by the year 2020. In the case of the Netherlands it is especially developments in the neighbouring countries of Germany and Belgium that are of particular relevance since more than 50% of the doctors in possession of foreign specialist qualifications are drawn from those parts. In those countries, too, it is expected that shortages will be seen in the years in question.

Fluctuations in the influx of doctors with foreign specialist qualifications can only, at the very earliest, be corrected 6 years later with the help of adaptations made in their own follow-up medical trainings. In order to ensure that the Netherlands does not become dependent upon the foreign influx of specialists as of 2017 the Advisory Committee set the 2010 estimates for the anticipated influx of foreign medical specialists at 0. The figure given below is actually derived from the above-mentioned monitoring.

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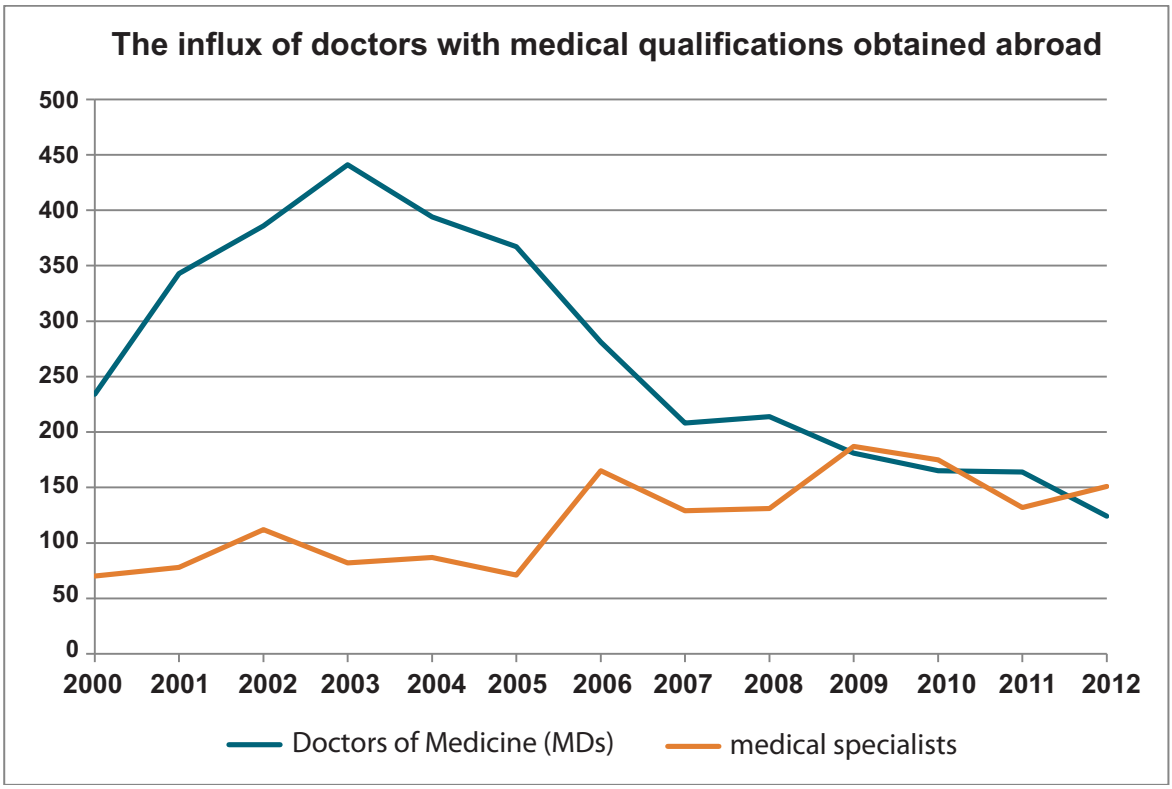
Figure 2: The influx of foreign-trained Medical Doctors and medical specialists



Source: RGS/ CIBG

Figure 2 shows how since 2003 the inflow of MDs with qualifications gained abroad has been decreasing. It is a trend that has simply continued during the last few years. In 2012 just 124 MDs with merely a medical degree gained abroad arrived in the Netherlands seeking employment. Undoubtedly, due to the rising shortage of doctors in their own countries, such newly qualified doctors are probably now finding it easier to obtain follow-up training or paid employment there. This falling trend fits in with the 2009 expectations to the effect that gradually shortages are beginning to arise in the rest of Europe which would explain why graduating doctors are less rapidly being pushed out of their own countries.

For foreign medical specialists the pattern is somewhat different. Unlike in the case of the newly qualified MDs, there is no decreasing trend. It would appear that medical specialists derived from neighbouring countries continue to find the Netherlands an attractive country to settle down in even though the job opportunities in their own country may be improving. It is this factor, notably the persistent inflow of medical specialists with qualifications obtained abroad, that explains why since 2013 it has been viewed as necessary to include again the influx of foreign-trained specialists in the forecasts for the required capacity in Dutch further training courses. In the process, the same basic premises will be adhered to as those relied on for the 2008 and 2005 prognoses. This means that the further Dutch training courses leading to medical specialist status can be reduced by over 150 per annum solely on the basis of this perpetual inflow from abroad.

2.2 Nurse practitioners (NP), physician assistants (PA) and general practice nurses (GPNs)

2.2.1 Numbers of registered nurse practitioners, physician assistants and GPNs

The three professions: nurse practitioner, physician assistants and general practice nurses all help to support the medical specializations and are, in part, able to substitute those professional areas. The registration of nurse practitioners only began in 2009. Nursing staff who have completed their Master's in Advanced Nursing Practice studies since 2006 can simply be registered as nurse practitioners. All those who completed their Nurse Practitioner studies either in or before 2006 were able to do an assessment up until 1st July 2012. The first such training courses commenced in 1998 which meant that the first batch of Nurse Practitioners entered the employment market in the year 2002. In Table 5 for purely pragmatic reasons it will be the numbers of registered Nurse Practitioners before 2005 and 2010 that will be adhered to. The figures given for 2012 relate to the registration of nurse practitioners as of 1st January 2012 so that comparisons with the actively employed numbers can be made. On 1st January 2013 there were in fact 1,836 NPs recorded in that particular register. Table 5 furthermore shows the numbers of Physician Assistants (PAs) for the same period whose names have been entered into the quality register of the association of physician assistants, plus an estimate of the total number of GPNs. In 2012 there were approximately 5,160 Somatic GPNs and 690 Mental Healthcare Department (MHD) GPNs operational within general practices.

Table 5: The numbers of registered and actually employed professionals with substitution opportunities.

Professional group Year	2005		2010		2012	
	Registered	Working	Registered	Working	Registered	Working
Nurse Practitioners	-	177	801	883	1,373	1,306
Physician assistants	16	15	251	218	409	348
General practice nurses	-	2,900	-	4,200	-	5,850

Sources: KIWA Carity (2012): Alumni from the Physician Assistant master's training; Alumni from the Advanced Nursing Practice master's training;
NIVEL (2012): General practice nurses (GPNs), prepared for the future?

The legally stipulated registration of nurse practitioners only began in 2009 which was why by 2010 their registration was somewhat lagging behind in terms of the actually employed numbers of nurse practitioners. The association of physician assistants keeps a quality register in which more than 85% of the professional group is actually registered. The GPNs do not have a quality register, only a non-obligatory association register. What is, however, clearly evident is the fact that in all three groups the numbers of professionals have risen and these numbers are greater than in the corresponding medical specialist areas. In Chapter 6 we shall delve further into a number of results obtained from recent research into the working careers of nurse specialists and physician assistants.

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2.2.2 Average fte rate for professional practitioners

From the different studies that have been done we only know the average fte of the relevant professional groups for the year 2012. These have been linked to the numbers of actively employed persons for the years 2005 and 2010. It is on the basis of these sources that the information presented in terms of ftes has been gathered that is given in Table 6 below.

Table 6: Average fte and total numbers of ftes worked by NPs, PAs and GPNs

Professional group Year	2005	2010	2012		
	Total	Total	Total	Fte ♂	Fte ♀
Nurse Practitioners	148	737	1,071	0.91	0.84
Physician assistants	14	203	319	0.97	0.90
General practice nurses	1,131	1,638	2,282		0.39
Total	1,293	2,578	3,672		

Table 6 shows that the number of ftes of all the different professionals who are able to take over duties from the medical specialists is rapidly growing. The GPN works only in general practices whilst the nurse practitioners and physician assistants are able to work both in general practice and in hospitals as well as in nursing homes and/or in the mentally handicapped sector. The ratio of GPN ftes in relation to the ftes for GPs (0.28) is four times greater than the ratio of NP ftes and PA ftes in relation to other medical specializations (0.073). This means that in this way the general practitioner has more possibilities (as well as longer experience) with vertical substitution than individuals engaged in any of the other medical specializations. This matter will be returned to and examined at length in Chapter 6.

2.2.3 Intake from abroad and retirement age

In reality there is practically no foreign inflow into these particular professional nursing areas. Precious little research has yet been done into the working career of the GPN. Generally speaking, all the trained NPs and PAs have not yet reached their rightful retirement ages; reliable data on the average retirement ages for these groups will not emerge for a number of years.

2.3 Dental healthcare

The components of the dental healthcare workforce discussed in the present Advisory Committee Plans concern: dentists, oral hygienists, dental surgeons and orthodontists. Already since the year 2000 dental surgery and orthodontistry have been included in the prognoses since they are both more advanced areas of academic training. Before they are able to go on to specialize, dental surgeons will have been required to complete academic courses both in the fields of medicine and dentistry whilst orthodontist will have done the statutory dental training. At the instigation of the Commission for Innovative Dental Care (2006) the Ministry of HWS asked the Advisory Committee to also include dentists and oral hygienists in its prognoses. Part of the reason why the Ministry requested this was because there are few employment market statistics available on these two professional groups but it was partly also because the matter of substitution between dental surgeons, dentists and oral hygienists proved to be rather complex. Since the year 2010 the intake recommendations for dentists and oral hygienists have been included on the basis of Advisory Committee projections.

2.3.1 Numbers of registered practitioners and numbers of active professional practitioners

Table 7 reflects the numbers of registered alongside the numbers of actually practising professionals for the four different groups. Dentists, dental surgeons and orthodontists are all registered in the central IHCP register. In the case of oral hygienists use was made of the data provided by the Dutch Association of Oral Hygienists but the extent of the level of membership of this particular association is by no means unequivocally laid down.

Table 7: The numbers of registered and the numbers of professionally employed oral hygienists.

Professional group / Year	2005		2010		2013	
	Registered	Working	Registered	Working	Registered	Working
Dentists	9,467	8,146	10,700	8,881	11,783	8,854
Oral hygienists	1,775	2,072	2,288	2,425		3,216
Dental surgeons	206	192	234	233	293	260
Orthodontists	292	192	315	233	506	304

Sources: NIVEL; KIWA Carity

The growth rate seen in the numbers of actively employed professionals in this sector is variable. The number of trained dentists actually working had only risen by 8.7% in 2013 in comparison to 2005 or, in other words, at a rate of 1.1% per annum. In reality the numbers of working dentists have not risen in recent years. When one studies the age composition within the dental profession one sees that it is a very ageing population. In addition to this it is expected that the coming years will see a drop in the numbers of dentists. By contrast the numbers of oral hygienists have increased sharply since 2005, by some 55.2%. That represents an annual growth curve of 6.9%. In part this growth rate is artificial because it derives from the above-mentioned previous lack of clarity on the precise numbers of actively employed oral hygienists who do not belong to the Dutch Association of Oral Hygienists.

In the space of 8 years the number of dental surgeons in active employment has risen by 35.4%. With a 4.4% annual growth rate this increase falls into the same range as that of other medical specialist areas. Finally, in the case of orthodontistry, there has been a 58.3% increase in the space of 8 years. This 7.3% annual increase is realistic because corrective adjustments have been made for all those orthodontists who had first removed their names from the Dutch Dental Association (NMT) register in connection with tariff reductions but had later once again put their names on the register of orthodontists. To summarize, it may be concluded that dental surgery has seen an ordinary kind of growth level as far as the numbers of people employed in the profession goes. In the case of oral hygienists and orthodontists the growth rate has been somewhat more turbulent, but that can partly also be attributed to external factors. The numbers of dentists who are currently active has not, however, kept abreast of these developments. It can be asserted that dentistry has seen no growth in the last three years. It would in fact appear that the numbers have dropped slightly.

2.3.2 Average fte rate for professional practitioners

Not all the professionals actually in employment are engaged on a full-time basis. Table 8 provides an overview of the average fte for each professional group according to gender.

Table 8: Average fte according to professional group and gender and the capacity available on the basis of the numbers of actually employed professionals

Table 8: Average fte according to professional group and gender and the capacity available on the basis of the numbers of actually employed professionals

Professional group	♂	♀	Total	Available capacity (in ftes)
Dentists	0.88	0.75	0.84	7,400
Oral hygienists	0.96	0.71	0.72	2,315
Dental surgeons	0.84	0.76	0.83	217
Orthodontists	0.86	0.74	0.82	249

Source: NIVEL

It can generally be asserted that women tend to work fewer ftes than their male counterparts. It amounts to a difference of 0.1 fte that cuts across all the professional dental care areas apart from where oral hygienists are concerned. That means that the further feminization of this particular cluster of professions will have a modest effect in relation to the required number of professional practitioners. It is only in the case of oral hygienists that the difference is 0.23 fte larger. The reason for this discrepancy lies predominantly with male oral hygienists who tend to work 0.1 fte more than their male counterparts in the other three professional branches of the dental care sector. For that matter, from the total average number of ftes worked among oral hygienists it may be concluded that there are far fewer men employed in that profession than women (97 men as opposed to 3,119 women).

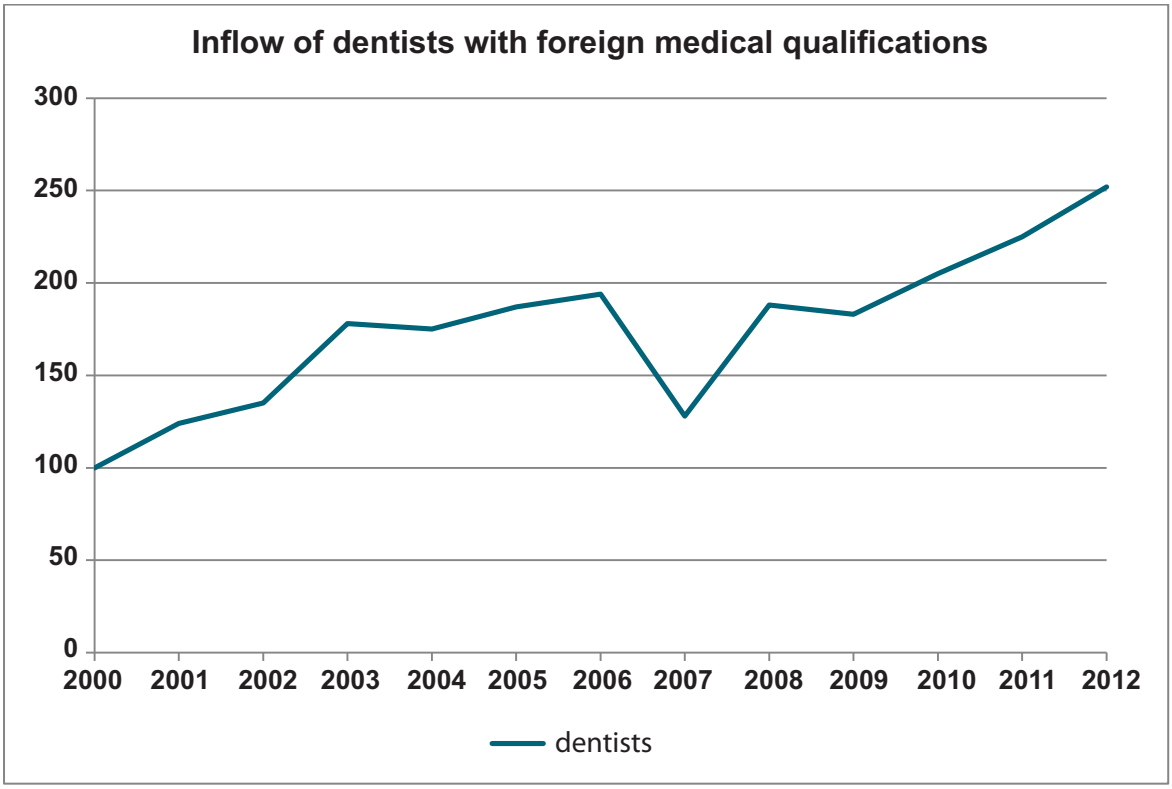
The available dental care capacity within the four professional groups discussed here is largely facilitated by primary healthcare services. Virtually 73% of the capacity is taken care of by dentists, a further 23% or so by oral hygienists and the remaining 5% is composed of dental surgeons and orthodontists combined. It should be born in mind that there are other professionals affiliated to the dental care workforce who are not included in this report by virtue of the fact that they are not mentioned in the IHCP Act. In terms of capacity, such important partners are, for instance: dental assistants or the dental problem prevention people, dental technicians and dental prosthesis staff.

2.3.3 Numbers of incoming dentists who were trained abroad

Chapter 3 examines the intake of trained professionals who are in possession of Dutch qualifications. As far as the job of oral hygienists is concerned, inflow from abroad is not really relevant since it is a profession that does not as such exist in many other countries. When it comes to orthodontists, the group generally concerns Dutch academic research trainees who, after a training spate abroad, tend to return to the Netherlands for permanent employment. A similar kind of migration trend is seen with dental surgeons except that there, because of the double academic training required in medicine

and dentistry, the recognition of such qualifications can give rise to problems in the Netherlands. This section deals with one specific phenomenon, namely that of the influx of dentists holding qualifications gained abroad. In 2012, at the request of the Advisory Committee, the CIBG cleaned up and updated all its files which means that since then we have at our disposal reliable sources of data on all the dentists coming into the Netherlands who are in possession of qualifications obtained elsewhere. Figure 3 precisely traces this influx into the country, since the year 2000, of dentists who trained abroad.

Figure 3: The inflow of dentists into the Netherlands who are in possession of qualifications obtained abroad



Source: CIBG

Since 2011 the number of foreign-born dentists entering the Netherlands on an annual basis has been higher than the number of dentists graduating from Dutch universities. The exact origins of the immigrating dentists have also been changing since the year 2010. Up until 2010 it tended to be especially Belgian and German dentists who were settling here but since 2010 it has been especially dentists originating from southern European countries, notably Greece and Spain, but also from East European countries such as Romania and Bulgaria who have been setting up practices in the Netherlands. This influx of dentists holding degree qualifications gained abroad is significant for two reasons.

In the first place it may be concluded that an influx of this magnitude certainly has an effect upon the numbers of Dutch dentists that need to be put through university. When making estimates regarding the influx from abroad the other matter that needs to be considered is whether an influx of such proportions is desirable. In 2010 a similar situation arose in relation to the considerations concerning medical specialists. At that time, the Advisory Committee determined that it would not be desirable to perpetuate the then current influx so the foreign input was not included in the projections. In the case of the forecasts for dentists an exception was made because of the sheer size of the influx from abroad which meant that half of the foreign input was included in the estimates. Even when half of the intake from abroad was incorporated into the calculations the number of students that would have to enter Dutch dental training courses was still so high that the government decided not to adopt that aspect of the recommendations.

Another problem is the fact that during their training dentists who come from elsewhere will not have learnt how to work in cooperation with oral hygienists. These dentists are used to dealing with all the dental procedures themselves. In other words, such a massive influx of foreign dentists would be detrimental to the climate of vertical substitution in favour of oral hygienists that is currently being so wholeheartedly encouraged by the Dutch government. Furthermore the chance of communication problems between foreign dentists and patients is greater, of course, than with Dutch dentists and invariably their knowledge of Dutch legislation and regulations is below par.

2.3.4 Conclusions

It may be concluded that in the case of the dental workforce 95% of the available capacity is devoted to primary dental care. The number of Dutch dentists working in the sector has been falling since 2010, both in absolute terms and as regards the number of available ftes. The present situation therefore makes it easy for a large number of dentists qualified abroad to enter the country and find work relatively easily in the Netherlands. In the case of oral hygienists, on the other hand, the absolute numbers and the number of available ftes has been steadily growing since 2005.

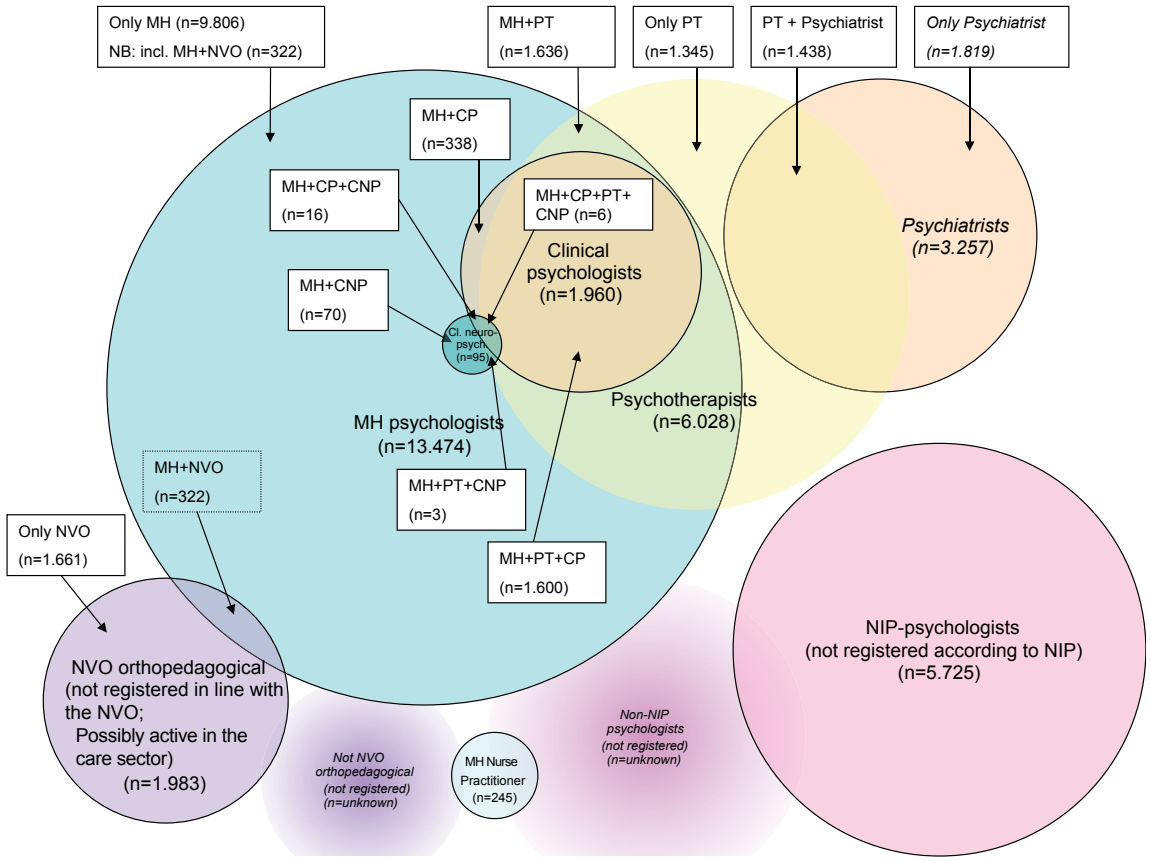
2.4 The mental healthcare sector

For the first time ever, in the present Advisory Committee's Plans, we have also integrally examined all the IHCP-registered professions in the mental healthcare sector. The components considered pertain to the healthcare psychologist, the psychotherapist, the clinical psychologist, the clinical neuropsychologist and the mental healthcare nurse practitioner. It was in 2011 that initial, provisional estimates of an indicative kind were first made for these professions. One conclusion that could be drawn from these indicative predictions was that it would essentially be possible for the Advisory Committee to apply to the five mental healthcare professions the same type of techniques and models as those implemented for all the estimates made for the medical and dental workforces. Another finding indicated that many of the quantitative details required for the provision parameters were unknown. At the instigation of the Advisory Committee much quantitative research has therefore been conducted since 2010 into the healthcare provisions existing in this professional sector.

2.4.1 Numbers of registered practitioners and numbers of active professional practitioners

One of the studies involved a survey carried out within this professional group that was based on a random sample drawn from the BIG register. Amongst other things, this random sample led to the diagram presented below.

Figure 4: The overlap between professional group registrations in the mental healthcare sector in 2012



Source: NIVEL

In the case of four of the five professions it may be said that there is evidence of an overlap between the various kinds of registrations in the IHCP register. For the various future prognoses that need to be made this creates problems because it then becomes necessary to establish in precisely which professional areas people who are registered more than once are actively employed. It is generally presumed that those who actually practice basic professions (such as mental health psychology or psychotherapy) will only do so if they have no further registrations as specialists (clinical psychology or clinical neuropsychology). As a matter of fact, it should also be noted that within the mental healthcare sector there are also many professionals active who are not registered in the IHCP.

In Table 9 the numbers of registered professionals and the numbers of actively employed professionals for the five professions are listed. The precise figures are not known for the year 2005. That explains why in the table given below it is the data as of 1st January 2010, 2012 and 2013 that is used.

Table 9: The numbers of registered and actively employed professionals within the mental healthcare sector

Professional group Year	2010		2012		2013	
	Registered	Working	Registered	Working	Registered	Working
MH psychologists	10,345	6,035	9,806	7,500	10,571	8,100
Psychotherapists	6,225	1,560	2,981	1,950	3,093	2,020
Clinical psychologists	2,348	1,965	1,964	1,964	2,008	2,008
Clinical neuropsychologists	75	75	100	100	113	113
Mental Healthcare NP	10	150	287	287	438	438

Source: 2010: Advisory Committee 2011
2011/2012: NIVEL, RSG, VSR

The greatest discrepancy to be seen in this table is that which exists between the falling levels in the numbers of registered psychotherapists in the year 2012 in relation to 2010. This is mainly attributable to the removal of all the double and triple registrations of clinical psychologists and psychiatrists as of 2011. The reduction in the number of registered clinical psychologists in the year 2012 came as a direct consequence of the collective re-registering prevalent in that professional group in the year 2011. What is also noticeable is the fact that the percentages of actually employed clinical psychologists and clinical neuropsychologists as of 1st January 2012 and 2013 was 100%. This may partly be attributed to the collective re-registering of 2011 and to the starting up of this same register in the year 2008. It is thus reasonable to maintain that the number of actually employed professionals in this field does not yet deviate from the numbers registered. Finally, the number of nurse practitioners actively employed within the mental healthcare sector was higher in 2010 than the numbers registered. The registration of nurse practitioners officially commenced in 2009 but it was not until 2010 that the actual registering of that group really entered into force.

2.4.2 Average fte rate for professional practitioners

The employment workforce is quantified by multiplying the numbers employed by the full-time equivalent factor specified according to gender. The results of these calculations are presented in Table 10 below.

Table 10: Available capacity within the mental healthcare professional group as of 1st January 2013

Professional group	♂	♀	Total	Available capacity in terms of fte
MH psychologists	0,89	0,82	0,83	6,755
Psychotherapists	0,85	0,78	0,81	1,631
Clinical psychologists	1,01	0,87	0,92	1,848
Clinical neuropsychologists	0,94	0,89	0,91	103
MH nurse practitioner	1,00	0,91	0,94	413

Source: NIVEL

The total numbers of professionals employed in the primary mental healthcare sector in the form of psychologists and psychotherapists yields 78% of the employment market capacity, the sector's specialist areas account for the remaining 22%. Just as in the case of dental care, there is a whole battery of professionals not included in these Advisory Committee's Plans such as psychologists who have no IHCP registration, social psychiatric nurses and various other '-ologies' also responsible for providing care for clients who fall within these professional areas.

The breakdown of the branches in which people work is given in Table 11. On the basis of the survey the five professions are divided up according to the respective divisions in which people are active. In this case we are looking at the numbers actually working and not at the ftes.

Table 11: Numbers actually in employment per professional group and per branch

Branch	MH psychologists	Psycho-therapists	Clinical psychologists	Clinical neuro-psychologists	MH NP	Total
Mental Healthcare institutions	**3,240**	**889**	**904**	28	**359**	5,420
Primary psychology needs practices	1,782	81	20	0	0	1,882
Psychotherapy practices	162	727	542	8	0	1,439
Independent combined practices	243	101	120	5	0	469
Mentally disabled welfare	648	0	20	3	4	675
Hospitals	324	20	261	45	48	698
Forensic care	405	101	40	0	0	546
Miscellaneous	1,296	101	100	24	26	1,547
Total	8,100	2,020	2,008	113	438	12,679

Source: NIVEL

The professional practitioners are active in various branches. For all the professional groups, apart from the clinical neuropsychologists, the Mental Healthcare institutions remain the central pillar. Naturally many Mental Healthcare psychologists are also engaged in practices geared to primary psychological needs just as many psychotherapists also work simultaneously in psychotherapy practices. What is perhaps rather striking is the fact that there are more clinical psychologists attached to psychotherapy practices than to general or academic hospitals.

2.4.3 Conclusions

The numbers in employ in the case of each of the five professional groups involved in the mental healthcare services have risen in relation to 2011. This is especially attributable to the high percentages who consistently manage to successfully complete their studies. In the case of Mental Healthcare NPs, this may also be put down to the first wave of registration having been rounded off in mid-2012. The grasp of how double registration was, in the past, operating has also improved considerably in comparison to 2011 thanks to all the research dedicated to this very issue. For the first time ever we now therefore have an accurate picture of the total available job capacity per professional group in this particular sector.

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Furthermore through the carrying out of questionnaires and other studies a far better picture has emerged concerning the actual extent of people's employment links, the incidence of outflow and the percentages actually in employment broken down according to gender. All these sources of information have been integrated into the present report which makes the projections much more reliable and the margins narrower.

3. Course intake: recommendations and realization

3.1. Introduction

3.1.1 Recommendations

In 2000 the Advisory Committee began advising both the field and the government on the required intake levels so that over the course of time a kind of balance might be struck between the demand and the provision of healthcare. The Advisory Committee merely seeks to control the 'training intake' parameters. It is a slow process. Indirectly and very gradually this does start to have an effect on the annual inflow of persons into the various professions. There are no other factors that are influenced by the Advisory Committee. It does, however, carefully scrutinize matters to see if there are any other parameters that are in any way linked to the workforce planning and which may be subject to change. This might, for instance, relate to the feminisation of a given profession, to changes in the working hours or in the average ftes, to retirement age variables or the influx from abroad. In the case of all the predictions these parameters are estimated on the basis of studies, literature research and the expectations formulated by experts. The Advisory Committee conducts no actual research itself. Instead, together with the experts, it determines what kind of research still needs to be done to make the recommendations given as reliable as they can possibly be. The actual research itself is then carried out by external bureaux. It is an approach that safeguards the independence of the Advisory Committee so that it is able to draw up recommendations that are completely objective.

Since 2000 the Advisory Committee has produced integrated intake recommendations in 2000, 2003, 2005, 2008 and 2010. In addition to that either at the request of parties in the field or the government, a number of sub-recommendations have been produced for specific single professions (preventive youth medicine, infectious disease management doctors, sports physicians, dental care, professions in the mental healthcare sector), generally as a preliminary step to being integrally incorporated into the Advisory Committee's Planning system. Finally, in the last 13 years the Advisory Committee has brought out interim recommendations on five separate occasions (GP medicine, plastic surgery, gastroenterology, foreign intake levels, specialists for the mentally disabled). Such interim recommendations are made if, despite perpetual monitoring of the developments regarding the supply and demand of healthcare, it emerges that certain mid-course adjustments need to be made. These recommendations tend to come about at the instigation of the Advisory Committee itself.

3.1.2 Realization

Since the Advisory Committee was first established the realization of the various recommendations made has undergone a number of alterations. Prior to 2000 it was only the intake of candidates for the general practitioner training that was in the hands of the Dutch Ministry of HWS. Up until the year 2007 the intake of MDs wishing to become hospital-based specialists, specialists in geriatric healthcare, specialists for the mentally disabled, dental surgeons or orthodontists was decentrally regulated between the various educational institutions and the healthcare insurers. The intake of individuals interested in specializing in social medicine was decentrally determined by employers. There was thus no evidence of any kind of centralized regulation.

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In 2006 a new Healthcare Insurance Act was passed and introduced in the Netherlands. In order to prevent unfair competition between educational institutions and other institutes the educational budgets from these institutions were transferred to the Ministry of HWS. From that time onwards the organization of most recognized further education courses in the medical domain and profile training courses fell into the hands of the above-mentioned ministry. To that end something known as the Education Fund was set up which, as of 1st January 2013, was transferred to the National Health Authority. The working out of the national inflow quota for specialisation training leading to a range of medical specializations divided up according to regions was made possible by an organization known as the Administrative Body for Flexible Structuring (BOLS). The course funding is transferred to the educational institutions in the form of an available lump sum. The Professional GP Training Foundation (SBOH) receives the course funding from the relevant Ministry, thus in that way acting as the official employer for all those engaged as medical trainees (aios) in the areas of general practice medicine and geriatric medicine. With this funding the SBOH furthermore finances the country's eight educational institutions that are geared to general practice medical training courses. In the field of social medicine it is only preventive youth doctors, doctors training for infectious disease management, environmental medicine doctors and tuberculosis practitioners involved in both the profile training and the second phase training courses that are subsidized by the Ministry of HWS. The funding is allocated by ActiZ and the Dutch Area Health Authority. The remaining social medicine specializations and profiles are subject to market mechanisms.

In the case of dental care, it is the Ministry of Education, Culture and Science that is responsible for directly subsidizing all the dental and oral hygienist training courses. The dental surgery and orthodontist training courses are subsidized by the Ministry of HWS via the Education Fund. The three dental care faculties are responsible for dividing up the inflow together with the Ministry of Education, Culture and Science. The financing provided for any postgraduate education goes through the Administrative Body for Flexible Structuring.

The subsidies for a segment of the mental healthcare professions are also included in the Education Fund. Up until 2013 the rate of inflow into these professions was determined purely on historical grounds. The allocation of the newly available places for prospective course participants was coordinated by the Coordinating Body for Mental Health training CONO. This did not solely pertain to training course places subsidized by the Education Fund. Primary healthcare practices also make extra agreements with the health insurers concerning their training plans for the training courses leading to Mental Healthcare psychologists. The course leading to qualifications as a clinical neuropsychologist and the two-year training for nurse specialists qualified to work within Area Health Authorities (AHA) are not financed by the Education Fund either. It is down to the ministries of HWS and Education, Culture and Science to cater for the financing between them. Much the same applies to the basic academic training for MDs. As medical further education courses rely, for their intake, upon the numbers of qualified MDs, all further agreements on this matter take place between the two Dutch ministries just mentioned above. In the following sections the recommendations concerning the intake and realization of these various training courses in the medical sector are compared.

3.2 Further medical professional training

Whenever any recommendations are made they do not lead à la minute to adjustments in the intake. The recommendations are then followed by policy intentions presented by the Minister and then the resolution is finally passed. The financial consequences of such a Parliamentary Order or resolution then have to be integrated into a budget or into budgetary amendments. Hence the reason that the Advisory Committee seriously bears in mind that two years may well elapse before such recommendations finally come into effect. The actually training courses themselves take from 3 to 6 years. That explains why all the information available to us since the year 2002 is presented. That was the first possible year when recommendations of any sort could have been implemented. The boxes with a dash indicate that either no recommendations had been given by the year in question or else that no intake into the relevant professions had been realized. Table 12 therefore shows the intake recommendations as well as the realization of those recommendations since 2002.

Table 12: Recommendations and realized inflow into recognized medical specialisation training and clinical technological professions

Further education	02	03	04	05	06	07	08	09	10	11	12
Recommendations											
Clinical specialists*	1,104	1,068	1,040 1,181	1,040 1,181	909 992	909 992	909 992	932 1,122	932 1,122	1,242 1,499	1,242 1,499
GP medicine	767	767	861	861	565	565	565	540	540	730	720
Geriatric medicine	102	102	90	90	96	96	96	112	112	112	109
Specialists for the mentally disabled	-	-	-	-	15	15	15	20 24	20 24	20 24	20
Social medicine	122	122	102	102	125	125	125	-	-	580	580
Technological specializations	-	-	-	-	-	-	-	62 67	62 67	56 63	56 63
Realization											
Clinical specialists*	1,120	1,172	1,095	1,084	1,107	1,069	1,051	1,061	1,153	1,391	1,385
GP medicine	468	501	512	533	524	519	537	594	588	613	638
Geriatric medicine	82	97	99	96	91	88	86	85	77	83	86
Specialists for the mentally disabled	0	13	15	13	10	13	16	19	15	14	20
Social medicine	220	160	114	47	67	82	104	161	121	121	173
Technological specializations	63	66	44	59	64	78	60	85	67	75	62

*: including the A&E profile as of 2011

The realization of the intake, in the case of any of the recognized subsequent medical courses, is dependent upon a whole range of factors. In the first place it depends on the resolutions granted by the Ministry of HWS which serve, each year, to convert the recommendation parameters initiated by the Advisory Committee into a concrete intake level. In the second place the new annual inflow all depends on the willingness and indeed the financial capability that teaching hospitals/institutes have to create such training positions. The next variable is the willingness and space that educators

have in their programmes to take on and train new medical trainees. Finally the education plans all depend upon the desire of Doctors of Medicine (MDs) to fill the places offered at the institutes with the capacity to take them on.

The fact that discrepancies exist between the recommendations made and the intake realized in any given year does not automatically mean to say that the recommendations have not been adopted. It is, however, an indication that the recommendations have not been realized. Only if the realizations exceed the maximum recommendations can it be clearly asserted that the recommendations have not been followed. This was precisely what happened, for instance, in the case of the specialization training provided for hospital-based specialists in 2002, 2003, 2006, 2007, 2008 and 2010. The exceeding of the recommendations in these particular years was caused by the decentralized regulating and filling of training places for clinical or hospital-based specialists. In all likelihood it was extreme exceeding of the maximum recommendations in the models created by the Advisory Committee that led to a supply that was greater than the demand. In present times this effect is amplified by clinical specialists by the rising retirement age and the increase in the number of average ftes that women have started working. After 2008 central regulating of the inflow of numbers into courses also started to come into effect in the case of hospital-based specialists. This means that an exceeding of the maximum recommendations is something which, in future, will only rarely occur. As a matter of fact, the maximum recommendations given by the Advisory Committee in the form of the NP or PA 'vertical substitution' option was not adopted either. That meant that the climate for the development of vertical substitution was unfavourable in terms of the maximum recommendations. Incidentally, the overstepping of previously provided recommendations inevitably automatically leads to downward corrective adjustments in the following intake recommendations.

With other medical training courses such exceeding of the limits tends to be more of an occasional thing, as was the case for general practitioners in the years 2009 and 2010, and as was seen in the geriatric specialist training groups of 2004 and 2005. For the geriatric specialist the realizing of the recommendations also posed a problem. The main stumbling block remained the lack of interest among MDs in pursuing this recognized medical specialist field. Traditionally it has tended to be a training that is followed by MDs who are rather older than the newly graduated. The present labour agreements for medical trainees makes it less attractive for them to embark on yet another training course. Due to the rise in the numbers of recently graduated MD in search of further training positions, it is anticipated that in the future we may well see increased interest in geriatrics as a potential career path and area of specialization.

All in all it may be concluded that the recommendations made by the Advisory Committee are recently better followed. The sector has now become familiar with the phenomenon of receiving recommendations on the desired intake rates. In fact in the past five years there has hardly been any overstepping of the recommended intake maximums. The consequences of previous exceeding of the stipulated intake limits have been exposed in various medical specialization groups, a fact that has been accentuated by the rising retirement age and the rising average fte, especially among female medical specialists. What is at present uncertain is quite what an influence these developments will have upon the influx of medical specialists in possession of foreign qualifications and the outflow of specialists moving abroad.

3.3 Basic and subsequent oral healthcare training

The intake recommendations made by the Advisory Committee in relation to dental care do not have a very long history. The first time that directional recommendations were given in this domain was in 2009 and this was followed by the first integral recommendations in 2010. In order to give the reader an impression of the recent developments in the four related professions the inflow statistics since 2005 are presented in Table 13 below. The recommendations of 2009, in relation to primary dental care, had clearly demarcated lower and upper range limits.

Table 13: Recommended and realized intake in the case of the dental care sector

Follow-up courses	2005	2006	2007	2008	2009	2010	2011	2012
Recommendations								
Dentists	-	-	-	-	-	314 to 466	314 to 466	374
Oral hygienists	-	-	-	-	-	333 to 413	333 to 416	358
Dental surgeons	22	15	15	15	13	13	16	16
Orthodontists	16	9	9	9	9	9	9	9
Realization								
Dentists	300	300	270	240	240	240	240	240
Oral hygienists	300	300	300	300	300	300	300	300
Dental Surgeons	13	9	15	11	13	13	16	16
Orthodontists	13	6	13	6	13	5	13	5

Source: NMT/RGS

What is absolutely clear is that as of 2005 the recommendations concerning the intake levels for the recognized statutory course paths leading to the profession of dental surgeon or orthodontist were strictly adhered to by the Ministry of HWS, educational institutions and educators (yet in three years the limits were still overstepped). That was not, however, replicated in the case of the two basic training courses provided for dentists and oral hygienists where the following of recommendations depends more on the Ministry of Education, Culture and Science. It may be concluded that in the case of both basic training courses the inflow since the potential coming into effect of the recommendations (in 2010) has undergone no change whatsoever. As a consequence, in conformity with the Advisory Committee's expectations, the numbers of Dutch dentists working in the field will drop in the coming years which means that the already substantial influx from abroad will only continue to grow.
The oral hygienist substitution pattern that the government had hoped would become widespread will be hampered by the relatively small future domestic workforce on the one hand and the not so positive attitude to oral hygienist substitution on the other hand as far as dentists coming from abroad are concerned.

It may be concluded that the inflow recommendations for the two traditional further education courses leading to the professions of orthodontistry and dental surgery have been respected. Meanwhile this has led to a balance between demand and supply in this area of the dental care sector. In the far larger domain of primary dental care the experts have now reached a consensus on what constitutes a desired intake situation for people training to be dentists and oral hygienists so that a certain equilibrium can be found between the demand and provision. This consensus, which

was laid down in two consecutive recommendations, has not yet led to ministerial adjustments concerning the inflow numbers for dental degree course training and/or oral hygienist training courses. Because of this the influx of foreign dentists has risen in the past years culminating in more than 250 in the year 2012.

3.4 Basic and follow-up mental healthcare professional training

In the past, the inflow into the various training courses was not well enough monitored to be presented in this report. There were two main factors accounting for this situation. On the one hand there was a partial failure to centrally record matters in education registers whilst on the other hand people were able to embark on training courses without HWS subsidies. For the educational institutions it was even possible to have the course expenses reimbursed through the health insurance authority or to allow the course participants to pay out of their own pockets. Table 14 presents the figures from 2009 onwards: the first year in which the statistics may confidently be claimed to be completely reliable for all five professional areas. For the first directional sub-recommendations of 2011 it is – contrary to what is customary – the year 2012 that is taken as the year of implementation because otherwise no recommendations for this sector could be presented in this report.

Table 14: Recommended and realized inflow for the mental healthcare professions

Profession	2009	2010	2011	2012
Recommendations	-	-	-	
AHA psychologists	-	-	-	960
Psychotherapists	-	-	-	160
Clinical psychologists	-	-	-	230
Clinical neuropsychologists	-	-	-	8/16
NP-AHA*	-	-	-	160
Realization				
AHA psychologists	790	894	737	792
Psychotherapists	132	115	117	171
Clinical psychologists	100	32	82	46
Clinical neuropsychologists	0	17	0	13
NP-AHA*	60	85	114	102

Source: Interim recommendations 2011, CONO, LOGO
*: three-year Nurse Practitioner (NP) Area Health Authority (AHA) training

The first recommendation guidelines dating from 2011 reveal two striking deviations in recent years concerning what was actually happening in practice. In the first place it would appear that the sector was not allowing enough AHA psychologists to embark on formal training courses. A possible explanation for this might well reside in the fact that the HWS Ministry subsidizes between 460 and 470 new inflow places each year. The remaining 320 inflow places have to be financed by the sector in a different way. What is also noticeable is the fact that the intake level for clinical psychology has fallen behind what was expected. Here, too, it may be asserted that the subsidy made available by HWS (47 to 102 places) lags behind the recommended 230 places. Furthermore, the sector has made no move to train more than the subsidy level allows either.

It is possible to train as a Mental Health nurse practitioner by completing a three-year training at the national VS-GGZ education institute in Utrecht that is separately subsidized by the Ministry of HWS. A two-year training leading to an Advanced Nursing Practice (NP) master's degree and a specialization in Mental Health obtainable from one of the nine universities offering applied sciences also qualifies people to work as nurse practitioner specialists within the Mental Health organization. Such trainings are subsidized by the ministries of Health and Education. During the last 5 years the two-year training has had an average annual inflow of 32 course participants and an annual output of around 28 fully qualified mental health nurse practitioners.

The government is keen to stimulate job reorganization and so the introduction of nursing trainings specifically geared to the mental health branch is just one such avenue. It is for that reason that a liberal policy has been adopted in relation to the intake capacity. The high intake rate seen in 2011 and 2012 was largely attributable to a temporary ruling that made it possible for Social Psychiatric Nurses (SPV) with a number of exemptions to easily complete a shortened Mental Health Nurse Practitioners training at the above-mentioned national institute in Utrecht.

When one reviews the educational field as a whole it may be concluded that the intake level varies from year to year and that there really are no detectable fixed patterns or trends in these intake rates. This is attributable to the fact that up until now the situation was dominated by the various course intake conventions that were predominantly based upon historical precedents, the budgetary capacities of institutes, initiatives unfolded by educators and course-makers and the different ambitions and financial capacities of the ministries. The situation had evolved in this way because of a lack of adequate quantitative information on both the provision of care and the demand for mental health care. It is, however, anticipated that in the years to come the Advisory Committee will manage to regulate the inflow (or allow it to be better regulated) on the basis of all the different studies that have recently been carried out.

3.5 Basic medical training

What is also mentioned in the Advisory Committee statutes is the matter of making recommendations within the field concerning the desired undergraduate and postgraduate intake numbers into medicine studies. The reason why that component is included in the statutes is because any recommendations made concerning inflow into recognised further medical training courses can only ever be effected if there are enough MD graduates to fill those places. Also in the case of these recommendations the realization will partly depend on a number of other actors. In the first place one has to consider the Ministry of Education, Culture and Science which, in annual consultations with the Ministry of HWS, considers exactly how many places can be secured and subsidized for the new batch of medical students. Then there are the considerations of the eight universities which have the duty to fix a maximum limit for each of their courses of study in conjunction with predicted capacity problems or quality issues (such a kind of capacity indicating is known colloquially in the Netherlands as the numerus fixus). In the case of a number of studies, medicine included, the numerus fixus has been implemented for some 40 years. Finally there is the variable of the prospective students themselves with their differing studying interests. In reality, in the case of the medical undergraduate group, it is the numerus fixus that forms the biggest bottleneck. In addition to this it is especially quantitative

problems in the initial phases of the study that play a part. When it comes to the second studying phase there are then both quantitative and qualitative problems surrounding the availability of in-course training places in medical practices. Table 15 specifies the recommendations and the intake realizations in relation to medical studies since the year 2002. In the case of these recommendations the time that elapses until implementation is one year.

Table 15: Recommendations and realization in relation to medicine studies

	02	03	04	05	06	07	08	09	10	11	12
Recommended*	2,850	2,850	2,850	2,850	2,540	2,540	2,540	2,700	2,700	3,100	3,100
Realized*	2,631	2,974	2,991	2,948	2,893	2,827	2,851	2,807	2,800	3,050	3,050

Source: VSNU (i.e. Association of Dutch Universities)
*: including horizontal intake in the fourth year

The table shows how since 2002 the Advisory Committee's recommendations have fluctuated between 2,540 and 3,100 while each year the actual inflow between 2003 and 2010 continued to fall. In 2010 the Minister decided to structurally increase the intake. This means that since 2011 the inflow has been higher than in previous years.

The falling numbers of students embarking on the field of medicine is more than compensated for by the increasing internal yields seen in these studies which have risen from 81% in 2005 to 90% in 2013. The increased return on training can partly be explained by the mid-term filling of places that become vacant during the first degree year, partly through the 95% efficiency of horizontal inflow that occurs in the fourth year of the degree course and is, finally, also in part attributable to the actual improvements in the return on training being seen among medical students.

The Advisory Committee's recommendations concerning the required intake levels for medical studies have been changeable. With the exception of in 2010, the recommended intake turned out to be lower than the level actually achieved within the medical faculties. The Advisory Committee maintains that in this way a too large reserve of newly trained doctors ready to embark on recognized subsequent studies has been created.

The issuing of recommendations on the desired intake for medical studies is altogether a tricky business because it takes minimally 6 to 7 years for the corresponding recommendations concerning subsequent recognized medical training courses to be matched up. At the same time, the inflow of MDs with foreign qualifications has to be accounted for, a level which between 2003 and 2013 was seen to fall by 280 per year. The sole aim of the intake recommendations made for medical undergraduate numbers is to guarantee a functional reservoir of MDs who are able to filter into a range of recognized follow-up training courses. Hence the reason that it is so important to also gather information on the magnitude of this reservoir. What emerged from two identically executed studies was that the reservoir of newly trained MDs interested in pursuing recognized follow-up medical studies was 3,719 in 2009 and 4,670 in 2012. That meant that in the space of three years, with 918 newly graduated doctors, the reservoir had grown by 24.8% whilst the inflow into recognized subsequent medical courses of study had also grown. The Advisory Committee maintains that the size of this reservoir is

too great. A safety margin of 1 intake year, that is to say, approximately 2,700 graduating MDs is more than sufficient to compensate any fluctuations in the numbers of graduate MD seeking to pursue their medical careers in various recognized directions. That means that 1,900 graduate MDs can be drawn from the reservoir. Working on the basis of a 90% return on training level this intake then needs, in absolute terms, to be divided by 0.9. So 1,900 divided by 0.9 is 2,100 incoming medical students. The only point of discussion then remaining is: over what period of time must this shrinking of the reservoir be realized.

3.6 Nursing practitioner specialist and physician assistant courses

In the past, the Advisory Committee has received no formal requests from the Ministry of HWS to produce prognoses for the inflow into the nurse practitioner training courses (except for in the case of the VS-GGZ, the three-year mental health NP training) and/or for physician assistants. It is, however, important for the Advisory Committee to do this. When it comes to exploring the scenarios in which medical specialists can be substituted either by nurse practitioners and/or by physician assistants it is important to possess details both on the relevant training and the relevant intake levels into the profession. The feasibility of such future scenarios also needs to be tested. Table 16 gives an impression of both the NP and the PA training course intake levels whilst also indicating the exact numbers in employment.

Table 16: Intake for the NP and PA training courses plus the numbers of registered/qualified NPs and PAs

Professional group year	2005	2006	2007	2008	2009	2010	2011	2012
NP: horizontal intake	217	224	249	281	272	278	263	353
NP: numbers in employment	177	247	387	517	667	883	1,091	1,306
PA: horizontal intake	102	74	78	108	127	128	132	156
PA: numbers in employment	-	15	32	78	149	218	271	348

Source: Dutch Higher Education council

The numbers in employment in relation to the numbers of students demonstrate that in the next few years both professional groups will grow relatively fast. The Ministry of HWS has already indicated that it will continue to encourage intake rates in both professions in the years to come. Further expansion is foreseen for 2013. In its 2010 Planning Report the Advisory Committee recommended that the number of training places for these professions should be allowed to rise to 650. In recent times, the academic associations have indicated that it is not so much the available subsidies for the dictated intake levels but rather the available practical training places that may well turn out to be a limiting factor in the case of these two training courses.

It may be concluded that the nurse practitioner and the physician assistant professions have witnessed enormous growth in the last three years; in both groups the staff numbers have roughly doubled. It is anticipated that both professions will still continue to grow for a while. One point of concern remains the creation of sufficient training places and employment positions, especially in hospitals.


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4. The future healthcare demand

4.1 Introduction

When the Advisory Committee plans the future workforce it is the expectations concerning developments in the demands for healthcare, in combination with the current healthcare demands, that form the basis for the calculations. At the same time, efforts are made to test whether the current demands for healthcare and the current healthcare provisions are well balanced. If signals are picked up indicating that there is any kind of imbalance between the demand and supply situation then the demand will be corrected by implementing the unmet demand parameter. In this case the demand and provision of healthcare will be expressed in terms of the professional practitioners' ftes.

It may furthermore be stated that the way in which the healthcare demand evolves emerges from an interplay of demographic, epidemiological and socio-cultural developments and projections. The relevant data is collected from numerous registration lists and the consequences arising from all the conclusions drawn are then presented to the experts in the field. Policy initiatives originating from the government and/or the parties in the field are included in the socio-cultural developments parameters. The ultimate growth or shrinkage percentages are determined on the basis of consensus on the part of experts. In a number of instances it will be a certain range that will be considered rather than a points system estimation framework because there are too many uncertain factors.

The next stage involves adjusting the healthcare demand to the modifying developments within the work process. This links up with matters such as efficiency gains, management, profession-intrinsic developments, changes in working hours, horizontal substitution and vertical substitution. It is especially the vertical substitution parameter that influences how the required number of healthcare demand ftes develops. The Advisory Committee's standard procedure is to calculate nine possible scenarios per professional group, chiefly to give an impression of the impact that certain assumptions would have upon the actually required capacity.

In 2010 the Ministry of HWS asked the Dutch Bureau for Economic Policy Analysis to assess whether the estimates presented in the Committee's 2010 Advisory Planning Report were in fact plausible. That bureau concluded that the estimates were plausible provided that the current rising trend in healthcare expenditure is accommodated from a policy-making point of view. By means of extrapolation the Bureau projected that the healthcare demand would increase by 2.4% per year while that Advisory Committee adheres to an annual rise of 1.7% to 2.2%. The Advisory Committee's projections were lower than those of the Bureau for Economic Policy Analysis because the experts do not solely extrapolate when making their predictions and they also integrate new developments. The 0.5% discrepancy shown in the range calculated by the Advisory Committee is especially attributable to whether or not vertical substitution is introduced in the various scenarios. The Bureau recommended that the Committee should consider introducing macro-economic counterforces into the model, such as the financial means that are actually available.

One study conducted by SEO Economic Research arrived at the conclusion that it is impossible to model such macro-economic counterforces in isolation of the trends already included in the available

parameters. Indeed, to a degree that is also visible in these estimates. The uncertain future variable has bearings on such matters as: the extent of present and future healthcare provisions (more ftes on average among women, the later retirement age), the demand, notably the unmet demand (falls in large pockets of the healthcare demand sectors) and upon the work process (the shrinking socio-cultural parameter). The SEO Economic Research advised that the healthcare demand aspect should be more clearly elucidated by including the sum total of the growth percentages, upon which the calculations ultimately depend, in the main annual report. The Advisory Committee can then compare those results with the Bureau for Economic Policy Analysis's expectations with regard to the rise in the healthcare demand. At present the Advisory Committee works with a number of sub-percentages for all the individual parameters. In the section below the results of this practice will be presented and structured in much the same way as was done in Chapter 2. The NP, PA and General Practice Nurse intake levels will not be included in this chapter. Those professions will be examined in Chapter 6.

4.2 Medical professions

In Tables 17a en 17b the unmet demand and the total annual rise in the healthcare demand for the bottom and top of the selected range will be presented for each of the medical specializations. The top end of the range usually derives directly from not including vertical substitution in the scenario whilst that is included in the lower end. The percentages given are adhered to in the sub-reports concerning the 2013 projections. There the specific percentages are described per parameter and per professional group.

Table 17a: The unmet healthcare demand and the annual rise in the demand for healthcare based on the lower and upper limits of the range in terms of percentages; medical specializations

Medical specializations	Unmet demand for healthcare	Healthcare demand rise with substitution	Rise in demand without substitution
Anaesthesiology	2.0%	2.20%	2.80%
Cardiology	0.0%	2.26%	2.86%
Cardio-thoracic surgery	0.0%	1.53%	2.39%
Dermatology and venereology	1.0%	2.84%	3.15%
Surgery	0.0%	1.63%	1.90%
Internal medicine	0.0%	2.28%	2.89%
Ear, nose and throat (ENT)	0.0%	1.22%	1.47%
Paediatrics	1.0%	1.00%	1.24%
Clinical genetics	2.0%	3.82%	4.17%
Clinical geriatrics	10.0%	5.95%	6.84%
Respiratory medicine	0.0%	2.31%	2.92%
Gastroenterology	15.0%	3.45%	4.15%
Medical microbiology	1.0%	2.32%	2.61%
Neurosurgery	1.0%	1.59%	2.15%
Neurology	0.0%	2.04%	2.63%
Nuclear medicine	2.0%	3.02%	3.34%
Obstetrics and gynaecology	2.0%	1.63%	2.19%
Ophthalmology	2.0%	1.62%	2.49%
Orthopaedics	2.0%	2.40%	2.70%
Pathology	1.0%	2.36%	2.66%
Plastic surgery	15.0%	1.92%	2.20%
Psychiatry	1.0%	1.11%	1.63%
Radiology	0.0%	2.96%	3.28%
Radiotherapy	1.0%	3.04%	3.36%
Rheumatology	7.5%	3.18%	3.50%
Rehabilitation medicine	2.0%	1.72%	2.29%
Urology	0.0%	1.79%	2.36%
Clinical specializations on average		**2.10%**	**2.61%**
General practice medicine	0.0%	2.41%	3.37%
Specialists in geriatric medicine	8.0%	0.95%	1.59%
Specialists for the mentally disabled	17.0%	1.86%	2.14%
Employment & Health social medicine	0.0%	-0.84%	-0.10%
Social & Healthcare Medicine	0.0%	3.15%	3.46%

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Table 17b: The unmet healthcare demand and the annual rise in the demand for healthcare based on the lower and upper limits of the range in terms of percentages; medical specializations

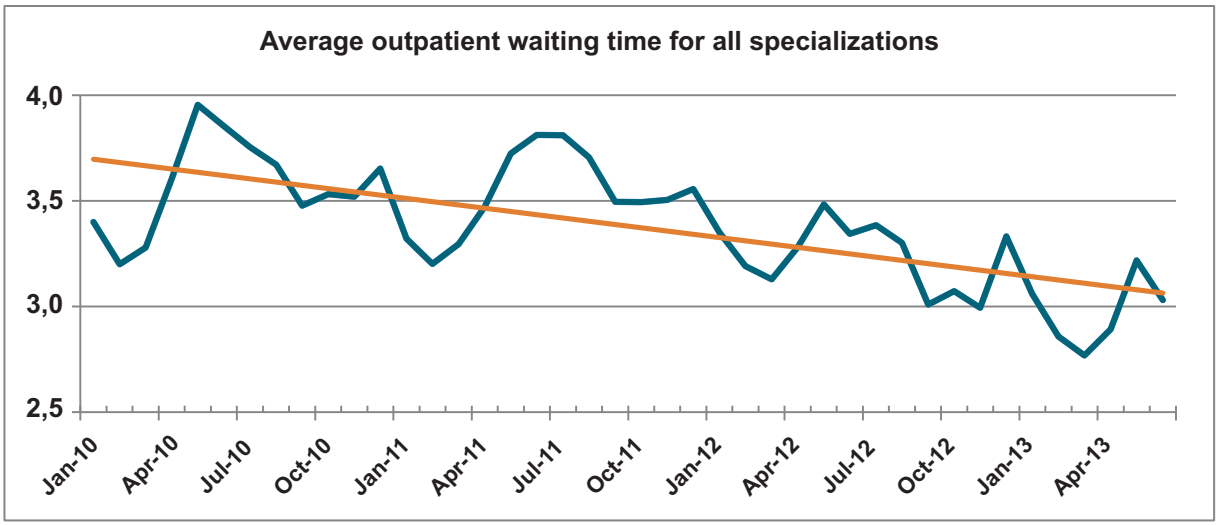
Clinical specialization/ profile	Unmet demand for healthcare	Healthcare demand rise with substitution	Rise in demand without substitution
Clinical chemistry	0.0	1.73%	2.01%
Clinical physics	0.0	2.26%	2.86%
Hospital pharmacy	2.0	2.64%	2.94%
Policy and recommendations profile	4.0	2.63%	3.10%
Profile: Forensic medicine	50.0	3.93%	4.10%
Profile: Infectious disease management	-4.3	7.63%	8.12%
Profile: Preventive youth medicine	130.2	1.88%	2.31%
Profile: Medical Environmentology	0.0	9.00%	9.00%
Profile: Medical evaluation and advice	4.0	5.13%	5.13%
The emergency first aid doctors profile	25.0	10.20%	10.79%
Profile: tuberculosis treatment	4.0	5.01%	5.40%

Source: NIVEL

In the case of the clinical specialist areas, the demand for healthcare in the actual scenarios, substitution included, is increasing by 1% to 2% on an annual basis in 11 specialist areas, by 2% to 3% in 10 specialist areas, by 3% to 4% in a further 5 specializations (clinical genetics, gastroenterology, nuclear medicine, radiotherapy and rheumatology) and by 5% to 6% in the case of clinical geriatrics. With the exception of radiotherapy, these six specialist fields have a reasonably high unmet level of demand in the 3% and higher category. The average rate of growth is 2.1% at the lower end of the range and 2.6% at the upper limit of the spectrum. In all of this it should be born in mind that at the time of the drawing up of these calculations the outcomes of the healthcare agreement were not known while the horizontal substitution parameter (of medical specialists by general practitioners) was probably estimated to be lower than it would otherwise now have been estimated.

The unmet demand for healthcare – with the exception of the above-mentioned medical specializations – has been given a lower estimate than in 2010. The indicators for this are the job vacancy situation, the signals relating to vacancies being difficult to fill versus the new professional practitioners who are difficult to place and the waiting times. In the course of 2013 the first signals that newly trained professionals were having difficulty finding immediate employment in their respective fields started to reach the Advisory Committee. Previously the Advisory Committee had established that the waiting times for patients' first visit to the outpatient clinic had been shortening in the last 3 years (see Figure 5).

Figure 5: Waiting time until the first outpatient visit for all specializations



Source: Mediquest

This graph may well indicate that the provision of healthcare seems to be exceeding the demand for healthcare. On the other hand it could alternatively be interpreted as an outcome of increased competition between hospitals. They do not want to 'lose' their patients to another hospital that happens to have shorter waiting times. It could otherwise be a direct result of waiting time intervention on the part of health insurers.

The growth in the level of the healthcare demand in GP practices, among specialists in geriatric medicine and specialists for the mentally disabled does not deviate from the growth in the healthcare demand among medical specialists. The highest anticipated rise in the demand for healthcare is in the general practitioner sector. That is something that is closely allied to the ambitions laid down by family doctors in their policy plan. In the GP sector a growth in demand of 1% per year is estimated for activities that could be taken over from clinical specialists.

Social medicine is more reliant on governmental policy than the two other sectors of cure and care. On the one hand it remains the only sector out of all the medical specializations in which partial negative growth is anticipated. This prediction is based especially upon pessimistic expectations concerning industrial healthcare. This main branch of the labour and health sector depends, in all respects, on an overall annual decline in the healthcare demand of 1.60% to 1.82%. In the developments foreseen for healthcare the socio-cultural parameter, which is largely policy-independent still stands at 0%. Depending on the reaction of the Dutch Ministry of Social Affairs and Employment following the recommendations of the spring of 2014 made by the Social and Economic Council of the Netherlands, this factor can be adjusted in either direction. Only after it has received these recommendations for the desired scenarios for industrial healthcare will the Advisory Committee decide upon suitable intake recommendations for the recognized follow-up medical training course in industrial medicine.

On the other hand, it is in the field of social medicine that the highest unmet demand exists, it is actually 130% in preventive youth medicine profile training within the Royal Dutch Medical Association. Compared to what the situation was like in 2010 the unmet demand has already dropped by 30%. It is in reality a catching up manoeuvre for a problem created by the new profile trainings combined with the large number of MDs already employed in the preventive youth healthcare sector who can be considered for this training course. After an initial phase of getting used to the idea, the sector finally took up this training challenge in 2010. Meanwhile they are working hard to do something to correct the demand for healthcare that still exists. There are of course limits to what educational institutions, educational establishments and educators are able to process in terms of capacity while all the day to day managerial operations continue.

Also the profile for A&E doctors is having to cope with a high level of unmet demand. What is involved here is the starting up of a new profession in a new profile. The anticipated growth in healthcare demand will partly also depend on initiatives emerging from the field so that on the one hand the number of A&E departments can be restricted while on the other hand the A&E inflow can be curtailed.

4.3 Dental care professions

In the dental care branch the dynamics of the healthcare demand developments are described according to four scenarios. On the basis of a policy-restricted scenario (the basic scenario) three variants of a trend scenario are first characterized. After that a growth scenario is described in which the healthcare demand could well rise in conjunction with the picking up of the economy. At the same time this scenario foresees a different and more differentiated role for the oral hygienist. It also caters for and anticipates a drop in demand scenario in which not only the demand decreases but dentists will realize less reshuffling of tasks thanks to the diminishing dental care turnover. These scenarios give a good idea of the uncertainty and margins accompanying course intake for the coming years. Ultimately all the scenarios were compared and the outcomes are presented in Table 18 below.

Table 18: The unmet demand for care and the annual increase in such demand as of 2031 and in percentages on the basis of a trend scenario, a growth scenario and a lack of demand scenario without a continuing trend

Profession	Unmet healthcare demand	Trend scenario	Growth scenario	Lack of demand scenario
Dentist	1.00%	-0.20%	0.10%	-0.40%
Oral hygienist	2.00%	3.27%	4.71%	1.53%
Dental surgeon	2.00%	0.62%	1.33%	0.06%
Orthodontist	1.00%	-0.29%	0.34%	-0.84%

These scenarios show that in all four dental care areas it is only the growth scenario that reflects growth. Both in the trend and the lack of demand for healthcare scenarios it is expected that net decreases in care demand will be seen for dentists and orthodontists. Orthodontists are facing slightly higher annual reductions than dentists. In both the trend and the lack of demand scenarios the annual changes are less than 1%, except in the case of oral hygienists. In two of the three scenarios the expected growth in the demand for healthcare provided by oral hygienists is more than 3%.

4.4 Mental healthcare professions

Within the mental healthcare professions there is confidence in all the vertical substitution developments. There is, however, less confidence in the future resilience of all the trends that have been set in motion. Hence the decision to allow the range in this sector to be determined by whether or not the trends described in the sub-report proves durable.

Table 19: The unmet demand for healthcare and the annual increase in the demand for care and in percentages on the basis of a realistic scenario with and without a continuing trend as of 2031.

Profession	Unmet demand for healthcare	Increased healthcare demand without a continuing trend	Increased healthcare demand with a continuing trend
Mental Health psychologist*	1.5%	0.94%	1.73%
Psychotherapist	1.2%	1.33%	2.59%
Clinical psychologist	2.9%	1.38%	2.56%
Clinical neuropsychologist	3.0%	5.16%	9.47%
Mental Health NP	1.6%	7.92%	16.24%

Source: NIVEL
*: growth in own profession excluding clinical psychologists and clinical neuropsychologists

Table 19 shows that the variant without a continuing trend displays more modest growth expectations than the variant with a continuing trend. At the lower end of the range, the increase in healthcare demand for the three most extensive professions was between 0.94 and 1.38%. For the two relatively new professions, Mental Health NP and clinical neuropsychology, the expected growth at the bottom of the range is higher than 1.5%. For the Mental Health NP that is linked to the work changes that will continue to be seen in the future. Also for clinical neuropsychology there will be a rise in the job description reshuffles but intrinsically the profession will change and grow as well.

4.5 Conclusions

In its 'Economic explorations for 2011-2015' report the Governmental Body for Economic Planning gives its most recent expectations for the medium to long term rise in actual healthcare expenses. The relevant growth percentages appear in Table 20. The report dates from 2010. The HWS Minister recently made a number of agreements with the field for the 2014-2017 period in which considerably lower growth percentages were laid down.

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Table 20: The 2011-2015 increase in healthcare expenditure according to the Dutch Bureau for Economic Policy Analysis (i.e. the CPB) and its testing of the Advisory Committee's 2010 Plans in accordance with the healthcare agreements

Divisions	CPB % growth report 2011-2015	CPB's 2010 testing of the Advisory Committee's Plans	Healthcare agreement: 2014/ 2015-2017	Lower end of the Committee's 2013 plans
Medical specialisations	4.00%	2.4%	1.5%/ 1.0%	2.1%
General practitioners	3.50%	2.4%	2.5%/ 1.5%	2.4%
Dentists	3.50%	2.4%		
Mental Healthcare	4.25%	2.4%	1.5%/ 1.0%	1.3%
Nursing and care	4.00%	2.4%		
Care for the handicapped	2.75%	2.4%		

Source: CPB/ VWS

Table 20 shows that the anticipated growth for the period leading up to 2031 lies between the level expected by the Dutch Bureau for Economic Policy Analysis and the growth recently agreed to between the Minister and the field for the 2014 to 2017 period. In most cases the growth level projected by the Advisory Committee in its lower range is closer to that agreed to in the healthcare demand agreement than the growth rate that was anticipated by the Dutch Bureau for Economic Policy Analysis in 2010. The right-hand column shows the difference between the agreed to maximum growth in the Healthcare Agreement and the expected growth at the bottom end of the range as presented by the Advisory Committee. If the outcome in this column proves negative then the Advisory Committee will adhere to a lower growth rate for the next 18 years at the lower end of the range than that negotiated in the Healthcare Agreement. The expected growth in healthcare demand among medical specialists is higher than the volume growth permitted by the agreement that has been signed. It should be noted that the healthcare developments foreseen in the Advisory Committee's estimates apply to the 2013 to 2031 period while the developments laid down in the above-mentioned agreement apply to the 2014 to 2017 period. Crucially, the healthcare estimates no longer have a bearing on the provision of medical specialization care that will be witnessed in the coming 6 years. Regarding dental care, specialist geriatric care and Specialists for the Mentally Disabled, no special provisions have been made in this agreement for these professional groups. It may be expected that according to the Advisory Committee the anticipated growth for the lower extremity of the range is, in all cases, lower than what was projected for 2010 by the Economic Planning Body. Only the rise in the demand for oral hygienists was estimated to be higher than the generic percentage of 3.5% adhered to for dental care by the Dutch Bureau for Economic Policy Analysis.

5. The recommended intake

5.1 Introduction

The required demand for 2031 is based on the existing level of provision outlined in Chapter 3 and the anticipated growth in demand for healthcare highlighted in Chapter 4, together with preliminary adjustments made for any possibly existing unmet demand. Such calculations are made for both the lower and the upper limits of the healthcare range. The Advisory Committee is then able to subsequently calculate the relevant required course intake level. The following three sections show the calculations for the upper and lower extremities of the ranges which, according to the experts, represent the two most likely scenarios. Whenever the Advisory Committee has a preference for one of the two presented scenarios the intake numbers in question are given in bold print.

5.2 Medical professions

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Table 21a: **The 2013 recommendations in relation to the annual medical specialization intakes. The upper and lower extremities of the range in question are presented**

Medical specializations	Lower end of the range	Upper end of the range
Anaesthesiology	78	96
Cardiology	50	62
Cardio-thoracic surgery	6	8
Dermatology and venereology	25	28
Surgery	65	72
Internal medicine	130	157
Ear, nose and throat (ENT)	18	20
Paediatrics	62	68
Clinical genetics	9	10
Clinical geriatrics	26	30
Respiratory medicine	34	42
Gastroenterology	22	29
Medical microbiology	16	17
Neurosurgery	4	5
Neurology	43	54
Nuclear medicine	9	10
Obstetrics and gynaecology	49	61
Ophthalmology	27	38
Orthopaedics	38	43
Pathology	21	23
Plastic surgery	15	17
Psychiatry	126	155
Radiology	59	65
Radiotherapy	18	20
Rheumatology	18	19
Rehabilitation medicine	27	32
Urology	20	25
Clinical specializations in total	1,015	1,206
General practice medicine	698	720
Specialists in geriatric medicine	**120**	128
Specialists for the Mentally Disabled	20	24
Occupational health doctors	(131)	(185)
Insurance health doctors	43	49
Specialists: Infectious disease management	15	19
Specialists: preventive youth medicine	21	22
Specialists: Medical Environmentology	3	4
Specialists: tuberculosis treatment	4	5
All other Social Medical Healthcare specialists	54	69

Table 21b: The 2013 recommendations in relation to the annual medical specialization intakes. The upper and lower extremities of the range in question are presented.

Clinical specialization/ profile	Lower end of the range	Upper end of the range
Clinical chemistry	15	16
Clinical physics	19	23
Hospital pharmacy	28	30
Profile: policy and recommendations	**17**	22
Profile: Forensic medicine	**22**	29
Profile: tuberculosis treatment	**15**	19
Profile: Preventive youth medicine	**112**	144
Profile: Medical Environmentology	**3**	4
Profile: Medical evaluation and advice	8	8
Profile: Emergency & first aid	42	45
Profile: tuberculosis treatment	**5**	6

Source:NIVEL/KIWA

Table 21 is confined to the intake recommendations for 2013. When compared with Table 12 it can clearly be seen that it was especially amongst medical specialists that the inflow in recent years far exceeded the present recommendations. This may largely be linked to the Advisory Committee's policy to, as of 2010, no longer view the influx of medical specialists from abroad as something self-evident for the near future and to automatically take that into account when correcting the Dutch educational intake. To a certain extent this is connected with the policy of the Ministry of HWS to adopt our recommendations both in 2008 and 2010 whilst ignoring the vertical substitution aspect or to, in other words, follow the uppermost extremity of the range spectrum. At the same time the intake into the nurse practitioner and physician assistant courses was increased, the intention there being to further stimulate vertical substitution. In view of the developments and agreements presented in Chapter 4 and the expectations in relation to all the healthcare demands, the medical specialists should consider whether they wish to opt for the lower limits of the range plotted. In the case of general practitioners and specialists for the mentally disabled no preference is shown for either extremity of the range. In the case of the geriatric specialists, though, a preference was voiced for the lower end of the range. The intake into recognized medical further training courses in the field of social medicine is something that is departing from the sheer of influence of the above-mentioned ministry. In the case of the main branch known as Employment & Health this is entirely the case whereas for the other main sector, Social Medical Healthcare, that is only partly the case. The main aim underlying the present defining of the situation is to allow people to gain a more accurate impression of the numbers of people entering medical faculties at the various universities.

5.3 The dental workforce professions

The four professions within the dental care sector have a recommended intake level corresponding to Table 22. Since the scenarios adopted vary a third column has been added to this table which includes the intake advice that matches the Advisory Committee's preferred scenario and is based upon the balance that should be achieved by 2031.

Table 22: Annual intakes in relation to the dental care professions. The upper and lower extremities of the range are presented together with the final recommendations

Profession	Lower end of the range	Upper end of the range	Final recommendation
Dentist	241	324	**287**
Oral hygienist	194	436	**309**
Dental surgeon	5	15	**11**
Orthodontists	5	13	**9**

Source: NIVEL/KIWA

The intake numbers quoted in the final recommendations (240 according to Table 14) deviate in absolute terms from the actual intake rate in the case of dentists. Much the same can be said to apply to dental surgeons (16). In their case the relative change is even greater. For all the professions, except for dentists, it should moreover be stated that currently the lower end of the range, which corresponds to the lack of demand scenario, is easily met.

5.4 The mental healthcare professions

All the mental healthcare professions have been integrally incorporated into the present estimates for the first time ever. In the last few years considerable research has been done into the parameters that are important for these projections. When the current healthcare demand is combined with the anticipated demand leading up to the year 2025 the table below emerges.

Table 23: Annual intakes within the mental healthcare sector presenting the upper and lower extremities of the range

Profession	Lower end of the range	Upper end of the range
Mental Health psychologist	**585**	655
Psychotherapist	**271**	295
Clinical psychologist	**245**	266
Clinical neuropsychologist	**20**	25
Mental Health NP	57	**87**

Source: NIVEL/KIWA

In the case of virtually all of the mental healthcare professions the Advisory Committee's preference lies predominantly at the lower end of the proposed range. The main reasons for this situation are these: the uncertain developments linked to shifts in the demand for healthcare, the question of which profession will have the main burden of responsibility for care (i.e. is ultimately answerable), the exact extent of the unmet demand and the number of intrinsic professional developments further described in sub-report 7. Only in the case of the nurse practitioner who has been specially trained for the mental health field will the intake recommendations deviate since there vertical substitution from the psychiatrist in the direction of the mental health is going to be implemented. Concerted effort will have to be made where training courses for clinical psychologists and psychotherapists are concerned if, by the year 2025, the projected healthcare demand in this aspect of the healthcare

market is to be met because there a massive outflow resulting from the high retirement rate to be seen in this ageing professional group is anticipated.

5.5 Conclusions concerning intake recommendations

Translating all the forecast changes in the demand for healthcare into intake recommendations produces few surprises. It is only in the case of clinical specialists that the intake recommendations have been considerably lowered. This trend is partly attributable to the fact that the numbers of specialists coming in from abroad has been taken into account but it can also be put down to the job vacancy level coupled with the difficulty that newly trained specialists have been having in finding suitable employment positions. The intake recommendations made for general practitioners, specialists in the area of geriatric medicine and doctors trained to deal with the mentally disabled deviate little from the recommendations made for 2010. When it comes to the matter of social medicine what is noticeable is the fact that no recommendations are produced concerning the inflow into the recognized medical follow-up training courses for industrial medical officers. That is partly dependent on the recommendations made by the Social and Economic Council of the Netherlands in conjunction with the policy developments introduced by the Ministry of Social Affairs and Employment in 2014. In the case of the professions where the training courses are subsidized by the Ministry of HWS it is expected that few to no changes will be seen.

By now considerable data has been collected in relation to the whole dental care sector. In the Advisory Committee's preferred scenario, the university intake level with regard to courses in dentistry should really be raised by providing a further 40 places. A possible side-effect of such a move might well be that the current substantial influx of dentists coming in from abroad would then start to drop. As far as the oral hygienist training is concerned there is also still some room for expansion, partly in connection with intake recommendations but partly also because the government is actively promoting vertical substitution in this area.

The mental healthcare professions are all subsidized/financed by a whole collection of different organizations, all of which makes it difficult for our recommendations to be followed. When the training capacity situation as a whole is considered there would seem to be evidence of a certain imbalance. For this reason we would urge training establishments, health insurers and the Ministry of HWS to enter into intensive negotiations so that ultimately coordinated action can be taken.


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6. The deployment of related disciplines (vertical substitution)

6.1. Introduction

As a consequence of the more autonomous developments being seen within the different professions and in the working process, the tasks of physicians and dentists are constantly changing, also in relation to colleagues from affiliated professions. These shifts in tasks can take the form of task delegation or substitution and can differ from team to team. For the Advisory Committee, task substitution is considered within the framework of the time freed up by physicians or dentists which can then be devoted to other work. In the literature there is a distinction between task substitution and suppletion. In the case of substitution, time is gained for other work because tasks have been delegated to another professional. Suppletion traditionally occurs when there is a rising demand for certain new services which have not previously been provided by physicians or dentists.

6.2. Nurse Practitioners and Physician Assistants

6.2.1 Features of the professions and trainings: Nurse Practitioner and Physician Assistant

Training

A two-year professional dual master's has to be completed before anyone can become a nurse practitioner (NP). These Master's degrees in Advanced Nursing Practice (MANP) can be followed at nine different universities offering applied science courses. To embark on such a training students have to be registered nurses and they must have completed the three-year Bachelor's Nursing programme. The MANP was introduced in 1997. The following specialisations are offered within the Master's programs and provide access to professional specialisation registration: somatic preventive, intensive, acute and chronic care. There is also a specialisation within the mental health branch. NPs wishing to enter the mental health can also opt to follow a three-year part-time program at an independent institute. A certificate from any one of these training programmes is sufficient to enrol as an NP for IHCP-registration.

A 2.5 year dual professional Master Physician Assistant (MPA) at one of five applied science universities has to be completed before one can become a physician assistant (PA). Before starting on such a training one must hold a relevant bachelor's degree within the field of healthcare (e.g. physiotherapy, nursing or ergo therapy). The MPA was first introduced in 2002. After having completed the training the PA can be registered in the Quality Register of the Netherlands Association of Physician Assistants (NAPA), this is strongly advised but not obligatory.

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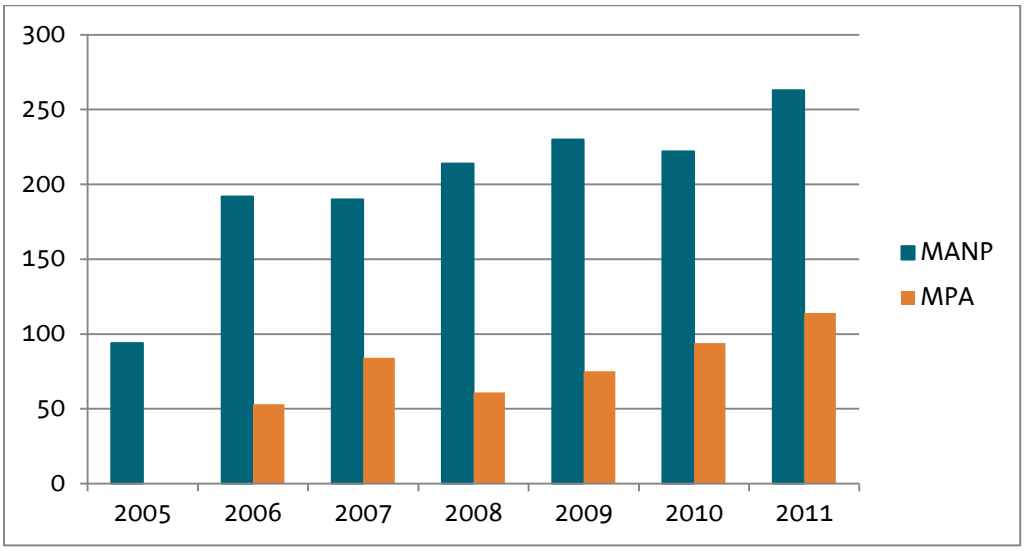
Figure 6: Numbers of qualified professionals emerging from the MANP and MPA courses each year.



The Ministry of Education, Culture and Science reimburses the educational costs for the applied science higher education institutes and the Ministry of HWS reimburses the salary costs (during the training) for both the MANP and MPA courses. Since 2008 the number of training positions for the MANP and the MPA combined has been fixed at 400. In accordance with the 2010 recommendations made by the Advisory Committee the number of training positions has been raised from 550 in 2013 to 700 in 2014.

Legislation and financial barriers

Two separate amendments to the IHCP Act were passed in the Dutch Lower House at the end of 2011 and came into effect on January 1st 2012 for an initial trial period of 5 years. As a result of these amendments both the NPs and PAs are now allowed to initiate and perform a number of medical tasks which had previously been the sole preserve of physicians. This means that in a number of areas NPs and PAs are fully qualified to substitute physicians.
In November 2012 a guide to implementing substitution under these new legal conditions was published by the Dutch professional organisation for Nursing, the Netherlands Association for Physician Assistants and the Royal Dutch Medical Association (KNMG)[3].

There are still several financial obstacles that need to be overcome in the rules concerning the financing of somatic care, alternatively known as Diagnostic and Treatment Combinations (DBC). The National Health Authority has identified the following four impediments[4]:

3 KNMG, V&VN and NAPA (2012). Implementation guide to substitution. Implementation of the IHCP Act to make substitution possible. Utrecht, November 2012.
4 National Health Authority (NZa) (2011). Advice on substitution in the somatic care and curative mental health care sectors. Utrecht, December 2011.

1) Differentiations between the fee and cost parts of the tariffs stated in the DBC. Staff such as NPs and PAs get paid from the cost part of the tariffs, but this component has been maximized and is usually completely consumed by the hospital. It is thus impossible to 'shift' the financial compensation from the fee to the cost part. From 1st January 2015 onwards, the difference between the fee and the cost components will be raised, thus simultaneously dispelling this obstacle.
2) The incumbent known as a 'port specialist', who is by definition a medical specialist, has been made responsible for the care given and is therefore also responsible for DBC registration.
3) The different types of healthcare professionals who can register patient visits at out-patient clinics are limited, because of the obligation that the 'port specialist' has to see the patient.

The National Health Authority has advised the Dutch government to extend the list of health care professional who can open a DBC. The authority has also recommended that obligatory face to face contact with a 'port specialist' should be supplanted by face to face contact with an IHCP registered healthcare professional.

Research on the NP and PA workforces

On January 1st 2012 there were 1,500 registered NPs and 400 registered PAs. These numbers are substantial enough to be able to publish findings on the workforce characteristics, workforce migration (between specializations) and the expected outflow. The Advisory Committee has carried out research among all Masters of Advanced Nursing Practice[5] and Masters of Physician Assistant alumni[6].

The most important indicators deriving from the research are shown below. It should be noted that the percentage of people who 'would like to work (possibly again)' also included respondents who had not finished their studies on the reference date of January 1st 2012 and who were therefore not yet working at that point.

Table 24: Indicators from the workforce research on MANP and MPA alumni.

Alumni MANP January 1st 2012	Alumni MPA January 1st 2012
88% still work within the profession	86% still work within the profession
8% would like to work (possibly again)	13% would like to work (possibly again)
4% do not want to work or have not yet decided yet	1% has not yet decided
92% registered as NP	85% registered as PA
79% female	63% female
average fte 0.85	average fte 0.93
66% work within hospital care	84% work within hospital care
attrition rate varies ranging from 1.8 to 3.5% per annum	attrition rate varies ranging from 2 to 3% per annum

The ratio of the numbers of NPs and PAs per 100 medical specialists can be calculated on the basis of the workforce research results. In Table 25 the top 5 medical specializations in which most NPs and PAs were working on January 1st 2012 are shown.

5 Kiwa Carity (2013). Alumni of the Master's in Advanced Nursing Practice. Utrecht, March 2013.
6 Kiwa Carity (2013). Alumni of the Physician Assistant Master's degree. Utrecht March 2013.

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Table 25: Number of working NPs and PAs per 100 medical specialists, January 1st 2012.

NP	PA
Cardio-thoracic surgery (24)	Cardio-thoracic surgery (20)
Specialists for the mentally disabled (15)	Neurosurgery (7)
Clinical geriatrics (14)	Clinical geriatrics (5)
Respiratory medicine (12)	Rheumatology (4)
Cardiology (11)	Rehabilitation medicine (4)

6.2.2 Research into the substitution ratio of nurse practitioners and physician assistants

Research derived from different healthcare sectors in different countries has demonstrated that substitution does take place and that it contributes to the experience and quality of care. Mixed results can, however, be found on the effects of the efficiency of quality of care. For the purposes of the Advisory Committee's model it is relevant to quantify the prevalence of substitution (in this case from physicians to NPs/PAs).

The substitution ratio reflects the percentage of physician tasks that can be taken over by another non-physician health care professional. American research dating from 1995[7] indicates that in older research actual substitution is often confused with tasks that could potentially be substituted. Following this critical observation the researchers then went on to analyse 12 studies on substitution and found that 30-70% of the tasks of physicians can be taken over by lower qualified professionals (e.g. NPs or PAs).

Valuable research has recently been done in the Netherlands into out of hours primary care (Laurant et al., 2013)[8]. For a period of 15 months a couple of GPs were replaced by NPs on weekend shifts. It was found that the NPs were able to do much of the work of GPs without any loss of experienced quality of care and at slightly cheaper rates than those of GPs (with less prescribed medication and fewer referrals to specialists). Furthermore there was a small positive effect on the experience of workload felt by GPs. It was calculated that approximately 75-83% of the tasks of GPs arising within out of hours primary care could be taken over by NPs.

Research on substitution ratios is scarce and can be carried out in different ways. It was this realization that prompted the Advisory Committee to seek advice by organizing an invitational conference. A group of international research experts experienced in the field of substitution were invited to debate on the best way to carry out research into substitution ratios. The conclusions drawn from this conference indicated that quantitative methods such as time-and-motion measurements should be complemented with qualitative insights into the impeding and promoting factors of substitution within any given context. When these different sources of information are combined something can be said about the different typologies linked to the contexts in which substitution occurs. It is more the combination of quantitative and qualitative methods that is able to indicate the direction rather

7 Richardson G. and Maynard, A. (1995). Fewer doctors? More nurses? A review of the knowledge base of doctor-nurse substitution. Centre for Health Economics, University of York, Working Papers #135. & Richardson, G., Maynard, A., Cullum, N. &Kindig, D. (1998). Skill mix changes: substitution or service development? Health Policy 45 (1998) 119-132.

8 Laurant, M. (2013). Out of hours primary care. International Innovation. Health Partnership, May 2013,pp. 119-121.

than a single substitution value. One direction of substitution is already being used by the Advisory Committee for substitution scenarios within the dental care branch. In the future the Advisory Committee intends to use scenario building within a system-dynamic model in order to indicate the substitution needs between health care professionals. However for the time being, in order to calculate substitution, a substitution ratio of 0.60 may be assumed to exist. This means that 1 fte NP or PA can substitute 0.60 fte physician.

It should be noted that within the NP and PA professional areas suppletion of new tasks can also be introduced (e.g. patient education). The problem, though is that these tasks are so intertwined with the other NP and PA tasks that it is hard to isolate them.

Table 26: Number of ftes of different medical professions substituted to other healthcare professions.

	Per annum	Difference in fte in 2025	Difference in fte in 2031
Medical specialists*	0.4%	1,000	1,675
General practitioners	0.6%	833	1,437
Social & Healthcare medicine specialists**	0.6%	310	465
Specialists in geriatric medicine	0.5%	100	162
Specialists for the mentally disabled	0.2%	6	10
Total		**2,249**	**3,749**

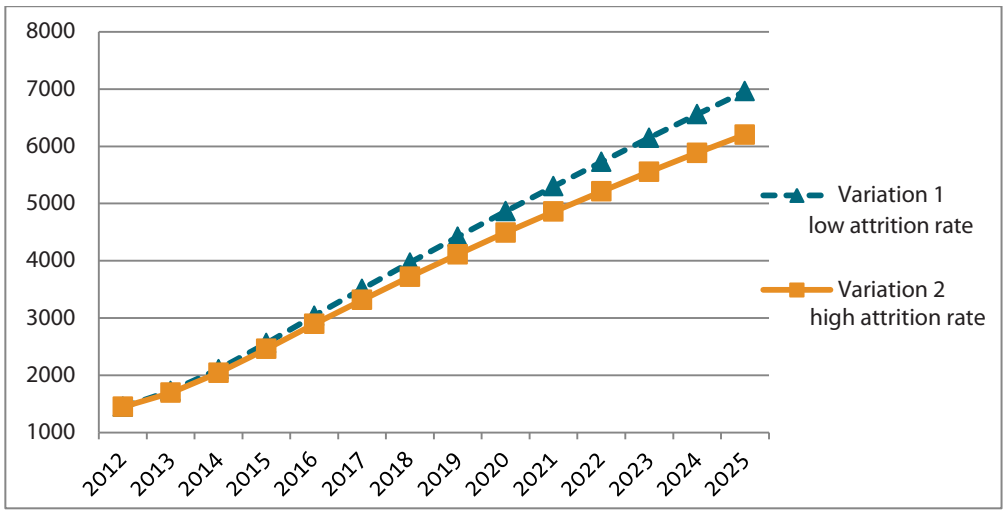
* Average of all medical specializations varies between 0.2% and 0.6% per annum
** Average of all specializations and profiles varies between 0% and 2% per annum

The difference in terms of medical ftes projected for 2025 to 2031 indicated in the table above will be substituted by NPs, PAs and general practice nurses, but possibly also by specialist nurses, GP assistants and other healthcare professionals[9].

Future numbers of nurse practitioners and physician assistants
As of January 1st 2012 there were 1,070 fte NP and 320 fte PA working in the Netherlands, in total almost 1,400 fte were filled by 1,800 persons. In view of the numbers of NPs and PAs who will be trained in the future (700 training places per annum) and if one furthermore considers the percentage of people who will leave the labour market then by 2025 approximately 5,450-6,110 fte (6,200-6,960 persons, see Figure 7) will be available. As indicated in Table 26 NPs and PAs substitute tasks previously done by physicians. Furthermore suppletion of new tasks not yet performed by physicians is also foreseen. The need for NPs and PAs, as calculated by the Advisory Committee on the basis of substitution, will be 3,750 fte in 2025 (2,249/0.6). A certain suppleting of tasks is realistic. In 2010 the Advisory Committee recommended that in total some 650 NPs and PAs should be trained per year. On the basis of the available research there is no reason to conclude this estimate was either too low or too high.

9 See: Van Offenbeek et al. (2007). Scenario development for the substitution and cost-effectiveness of new professionals in in-patient care. Wenckebach Institute UMC Groningen, 2007.

Figure 7: **Total NP and PA workforce for 2012-2025, calculated on the basis of a low (1.8%-2% p.a.) and a high (3%-3.5% p.a.) attrition rate and constant training capacity.**



6.3. General Practice Nurses

6.3.1. Features of the profession and training: general practice nurses

General practice nurses (GPN) are employed in most general practices in the Netherlands. Most of them are trained as GPNs for somatic care whilst a certain percentage has been trained as mental health GPNs. As of 2011 there are 13 institutes of applied science (higher vocational training) where post-bachelor GPNs certificates can be obtained. For people with lower vocational training the dual programme takes two years to complete whereas for those who have completed higher vocational training the dual programme only takes one year.

Through what is known as the 'Regional Support Structure' an estimate can be made of the numbers of GPNs working in the Netherlands at any one time. The number of general practices employing a GPN has risen from 6% in 2001 to 58% in 2006. In 2011 there were at least 4,694 GPNs in employment at 3,482 different general practices. The total number of ftes in 2011 was estimated to be 1,864[10].
By April 2013 there were an estimated 935 mental health GPNs[11]. The GPNs engaged in somatic care usually take over general, protocolled care from their GPs for the patient group with chronic diseases, while the mental health GPNs support, counsel and advise patients with psychological problems.
In 2012 there were approximately 30,000 support staff working in general practices and 24,000 of them were doctors' assistants. The other 6,000 were roughly composed of: 5,160 GPNs in somatic care, 600 mental health GPNs, 120 NPs and 34 PAs.

10 Nivel (2013). Knowledge question: General Practice Nurse ready for the future? Utrecht, 2013.
11 'Regional Support Structure, June 2013, personal contact.

6.3.2. Research into the substitution ratio of GPNs

In 2003 meta-analysis was conducted into the tasks of GPNs. The effort made by GPNs did not always directly contribute to reducing the workload of GPs. However, because the meta-analysis was based on a small volume of data, broader claims about the workload of GPNs could not be made. Even though the GPNs take over tasks from the GPs, the GPs gain extra tasks in return, such as having to coordinate the organization of and consultation with GPNs. What also became evident from the meta-analysis was that GPNs had a positive effect on the quality of care, adding their own expertise (suppletion) to the avenues of care (such as signalling problems, taking responsibility for prevention and informing patients). As stated in Section 6.3.1, the GPNs, like other support staff, take over various tasks from the GP and such suppletion is actually difficult to distinguish from this form of substitution.

6.4. Oral hygienists

6.4.1. Features of the profession and training: oral hygienists

Since 2002 the four-year bachelor's programme in Oral Health Care trains oral hygienists. Previously the training was two years long, then it was lengthened to three years in 1995. The tasks of oral hygienists are laid down in an IHCP-Act amendment[12]. That amendment stipulates both the requirements for the training and the exact area of expertise of the oral hygienist. The oral hygienist is an expert in the field of prevention and takes on tasks designed to prevent the deterioration of teeth and the surrounding gums. The tasks include primary prevention for all dental care, as well as the secondary and tertiary prevention of paradontology and caries, including caries diagnostics. The oral hygienist can perform a number of dental responsibilities independently, e.g. local anaesthetics (injections), if commissioned by and done under the supervision of a dentist. Based on several research outcomes, it is estimated that on by 1st January 2013 there were 3,200 oral hygienists working in the Netherlands.

6.4.2. Research into the substitution ratio of oral hygienists

In an endeavour to determine the amount of substitution that takes place between dentists and oral hygienists, the Advisory Committee commissioned research into this matter in 2009 and 2010. Following these studies no new information emerged to contradict the established 15% substitution rate in relation to the tasks taken out of the hands of dentists in the space of the ten years in question. PhD research dating from 2012 has confirmed that substitution does take place, though not to the degree advised by the Oral Healthcare Innovation Committee in 2006[13]. The factor substitution will thus remain at 15% for ten years for dentists, 7.5% of which will go to the oral hygienist and 7.5% to prevention assistants.

12 AMvB, AMvB Resolution, the Oral Hygienist resolution of 21st February 2006, Bulletin of Acts, Orders and Decrees, Issue 106, no. 147.

13 Jerkovic-Cosic, K. The relationship between Profession Development and job design or redesign: the case of dental hygiene in the Netherlands. Rijksuniversiteit Groningen. Groningen. 2012

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6.5. Policy developments

Professions evolve over the course of time. Some developments lead to the broadening of a profession while others lead to specialization. These types of developments take place in professions at all educational levels. If a GP, for example, wants to take on new tasks, he or she will have to drop other tasks. First of all he or she can explore whether the original tasks could possibly be done by a professional with a lower educational level without loss of quality of care. Loss of quality of care can be prevented by specifying the tasks in a protocol which can be used by other healthcare professionals. Sometimes substitution can enhance the experience of the quality of care as experienced by patients as they might have the feeling that the NP, PA of practice nurse spends more time and/or pays more attention to their problems than a GP might do. In that way a situation can be created in which the patient, the GP and the lower educated health care professional all stand to gain.

The Dutch government wants to stimulate career options for all health workers in hospital care, in nursing, dental care and mental health. In these sectors new policy developments in the field of substitution are stimulated. That is something that has become clear from experiments conducted in new professions, from legislation and from amendments made to existing laws. Sometimes, however, policy is not properly aligned .
The climate for substitution is, for example, strongly influenced by actual shortages or experienced physician shortages. Indeed, the PA was introduced in the United States during the Korean War because there was a shortage of army physicians. A small perceived shortage stimulates the development of professions such as the NPs and PAs. The parameters for vertical substitution were higher than average for social medicine and for specialists in geriatric medicine because there is a slight shortage of these types of physicians. In those areas the climate for substitution is therefore positive. For medical specialists, however, the climate is less positive. In 2008 and 2010 the government chose the ACMMP scenarios where substitution was not taken into account. That meant that relatively too many medical specialists were being trained, because possible NP or PA substitution was not being taken into consideration. When there are enough medical specialists the need for substitution tends to be ignored. This situation is further accentuated by the fact that there are no shortages of physicians with a couple of exceptions here or there. Another influencing factor is the agreements laid down in what is termed the Care Contract that has been made between the government and healthcare bodies. Part of the agreement states that the growth in the activities of medical specialists should be limited to 1.5-1% per year for the next four years. For the reasons stated above, the ACMMP will take into account vertical substitution when advising on the medical specialist training intake levels.

The Netherlands is not an isolated country. There is free movement of people, goods and services within the European Union. The annual influx of healthcare professionals into the Netherlands with a foreign diploma is, however, relatively small. Only among medical specialists (170 per annum) and dentists (220 entries in the IHCP-register, some 50% of whom are working in the Netherlands) is there a steady annual inflow of more than 5% of the total annual influx. Professionals from abroad usually have different views in relation to vertical substitution. This may be due to the fact that in the country they come from the professions we have to which tasks get substituted do not exist or it could be because the culture surrounding substituting is different. This provides an extra challenge

for the government when seeking to effect its policy on substitution. If the influx of professionals with foreign diplomas is too high within a certain profession then the climate for substitution will be unfavourable. If, however, the influx is too low then the demand for physicians will rise and the influx from abroad will immediately rise as well to the detriment of healthcare professions to which tasks are substituted.
From a policy point of view, the influx into medical and dentistry training programmes should be aligned with vertical substitution ambitions by raising the influx in the training courses for NPs, PAs and oral hygienists and introducing a 3 to 4 year delay. Then the policy decisions will match seamlessly.

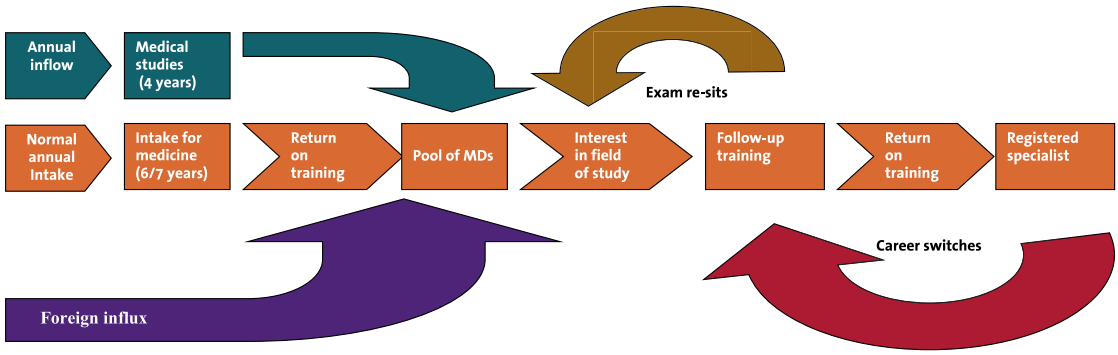
7. Recommendations concerning basic medical training

7.1 Introduction

It is also from a statutory angle that the Advisory Committee highlights the required Doctor of Medicine (MD) capacity requirements. The Advisory Committee then produces recommendations which are presented to the Ministry of HWS. The underlying aim of such advisory policy is to guarantee that at the appropriate time there is a big enough pool of MDs to realize the projected inflow into the various recognized subsequent medical training courses. The reality of this situation is that only after 2+7=9 years will the initial recommendations given for the MD intake rate in any one year be seen to pay off in terms of the numbers of available MDs, whilst in the case of the recognized further training paths this will already start to have an effect on the numbers of available MDs after only 2 years. Fluctuations in the intake recommendations produced for the recognized medical follow-up training will lead to greater or lesser MD requirements. It is partly for that reason that it is logical to maintain a reservoir of MDs. That reserve pool will rise or drop in accordance with the shrinking or expanding outflow into the recognized medical further training paths varying in relation to the numbers of MDs entering that same reservoir.

The inflow into the MD reservoir is not solely composed of medical students. In the last few years the Advisory Committee has requested that research be done into the origins of the MDs who have, in recent times, been entering the various medical follow-up training areas. The different types of MDs are schematically represented in Figure 8 below.

Figure 8: Inflow into the reservoir of Doctors of Medicine wishing to embark on recognized further training courses



In the first place there is the group of MDs who might well have previously gained master's degrees in medicine somewhere in the Netherlands. These MDs may well have gained their medical degrees either through the normal annual inflow channels of through the annual horizontal intake channels. Due to a number of different measures that have been taken in recent years, the internal yield or educational returns, in terms of normal medical training courses, has gone from 81% to 90% in relation to the numbers of medics embarking on such studies. In the case of students who enter medical school via horizontal intake programmes, the return on training is above the 95% level.

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Alongside these two intake possibilities there are also the Doctors of Medicine coming into the Netherlands from other countries (usually elsewhere in Europe) who then endeavour to secure for themselves training places at one medical school or another somewhere in the country. What is new is the fact that there are now two other 'sources' of intake into recognized follow-up medical trainings that are coming into the picture. In the first place there are the MDs who terminate their originally chosen area of subsequent training in favour of moving into another field. In the second place there is the phenomenon of registered specialists who decide to switch mid-career and embark on an alternative follow-up training. What emerges from the studies carried out into this matter is that there is a fairly high proportion of MDs drawn from the last two mentioned categories who are now manoeuvring into a number of training areas. Table 27 shows the numbers of MD trainees according to their original fields of study. It simultaneously reflects the normal intake channel combined with the horizontal intake flows.

Table 27: MD trainees origins according to intake year

	2005	2006	2007	2008	2009	2010	2011	2012
Normal intake/horizontal intake	1,616	1,640	1,596	1,637	1,763	1,683	1,997	2,118
Foreign Doctors of Medicine (MDs)	17	53	48	29	24	37	44	31
Former medical trainees/specialists	108	134	129	117	125	130	130	151
Total	**1,741**	**1,827**	**1,773**	**1,783**	**1,912**	**1,850**	**2,171**	**2,300**

Source: RGS

What can clearly be seen from this table is that on average 6% of the incoming medical research students have previously started out on similar research studies which they may or may not have successfully rounded off. This group does not therefore need to be included in the calculations concerning the required intake into the basic or initial training courses as they have previously completed such courses. Either through the adjustments made for return on training or, as the case might be, the exit opportunities for specialists, they have been freed up for further training places. On an annual basis a further 35 Doctors of Medicine, on average, enter as trainee from abroad with qualifications gained elsewhere.

7.2 Recommended intake for further medical training enter as trainee

Chapter 5 provides the necessary recommendations in relation to the required intake levels for the various recognized medical follow-up training courses that will create a complete balance between the demand for care and the provision of care that should be achieved by the year 2031. Depending on the extent to which vertical substitution is implemented, the intake recommendations will look something like this.

Table 28: The entire range of recognized further medical training course intake recommendations for 2013

Profession	Entire range	
Medical specialist	1.015	1.206
General Practitioners	698	720
Social medicine	271	353
Geriatric specialists	120	128
Doctors for the Mentally Disabled	20	24
Dental surgeons	5	15
The social medicine profile	182	232
The A&E profile	42	45
Total	**2,353**	**2,723**

The recommendations for the different sub-areas culminate in a total range of 2,353 to 2,723 medical professionals in research fields who, as of 2015, will be ready to filter into recognized medical follow-up courses. The recommendation made for 2010 was for 2,614 to 2,823 research trainees. These two guidelines relate to the entire MD intake right across the board for all the different fields. Within the field of social medicine, the HWS Ministry only at present subsidizes, through its Education Fund, the Royal Dutch Medical Association's infectious disease management profile, its preventive profile in youth medicine, its Medical Environmentology profile and, finally, the Royal Dutch Association's tuberculosis treatment profile, together with the related second phases of these training courses. If the social medicine courses that do not form part of the Education Fund are removed from this overview then some 228 and 303 intake places will disappear from the respective social medicine courses and 47 and 59 places respectively in the case of the profile courses. The number of recommended intake places that currently fall under the auspices of the Education Fund total, after corrections have been made for these figures, 2,078 and 2,361 respectively. In the vast majority of instances the preference expressed by the Advisory Committee lies at the lower end of the intake level range.

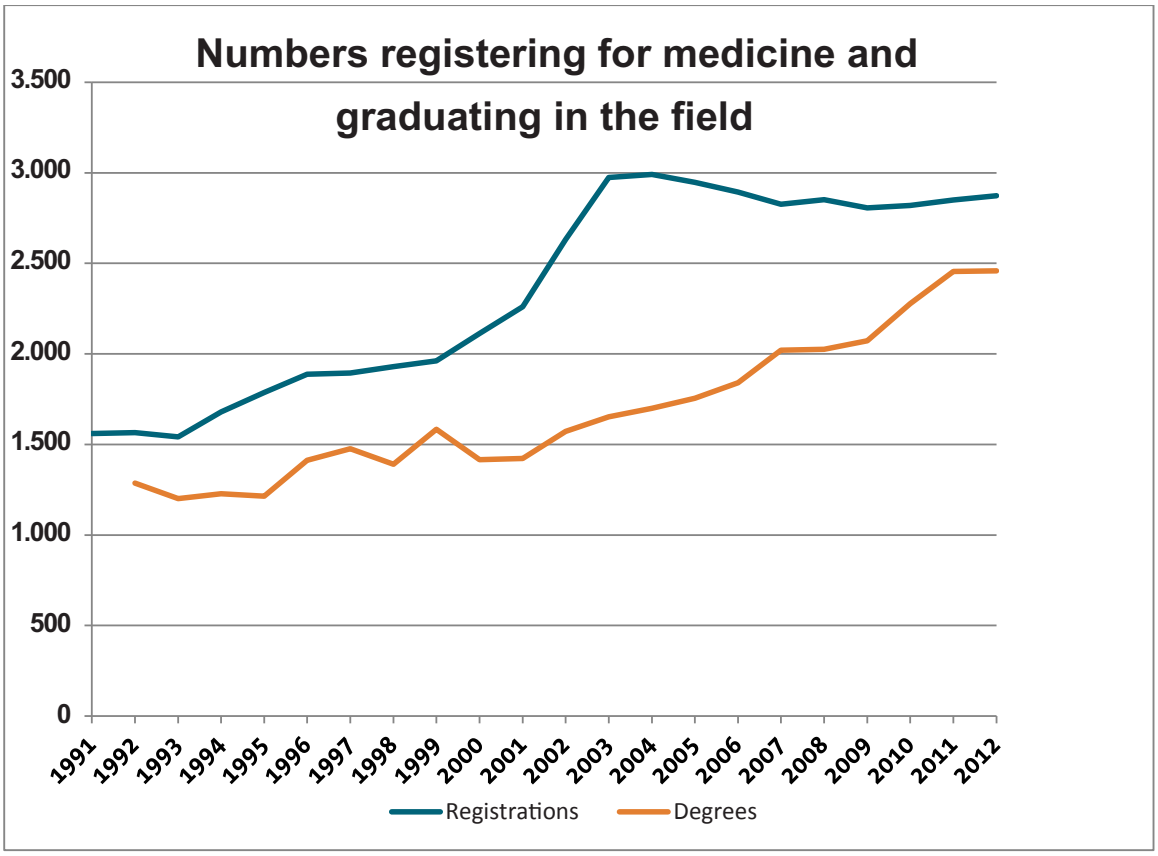
When it comes to the matter of the yearly intake that should be fixed for all the medical follow-up courses possible within the field of social medicine there is, at the moment, great uncertainty. Of the recommended 453 to 585 training places, the HWS Ministry subsidizes some 225 to 282 of those training places. In the previous Advisory Committee's plans, attention was drawn to the potential disruptive effect that social medicine might possibly have upon other areas of training (due to the great fluctuations in intake). This applied in particular to the two main professions in the Employment and Health branch. The numbers of registered occupational health doctors and health insurance doctors are dropping whilst the training levels for these areas of expertise are not changing. In line with the expectations projected in 2010, the competition for current medical officer positions is increasing but there is little change detectable in the occupational medicine intake levels. Each year there are some 30 people, in total, who opt for courses in occupational medicine and the area of expertise known as insurance medicine.

When determining the anticipated rate of inflow into undergraduate degree courses in medicine the Advisory Committee bases its estimates on the subsequent training intake rates which range between **2,118** and **2,391**.

7.3 The medical student

In order to provide a complete understanding of the background to the recommendations concerning undergraduate MDs Figure 9 below gives an idea of the numbers of medical students registered for the various academic years and the numbers of Doctor of Medicine degrees that were awarded in those same years. The years given on the X-axis serve to indicate the starting years of the courses of study. The figure shows how, between 2000 and 2003, the enrolment numbers soared from 2,113 to 2,974 over that period. In the period immediately after that the intake numbers dropped slightly. By the year 2012 the annual intake numbers for medical students had stabilized around the 2,850 level.

Figure 9: The numbers of new registrations and the numbers of qualifying MDs per academic year



Source: VSNU

The figure shows that it subsequently took up until 2011 for the numbers of MD degrees awarded to similarly stabilize at around 2,460 degrees per academic year. These statistics demonstrate that any policy decision made in relation to undergraduate courses only affect the numbers of graduating doctors some 7 years later. If one therefore takes the intake rate realized in the period between 2004

and 2012 this therefore means that in the 2013 to 2021 period we shall be seeing, on an annual basis, some 2,460 MDs graduating from Dutch medical schools and entering the work market. This furthermore means that the return on training can be approximated as this will reach a level of 86% to 90%. Ultimately that will show that the return on training is improving. To a certain extent that will be attributable to the horizontal inflow but for the rest it will be directly down to the actual improvement in the success of the training within the field of medicine. When presenting calculations in connection with the recommended inflow it will be the 90% level that will be taken as the norm.

7.4 The Doctor of Medicine (MD)

In the year 2012 the Advisory Committee once again instructed that research should be done into the careers of MDs so that various relevant information could once again be accumulated. A previous study that had been conducted in 2009 served as the reference point. The new study delivered the following results.

On 1st December 2012 there were some 21,110 Doctors of Medicine in the Netherlands below the age of 65 who were actually domiciled in the Netherlands. Of that total some 10,005 were involved in recognized follow-up training courses of one kind or another and 205 had embarked on courses that were not recognized. A further 3,586 MD graduates expressed an intention to follow a course, 3,474 of whom expressed an interest in a recognized training. Of this group, 942 graduate doctors were involved in doctoral research. Finally, there were 7,290 people with degrees in medicine who did not wish to start on any further training courses. Of this group, 26% had stopped working, 34% had never done any kind of subsequent training, 13% had completed a profile training course and 9% had at some point embarked on further training but had not rounded it off. It was especially the group of MDs who had stopped working altogether (11%) that had sharply increased in relation to the 2009 study. This could be put down to the rising average age of MDs on the one hand and, on the other hand, to the larger group of doctors reaching the end of their professional working lifetimes.

The group of doctors who indicated that they consciously did not wish to engage in recognized further training gave as their main reason for this the fact that their preference lay with a profession for which no recognized further medical training was required (42%). In 23% of cases private reasons were given for discontinuing or else, in 22% of instances, not being able to secure a place in their chosen field of preference. The fact that training was difficult to combine with a family was definitely less of a problem than in 2009 (17% this time around as opposed to 31% then).

Table 29 shows a rough estimate of the Doctors of Medicine actually available and ready to flow into one subsequent/postgraduate course or another.

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Table 29: Career research into MDs in the 2009/2013 period

Description	2009	2013
Number of MD graduates: January 2009/November 2012	18,049	21,110
Still completing their training	8,112	10,234
No desire to pursue further training	6,593	6,663
Numbers of MDs looking for training places	3,345	3,586
Minus: looking for non-recognized training places	152	79
Minus: engaged in doctoral research	1,119	942
	2,074	**2,565**
Plus: graduated MDs in the 2009/2012 period	1,995	2,459
Minus: MDs who had already started on a training	487	269
Plus: foreign inflow	300	124
Correction: interest in recognized training places 91%	**1,645**	**2,105**
Reservoir: MDs available for training courses	**3,719**	**4,670**

Source: KIWA

In the 2010 Advisory Committee plans it was indicated that as of 2010 the first batch of 2,850 medical students (from 2003) would be graduating. If the return on training for that period was 81% then that would mean that in 2010 some 2,309 newly graduated MDs would be entering the employment market and that of that total an estimated 2,060 might very well be interested in pursuing one recognized medical course of further study or another. In reality, it took until 2011 for the first expected outflow of Doctors of Medicine to reach fruition but then, thanks to the higher return on training, the outflow actually numbered 2,460 newly trained university doctors. Of that number it turned out that 2,194 were interested in continuing in recognized medical areas, which was 134 more than had been estimated in 2010.

In the Advisory Committee plans for 2010 it was presumed that the outflow from the reservoir of MDs embarking on recognized further medical training courses would be between 2,358 and 2,576 as of 2012. In reality it turned out that the 2012 inflow was slightly lower than had been predicted. This was especially attributable to the lower intake into the following areas: general practice medicine, social medicine and the specialization in geriatric medicine. It is expected that in the coming years this intake rate will rise to the recommended level. Even then it will, in future, be necessary to bear in mind that on average around 6% of the intake into recognized medical subsequent training will be realized by those conducting medical research and medical specialists/profile doctors.

The conclusion to be drawn from Table 29 is that the reservoir of Doctors of Medicine available and ready to enter into various further training courses rose between 2009 and 2013 by 951 MDs or, in other words, by 317 people with degrees in medicine per year. One reasonable explanation for this expansion was the annual extra inflow that was seen into the reservoir of approximately 400 Doctors of Medicine graduating from Dutch universities who were moreover interested in pursuing careers in the medical field (2,459-1,995=464/0.892). At the same time there has to be an extra annual inflow out of that same reservoir of 100 to 200 graduate doctors in the direction of recognized medical profile or subsequent training. A further fact that can be reported is that the number of

newly graduated doctors working on PhD research was seen to drop in the space of three years by, in total, 270 which meant that as a consequence around 90 extra MDs per year were having to go in search of further openings for training. Admittedly, in 2013 the influx of doctors coming from abroad was lower than had been estimated in 2009 but in practice it is an influx that has little impact on the numbers of doctors embarking on follow-up medical training courses.
The size of the reservoir expanded between 2009 and 2013 going from 3,719 to 4,670 graduates fresh from medical school. The main underlying reasons for this were the following: the rise in the number of medical students actually successfully graduating in that period, the lower than planned outflow of MDs from the pool of doctors due to the fact that not all the allocated places could be filled and the influx of medics going into research and medical specializations which accounted for 6% of all the places reserved. It is anticipated that on the basis of these three new factors the reservoir will not shrink in the next 7 years but that it will instead expand. The only way to allow the reservoir to get smaller in this period will be by ensuring that more doctors start on follow-up courses. This can be achieved by creating extra training places (occupational health, insurance healthcare) or by seeing to it that the places not yet taken are filled (general practice medicine, social medicine, specialists in geriatric medicine).

7.5 Duration and waiting time before follow-up course commencement

The pool of graduate doctors interested in pursuing their studies is expanding and that is something which can have consequences for search duration and waiting times. What is meant by the search duration is the period that elapses between actively starting to look for a training place and setting out on a follow-up course. The waiting time refers to the period between graduating from university as an MD and flowing into a given course of study. The searching time tends to be shorter than the waiting time since not every newly graduated doctor immediately starts looking around for further training positions. Furthermore, the searching time is harder to objectively identify that the waiting time for the simple reason that the moment when a person actively starts looking around for future training courses remains much more fluid than the recorded moment of graduation and the fixed date when somebody embarks on a new training.

The two career studies that have been carried out among medical graduates give an impression of the average time that such professionals spend looking for further training positions. Naturally it is only possible to draw solid conclusions about the group of graduate doctors that has already set out on training courses. In the table below these newly trained doctors are grouped according to the year when their training in question commenced. The search duration in months applies to the overlapping years 2007, 2008 and 2009 and shows the averages drawn from the two studies that were carried out.

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Table 30: The average number of months between starting to look for a training position and actually starting on the training according to the year in which the follow-up training started or was due to start

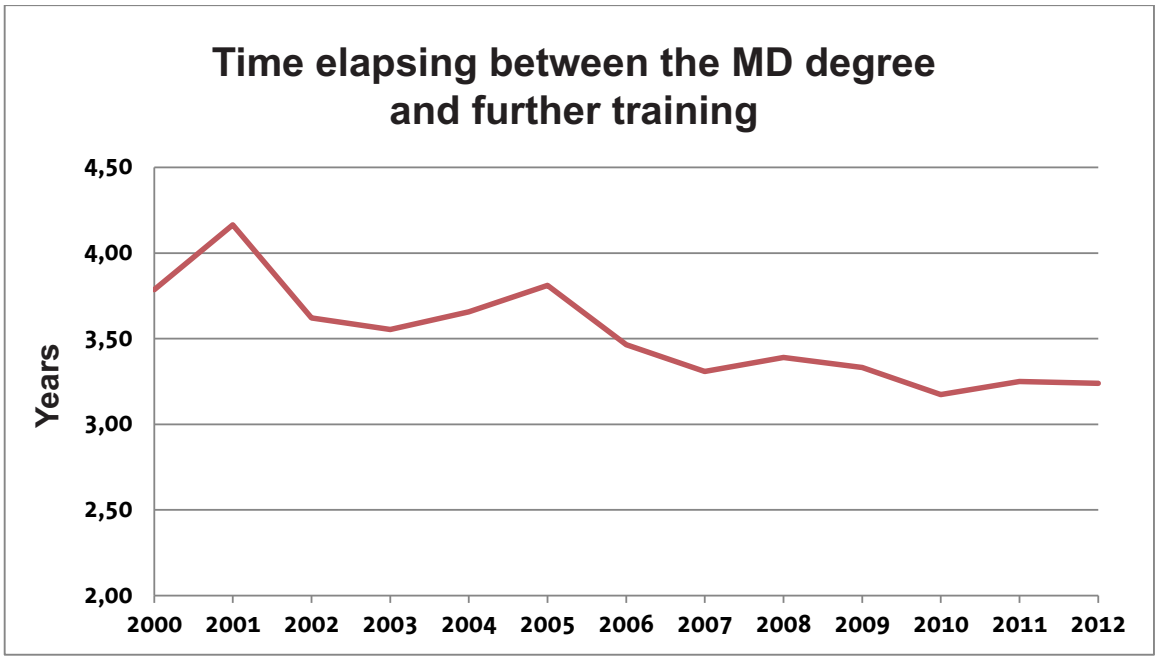
Year of commencement of further training	Average search duration (in months)
2003	16.4
2004	14.4
2005	17.8
2006	20.3
2007	15.3
2008	14.4
2009	15.9
2010	12.6
2011	10.8
2012	15.1
2013	18.7

Source: KIWA Carity

Table 30 offers little on which to base any type of concrete analysis. It would appear, on the face of it, that in the years 2010, 2011 and 2012 newly graduated Doctors of Medicine had less difficulty finding a training position than in the years that followed or had gone before.

The waiting time, measured on the basis of the interval elapsing between the time of qualifying as an MD and the moment when a person embarks on subsequent training, is a factor that is easier to quantify in objective terms. Figure 10 shows all the waiting times since the year 2000. Virtually all the details concerning the more than 24,000 medical research academics who have started out on such education since that date are incorporated.

Figure 10: The period of time between gaining an MD degree and embarking upon a recognized further medical or specific profile training



Source: RGS

If one compares Figure 10 with Table 30 one can see that the searching period really only constitutes a very limited part of the total time between graduating as a doctor and starting out on a new course of study. It even seems that the time lapse between graduating and re-entering the education system has grown shorter since 2000. On average, though, it still takes more than 3 years to round off this period of contemplation. One may question whether this is a desirable situation.

7.6 Required intake level for basic medical training courses

When it comes to the recommendations concerning the required intake for students starting out on studies in the field of medicine one really needs to look 9 to 12 years into the future. The aim is to match the intake level then necessary for the different recognized follow-up medical studies and profile trainings as seamlessly as possible. In other words, this means that the recommendations concerning the intake into Doctor of Medicine studies are surrounded by more uncertainty than the recommendations made in relation to the inflow into subsequent courses.

The current basic premiss is that the present reserve of MDs comprises approximately two entire study years of medical follow-up and profile training courses. The expectation is that in the coming 10 years the annual educational requirements will not fluctuate all that much. The effects that feminization (i.e. a higher intake level if the estimated number of ftes is to be achieved) will have upon the required intake for subsequent training courses will probably not change very much in the coming 9 years. The influence that the rise in the number of recognized training courses will have (both for medical specializations and for the profiles) will also remain limited because there will generally be evidence of a change in balance

between recognized and non-recognized training. If vertical substitution becomes more prolific then it might even turn out that overall course intake levels can be lowered. On the basis of the present possibly too large proportions of the pool of doctors the Advisory Committee prefers to adhere to a recommended inflow into recognized medical follow-up courses and profile training that sticks closest to the lower edge of the range in line with the middle column given in Table 28. When then going on to make further calculations it will be this intake level that will be used, both with and without the projected rate of intake in the case of the non-subsidized professions within the social medical sector.

On the basis of these presumptions the required inflow into the various recognized subsequent medical courses and profile training should lie between 2,078 and 2,353 for the 2022 to 2025 period. The step by step calculations in relation to the required number of medical students looks like this:

Table 31: Calculation of the required basic intake rate for the 2015-2018 period

Description	The full range	
Current estimated number of intake places for the 2022-2025 further/profile training	2,078	2,353
Minus: 6% intake resulting from the medical research and specialist intake rate	1,953	2,212
Minus: 25 actually incoming doctors in possession of foreign MD qualifications	1,928	2,187
Plus: Compensation for the 89.2% interest percentage level among MDs	2,161	2,451
Plus: Compensation for the return on training in relation to medical studies: 90%	2,402	2,723

The calculations clearly demonstrate that if, as of the year 2015, between 2,400 and 2,700 medical students embark on university degree courses then that should be sufficient to fill the training places anticipated by the year 2022. In our previous recommendations our estimates were based on an inflow rate of 3,100 places. The main factors accounting for this big discrepancy are these:

- The return on training linked to Doctor of Medicine degree courses that has risen from 81% to 90%;
- The lowering of the recommended intake rate in relation to recognized follow-up medical courses and profile training compared to 2010 by 210 to 280 places, mainly because of the lack of reduction in the influx of specialists coming in from abroad;
- The realization that 6% of those who embark upon subsequent courses or profile training will comprise academic medical researchers or specialists who have already trained.

In accordance with the agreements made in the previous Capacity Plan Recommendations the Advisory Committee has, in recent times, made sure to more intensively monitor the reservoir of doctors who have recently graduated from medical school. As a result, the required student intake for studies in the field of medicine can now be estimated with a much higher degree of accuracy than was the case in previous Capacity Planning prognoses. The Advisory Committee anticipates that the already substantial pool of Doctors of Medicine will continue to expand in the foreseeable future unless efforts are made to provide extra educational opportunities. From the point of view of continuity, as far as the educational establishments are concerned, it is recommended that the student intake level for medical studies should be reduced to 2,700 and that further future reservoir developments should be very closely monitored.

8. Points of special interest in relation to policy

The main recommendations produced by the Advisory Committee are summarized in Chapters 5,6 and 7. The present chapter goes on to mention a number of the policy-related points of particular interest that are also elaborated in the sub-reports.

8.1 Medical specializations

8.1.1. Clinical specialists

In 2008 and 2010 the Advisory Committee determined the maximum merits emerging from the ranges of its recommendations in relation to the intake for follow-up courses leading to clinical specializations by basing its estimations on the possible complete lack of vertical substitution originating from NPs or PAs. By contrast, the minimum range value was calculated on the basis of a conservative estimated effect derived from the vertical substitution being implemented in the various medical specialist areas. The Minister of HWS adopted the maximum advised levels in both instances and simultaneously proceeded to extend the NP and PA training possibilities. Maintaining the maximum intake levels in that way led to a great diversity of clinical specialists. That is not something that is conducive to vertical substitution nor, it is expected, will it be for the next 6 years. The question that then arises is whether, from a broader policy perspective (i.e. the urge to encourage vertical substitution) the decision to once again opt for the higher limits of the range in relation to intake recommendations is, indeed, desirable.

In 2010 the recommended intake rate for the clinical specializations was substantially raised as it was anticipated that as of 2010 the influx of foreign clinical specialists would start to drop. In 2009 it was expected that between 2010 and 2020 we would see a shortage of approximately 200,000 doctors throughout Europe. The first signs of such a shortage are now in fact beginning to emerge in certain other countries. It would, however, appear that this is not in any way hampering the influx of clinical specialists from abroad. That is the reason why the Advisory Committee has again decided to compensate for the recommended influx of foreign clinical specialists by using the same calculation method as that implemented in previous report recommendations before 2010. For that reason we see that the recommended intake level for follow-up clinical specialist training courses shows a sharp drop compared to the year 2010. In the two years 2012 and 2013 there were more MD going into clinical specialist training than in previous years. In the interests of future policy it is useful to monitor what this 'extra' inflow into the employment market of clinical specialists educated in the Netherlands in the years 2017, 2018 and 2019 will mean for the intake of foreign clinical specialists. What one really needs to question here is the matter of cause and effect. In the case of the medical specialization of general practitioner, an increase in the number of intake places available in the year 1999 ultimately led to a sharp decrease in the numbers of general practitioners trained abroad. At present the supply and demand situation is, in the case of most specialist areas, in balance which means that there is no longer evidence of a significant unmet demand. This could possibly lead to a decrease in the influx from abroad.

8.1.2 General practitioners

Dutch general practitioners have drawn up their Vision for the Future and it is a document that has been fully endorsed by their professional association as well as their scientific association. Subsequently a Healthcare Agreement was drawn up which, in broad outline, corresponded to these views for the future. In terms of policy, the AWBZ-financed care economy-drive that has been introduced and the agreed shift away from secondary healthcare towards primary healthcare has led to an increase of the responsibilities of general practitioners. In turn the GP then offloads certain activities onto the Somatic GPNs, the Mental Health GPNs, the practice assistants and the NPs.

As far as the supply and demand situation goes, the market appears to be in equilibrium. In addition to that it would seem that within the primary healthcare sector vertical substitution is working in a quantitative way but the evidence we have for this is merely indirect. The 6% vertical substitution rate within 10 years that has been adhered to in the different estimations has not led to any capacity problems in the general practice sector in the past 5 years. In view of the large number of disciplines that the GP is able to draw upon within his practice, alongside calling upon otherwise unemployed GPs (GPWGP) and the locum, it remains difficult to pinpoint what precisely are the exact mechanisms at work here.

In the estimates for 2013 what has also been taken into account is the fact that each year the GP will take over 0.25% of the work of clinical specialists. If one bears in mind the numerical proportions that will therefore lead to a 0.5% growth in the required general practitioner capacity. This conclusion had been drawn before the Health Agreement had been made public knowledge. It is conceivable that because of that the assumption that was made was too conservative. The Advisory Committee maintains that we should first wait to see the effects of the Healthcare Agreement. The next estimations will be produced in two or three years' time.

8.1.3 Specialists in geriatric medicine

With the support of different educational institutions, the professional group began a successful image campaign in 2011, the idea behind this campaign being to encourage more newly graduated doctors to embark on the geriatric medicine specialization. Also in general practitioner courses more interest is gradually being seen in this particular field. As a result, starting in 2013, it is conceivable that all the allocated places will actually be completely filled. From the policy angle it is interesting to see to what degree the economizing introduced by the AWBZ will lead to the widespread deployment of specialists in geriatric medicine in the primary healthcare sector. The great discrepancies now being seen in the numbers of clients per specialist fte, in the area of geriatrics, will undoubtedly be a matter that nursing homes will start to scrutinize in the near future.

The further developments taking place in terms of vertical substitution also constitute a challenge from the policy point of view. With the numbers of staff currently being employed in nursing homes there is little perspective for the further training of NPs and PAs. At the same time it may be asserted that because of the current shortage of specialists in the field of geriatric medicine the climate for vertical substitution is extremely favourable. As was already recommended in 2010, concerted effort to stimulate more training of NPs specifically trained to care for the chronically ill would certainly give a boost to vertical substitution in this particular field of healthcare.

8.1.4. Specialists for the Mentally Disabled

In the next few years the number of doctors available for the mentally disabled is set to grow rapidly thanks to a conscious policy drive, on the part of central government, to dispel the present shortage as quickly as possible. One of the ways in which this will be achieved will be by introducing more nurse practitioners. The AWBZ austerity measures and the raising of the IQ dividing line for such care will have little effect on the actual deployment of specialists in the field of mental healthcare in the years to come. However, raising of the IQ dividing line may well shift the work area more towards extramural settings (i.e. towards GP consultation) while the AWBZ cuts simultaneously being made, in the interests of efficiency, may well lead to the concentrating of accommodation facilities. In this way it may be the case that mental healthcare will once again become a more intramurally active area.

8.1.5 Social medicine specialists

At present the Education Fund is only directing its attention towards training courses linked to infections disease management, preventive youth medicine, medical environmentology and tuberculosis treatment within the broader main avenue known as Social and Healthcare medicine. The Advisory Committee concluded that thanks to initiatives launched by the Ministry of HWS, inflow into these areas of study has again been stimulated and that therefore the future capacity of the related professions would appear to be guaranteed. The Advisory Committee has observed that its recommendations concerning incentives to likewise stimulate interest in the second phase of these training courses have also been adopted by the ministry.

The Social and Healthcare medicine branch also includes the following further areas of specialization: the policy and recommendations profile, forensic medicine and medical evaluation and advice. Apparently, up until 2012, there was relatively little interest in the policy and recommendations profile. Since then the Ministry of Defence has decided to facilitate intake into this particular profile. Doctors who have, as part of their job description, policy development and implementation in relation to health insurers have, in recent times, been admitted to the 4-year training known as Social and Healthcare Medicine within that same main division of Dutch healthcare. It is expected that they will also seek to be registered for the policy and recommendations profile. Doctors employed by government bodies will in the coming years, in all likelihood, be required to train as such Social and Healthcare specialists. If they fail to do this they will, as of 2017, have their names removed from the IHCP register and will no longer be allowed to use the title of doctor. The relevance of policy adaptations for this particular profile/specialization are thus self-evident.

As far as forensic medicine is concerned, a report has recently been published by the Medical Council. At the request of the Ministry of Education, Culture and Science (ECS) the Medical Council examined the whole work terrain of forensic medicine in some detail. One of the recommendations to come out of that study was that in view of the rather ageing population within the field of the specialization known as forensic medicine and in the interests of that profile as a whole, as far as the upholding of the law is concerned, the costs linked to his profile should be met by the Education Fund.

The branch of Social Medicine devoted to medical evaluation and advice is carried out for the lower governmental levels and was always traditionally the terrain of regional Health Authorities. Guaranteeing the continued availability of sufficient numbers of suitably trained doctors in this area is thus viewed as a governmental responsibility. For each of these three profiles strong arguments may be put forward in favour of Education Fund support, possibly in conjunction with the ministries of Defence, ECS, and Security and Justice.

The training courses leading to qualifications as occupational health physicians and health insurance doctors within the main social medicine category known as Employment and Health do not receive government subsidies but they are subject to government policy. In recent years various of the changes made in the relevant social legislation have led to considerable uncertainty among parties in the field concerning the exact role to be played by occupational health and health insurance professionals in the future. This uncertainty, which still persists, has negatively affected the intake of doctors into these two areas of medical training. In turn, this magnifies the chance of problems linked to continuity arising. The relevant professional group, which is by now predominantly of advanced years, will only continue to diminish in the near future. In the light of the National Prevention Programme that is definitely an undesirable state of affairs for the future. The Employment Service results are now under such enormous pressure that major educational effort is to be expected from those quarters. In conjunction with existing uncertainty within the occupational health sector, the Advisory Committee has decided not to issue recommendations concerning intake into recognized follow-up training leading to careers in occupational health. In recent times, the Ministry of Social Affairs and Employment sent an advice request to the Social Economic Council in relation to the choice of future scenarios for the occupational health sector.

Intake recommendations are, however, given in the case of insurance medicine. It is through another organization (the National UWV which employs at least 70% of all the insurance medical experts) that more possibilities are created to respond satisfactorily to developments in the field. What the Advisory Committee has noticed is that there has hardly been any increase in the intake into insurance medicine studies despite the 2010 indications pointing to future shortages in this particular area.

The question that then arises is whether a new policy needs to be developed in relation to these two fields of study. If so, what kind of a policy would need to be created: should the focus be upon the image surrounding these studies, the government policy linked to the two professions or upon the financing stability?

8.2 Dental Healthcare

Where the area of dental care is concerned, the Advisory Committee compiles forecasts for two specializations and two primary care disciplines. The intake recommendations for orthodontistry have not changed in comparison to 2010. In the case of dental surgery though it has been determined that the intake, just as with quite a number of other disciplines, will be lowered.

For primary dental care the two most important policy aspects, according to the Advisory Committee, are: the agreements surrounding the influx of foreign dentists and the matter of vertical substitution.

Up to a certain extent these two facet are interlinked. When it comes to the matter of continuity in the dental care area the Netherlands is, to quite a high degree, dependent upon the inflow of dentists from abroad. In fact at present each year there are more foreigners registering as dentists in this country than Dutch people gaining degrees in dentistry and going on to complete their studies in one of the three places where they can round off their training. It may be presumed that around 50% of the new dentists arriving from elsewhere have been practising in the Netherlands for some years. The policy matter that needs to be thrashed out is to what extent we wish to become reliant on this influx from abroad. Naturally it is thinkable that if the economy in their countries of origin picks up then these foreign dentists may well wish to return. This could leave us with a sudden shortage in the Dutch dental care area. Lessening this degree of dependency is, of course, a process that apart from requiring considerable discussion will also demand much time and will cost a lot of money. Apart from the continuity aspect, one should also bear in mind that the quality of dental care might well become a matter of discussion. In the past, the foreign dentists came predominantly from Germany and Belgium. In recent years, however, that flow has dropped considerably and instead dentists have been coming in from Spain, Greece, Romania and Bulgaria.

The model preferred by the Ministry of Health, Welfare and Sport is that of vertical substitution, also in the field of dental care. In recent years these possibilities, also for dental care, have been exhaustively researched. It may be concluded that there is some vertical substitution from the dentist in the direction of the oral hygienists but that it is actually occurring much less than is probably ultimately possible. At the same time, it was discovered that there was a similar rate of substitution from dentist to prevention assistants without the government having formulated any concrete policy on the matter. Finally, it was also discovered that the policy concerning the encouragement of dentist substitution in the direction of oral hygienists was not being supported by any measures being taken to further expand the intake of student oral hygienists. The Advisory Committee thus has to conclude that the vertical substituting of dentists by oral hygienists is actually stagnating.

In the last three years the Advisory Committee has been busy quantitatively charting the position of primary dental care. This was the request originally made by the Dental Care Innovation Committee. It is a question that has been addressed and answered in the present ACMMP Recommendations. On the basis of the information available it is now possible to make various assertions about the policy-oriented desirability of this extensive influx of foreign dentists. It is therefore also possible to now make claims concerning the adjustments that need to be made in the intake into dental and oral hygienist training courses. In both cases there needs to be a certain upward adjustment.

8.3 The mental healthcare professions

Regarding the mental healthcare professions, sub-report 7 constitutes the first complete intake recommendations produced by the Advisory Committee. In the recommended guidelines dating from 2011 the Advisory Committee also made estimates for IHCP-registered professions in the mental healthcare sector on the basis of the model used for the medical professions (see Appendix 1). Subsequently a great deal of research was carried out so that all the parameters could be quantitatively supported. A preliminary Chamber for professions in the mental healthcare sector was also installed.

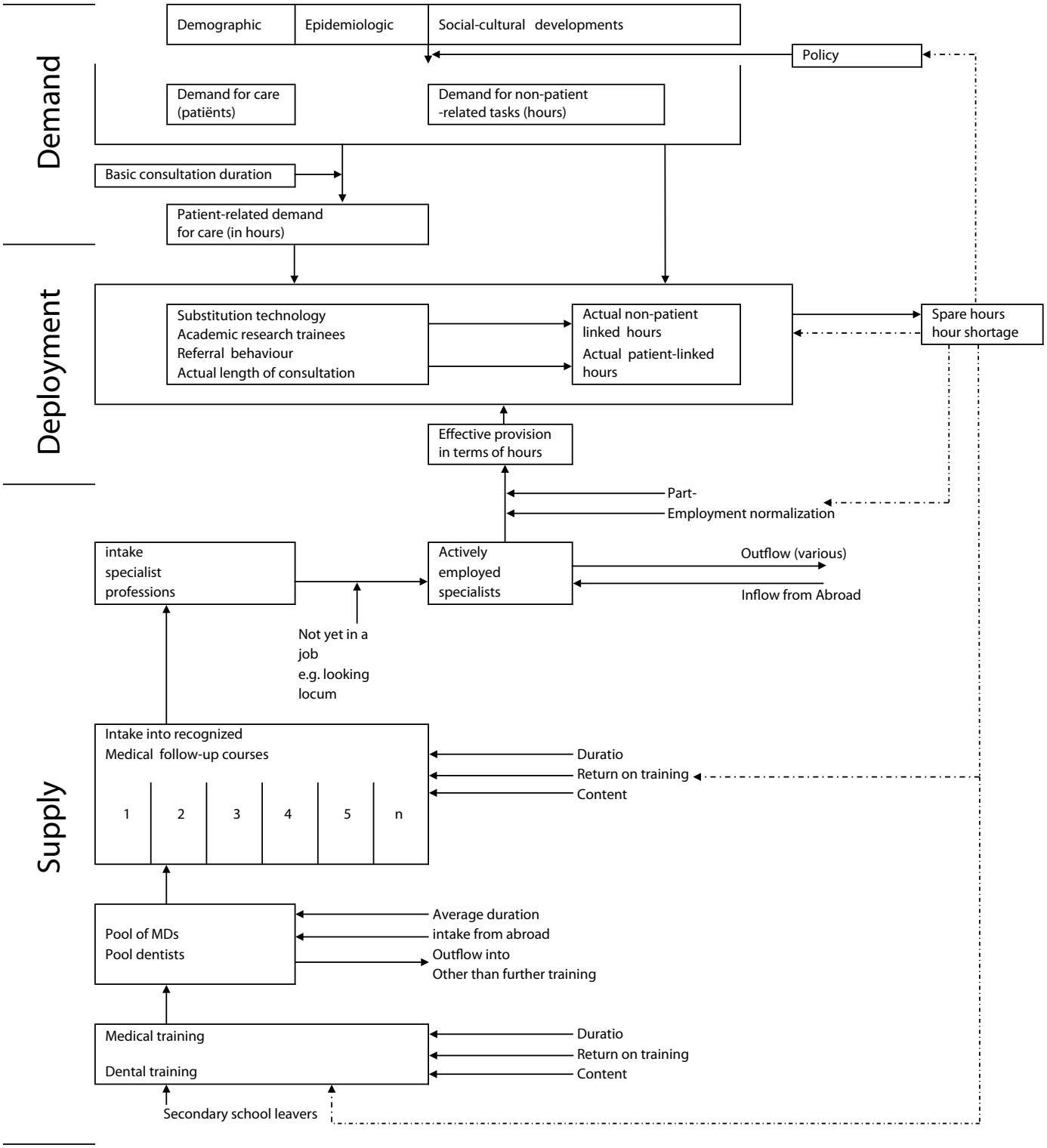
From the policy angle, a number of issues and their accompanying recommendations have been put forward in the relevant sub-report. In the first place, within the mental healthcare branch, there is a policy initiative to introduce incumbents in possession of 'ultimate treatment responsibility'. It is conceivable that such a move will have consequences for the recommended intake rate in certain of the five relevant professions. Another thing that can lead to intake adjustments is changes in the perceptions surrounding the unmet demand volume. It is possible that the Advisory Committee might well decide to make interim recommendations once it is clear how the above-mentioned ultimate responsibility for treatment is going to take shape or, as the case might be, how the unmet demand develops. What will also be important is whether and, if so, to what degree the recommendations presented will be adopted by the HWS Ministry.

In the second place there is the matter of finding the correct correspondence between the government, health insurers and the field in conjunction with the desired intake for all the various courses. The primary healthcare practices for psychology and psychotherapy arrive at educational agreements with the health insurers. This is done independently of the HWS Ministry's allocations for these particular courses. In fact course trainees are taken on outside the available budgets. At present there is therefore a certain lack of coordination. The Advisory Committee therefore advises that all the parties involved should begin to coordinate their education plans. That is something that applies in particular to the clinical psychologist and psychotherapist groups where the number of training places and the recommendations lie quite far apart from each other.

The policy initiatives of the government and the sector in the direction of making mental healthcare more extramural will lead to modest growth spurt expectations for most of the professions that fall within this sector. Only the Mental Healthcare NP will see substantial growth due to the ageing population and substitution received from other professions.

Capaciteits orgaan

Appendix 1. Model of the Advisory Committee



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Appendix 2. The Plenary Body: the relevant experts and procedures

In its meetings of June 26th 2013 and October 16th 2013 the Plenary Body discussed all the various recommendations put forward by the Chambers of Medical Specialists, the Chamber of General Practitioners, the Chamber of Dental Specialists, the Primary Oral Healthcare workgroup, the Chamber of Social Medicine, the Chamber of Specialists in Geriatric Medicine, the Specialists within the Mentally Disabled workgroup and the Committee on Mental Health professions. The final recommendations were adopted on October 16th 2013.

On December 31st 2013 the composition of the Plenary Body was as follows:

Professionals
Mr. A.W.J.M. van Bolderen
Ms. M.M.E. Schneider
Mr. R.Ph. Smitshuijzen
Mr. B. Stegeman
Mr. C.J.G. Theeuwes (member of the Executive Committee)
Mr. B. Vogel
Mr. L. Wigersma
Mr. H.W. Zijlstra

Universities/training institutes
Mr. J.W. Boomkamp
Mr. F.C. Breedveld
Mr. P. de Jonge
Mr. S.J. Noorda
Mr. N.G.M. Oerlemans
Mr. H.A.P. Pols
Mr. J. Schaart
Mr. R.A. Thieme Groen (member of the Executive Committee)

Healthcare Insurance organizations
Mr. M.W.L. Hoppenbrouwers (chair of the Executive Committee)
Mr. J.W.M.W. Gijzen
Mr. A.J. Lamping

Appendix 3. Bureau composition

The Bureau supports the Chambers and the Plenary Body by compiling recommendations in relation to the required intake levels for initial training, degree courses and follow-up training. To that end, the Bureau prepares a whole range of documents, commissions research and supervises and evaluates all of that research. The Bureau itself is not responsible for any research, thus guaranteeing the independence of its staff under all circumstances. On December 31st 2013 the Bureau consisted of the following employees:

Name	Function	Field of expertise
Ms. M. van den Biezenbos	Secretariat	
Ms. O.S. Butterman	Policy advisor	Mental Health professions, nursing professions and medical support staff
Mr. A.R. Esch	Senior Policy advisor	General Practice Medicine Specialists in Geriatric Medicine
Mr. H.J. Leliefeld	Senior Policy advisor	Oral Healthcare
Mr. J.G. Meegdes	Senior advisor	Medical Specialists
Mr. V.A.J. Slenter	Director	Social Medicine Specialists for the Mentally Disabled
Mr. T. Vertooren	Policy advisor	Mental Health professions
Ms. A.E. Zandbergen	Policy advisor	Oral Healthcare

Capaciteits orgaan

Appendix 4.
Summaries of sub-reports 1, 2, 3, 4, 5, 6 and 7

Sub-report 1: Medical Specialists

Less training

The ACMMP recommends that now and in the coming years fewer medical specialists, clinical technological specialists and emergency physicians should be trained in order to lower the intake levels. The underlying reason for this is not to decrease in demand since the expectations are that demand will actually grow. Subsequently, in the longer term, it is probable that fewer medical specialists will in fact be needed than if the policy were left unchanged. To prevent surpluses, it would seem logical to lower the intake levels in comparison to the previous recommendations of 2010. In so doing the balance can be restored.

Foreign influx

In one considers all 31 specialist areas included in this report then the final total annual intake amounts to minimally slightly below 1,120 and to a maximum of 1,320 new trainees. These numbers are some 15% lower than last time. This difference is primarily attributable to the fact that last time (in 2010) the ACMMP did not take the foreign influx into account. This time, however, there was every reason to take this into account and in precisely the same way as prior to 2010.

Declining capacity

Both in the case of the minimum and the maximum recommendations the total numbers of medical trainees will be seen to slightly decline in the coming years. If one takes the average between the minimum and the maximum projected numbers of physicians in training then we shall see a drop from over 6,670 to almost 6,470, in other words, there will be roughly 200 or 3% fewer physicians entering training as of January 1st 2017. This will represent the first drop of this century in an area which has traditionally always been characterized by growth. The main explanation for this trend lies in the fact the numbers of physicians now leaving the profession (generally after having successfully completed their training) is now greater than those embarking on such training. The annual anticipated outflow can thus be distilled from the training schemes of current trainees.

Unity in diversity

In this sub-report the current and expected developments are dealt with according to each area of specialization. In that way the individuality or integrity of each specialization can be respected. This sub-report distinguishes 31 specialist fields, including emergency medicine, some 28 of which derive from the medical sector whilst 3 are linked to the clinical technological sector. Partly because of the nature of the specialist areas, the expectations concerning future developments will inevitably differ. As much as possible, the ACMMP has endeavoured to take these differences into account. At the same time the ACMMP has tried to bear in mind the similarities between the specializations. For instance one may think in this connection of the way in which the treatment for oncological patients is frequently organized from the point of view that invariably a number of specialist areas are involved.

Demand is the central issue

Whether it is demand that determines the provision of care or the other way around, both aspects are important and will contribute to determining the need for medical specialists in the future. In view of the growing healthcare 'market' it would make sense to see demand as the central driver. On the demand side the following factors play a role: demographic changes (the growth and composition of the population), epidemiology and professional developments (the incidence and prevalence of disorders, technological developments etc.) and all sorts of other socio-cultural developments (patient empowerment). Furthermore, on the basis of 'long' waiting lists and/or vacancies that are hard to fill, it is possible to gain a fairly accurate impression any potential imbalance between supply and demand and possible unmet demand.

Feminisation continues

On the supply side, the increase in the numbers of female specialists and the numbers of ftes that they are working is striking. Female specialists are currently working 0.89 ftes, while their male counterparts work 0.94fte on average. There is still a discrepancy between the two groups but compared to previous years the gap is rapidly narrowing. As a consequence, the outflow of specialists remains predominantly male while female specialists are left to fill the vacancies. The gender distribution: now 63% of the specialists are male and 37% are female bears out this very point. In the case of specialists in training the situation is exactly the reverse.

Guidelines for substitution

The ACMMP will neither lose sight of changes in the work process nor of changes in the working hours. In the last couple of years more and more related healthcare professionals have become embedded in healthcare. The PA and NP are good examples of this process. This trend which began several years ago now seems unstoppable, although the impact it has on the need for medical pecialists is not always clear. The differences between the minimum and maximum recommendations made by the ACMMP in this sub-report are directly linked to the phenomenon of substituting to related disciplines. In the case of the minimum levels advised substitution is taken into account, whereas in the case of the maximum levels it is not taken into account.

Lower intake levels in most specialist areas

If one compares the current recommendations with the planned influx for 2013 it can be seen that in twenty specialist fields this is higher than the current maximum advised level. In the case of nine specialist areas the intake recommendations lie between the minimum and maximum recommended levels. For two of the specialist fields the planned influx for 2013 is lower than the currently advised minimum. Precisely which specialist areas this entails can be found in Appendix 14 of the sub-report 1.

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Sub-report 2: General Practice

Summary

The Dutch healthcare system, general practice included, has to anticipate to big changes in both professional and business operations. Both political parties and GPs as a professional group see a key role for the GP of the future within the healthcare system as a whole: GPs are responsible for the coordinating, controlling and supplying any care provided in the patient's vicinity.

New policy

When assessing the GP workforce of the future, the ACMMP presumes that the urgency, desirability and probability of the desired changes will be endorsed by everyone concerned. The implementation of the government policies and the Future General Practice Visions for 2022 for the professional body of GPs will have a major impact on the general practice facilities of the near future. The pace at which such change can be enforced is limited and dependent on numerous external factors. The ACMMP will make allowances for possible setbacks linked to legislation and regulations. Other uncertain factors are: the possibility that both vertical and horizontal care substitution might come into effect and the availability of enough and well enough educated support and administrative staff and finally the possibility that innovative care concepts and e-health might become a reality.
In future the behaviour of patients will change with part of the patient population coming to rely on general practice services more heavily than before. It is especially the more vulnerable elderly people and those who are handicapped who come to mind in this connection because these groups will not qualify for certain intramural care schemes. Another sector of the patient population will see the GP less and less. This will be an effect of: better health, greater access to medical knowledge, self-care and e-health solutions. As a professional group it is the desire of GPs to reduce the numbers of general practices in response to the expected increasingly complex healthcare demands of the ageing population. Furthermore the introduction of population-targeted care and prevention will enhance the health of the population as a whole and people's quality of life, but it will also consume more of the GP's time.

Teams

Eventually it will be the regional demand for healthcare that will determine the amount of care that general practices will provide. That provision of care has to be delivered by teams of healthcare professionals and support staff who possess an optimal combination of skills. Apart from the more classical types of GP practices with support staff and health centres and a number of disciplines working together, new types of practices and combinations are evolving. These are partnerships in which expertise linked to prevention, general practice and social medicine as well as specialised hospital care come into alignment.

Time and motion research

The ACMMP has commissioned the Nivel to do time and motion research into the work of GPs. By the end of 2013 it will be clear how many hours, on average, GPs spend on direct and indirect patient care. With all the imminent changes within GP practices and healthcare in general, this first study will serve as a baseline measurement. Time and motion research can be a useful instrument when monitoring changes is direct and indirect patient care activities.

Preferred Scenario

The members of the Chamber of General Practitioners have determined the values for all the model parameters. The effect that these values have on the predicted number of training places has been calculated and the actual recommendations have been similarly determined. In its calculations the Chamber adhered to the preferred scenario of the ACMMP which was known, up until recently, as the 'low combination scenario with vertical substitution (until 2031)'. A new name for this preferred scenario is: the realistic scenario. In this scenario the most realistic values for parameters are taken into account so that big fluctuations in the future intake of trainees can be prevented. However, the fact that the ACMMP happens to opt for this scenario does not prevent the Ministry of HWS from making its own choices in this respect.

Advice

For the 2010 Recommendations the ACMMP advised the Ministry of HWS to use the preferred scenario, but at the time the Ministry opted for 'short-term' equilibrium (for 2022). This was because a sudden 'dip' was predicted because of the 'baby boom generation' that was about to leave the workforce. The preferred intake scenario recommendations, of 720, was therefore too high. If the decision had been to secure long-term equilibrium (for 2028) then the advice would have been to train 670 people. With 638 new trainees the 2012 training influx lagged behind the potential 720 training places. In 2013 it is realistic to assert that the new influx numbers will be higher than in 2012, but the sector might still lag behind the 720 available training places.
In 2014 the influx will become centrally regulated nation-wide and, alongside the better regional dispersion of trainees, it will lead to even more training places being made available (see Section 3.1 of sub-report 2 for further explanation).

For the 2013 Recommendations the ACMMP advises following the preferred or realistic scenario and going for long term equilibrium (now for the year 2031), the reason for this being that the effects of raising the retirement age by two years will have quite an impact.
With the parameter values the influx advice is now set at 698. If the Minister opts for equilibrium in the short term (2025) then the influx recommendation will be 695.

In general it can be stated that the outflow of GPs from the workforce will be much lower in the next 20 years. The attrition rate for current and future trainees will increase dramatically. It is for the first time, in these recommendations, that the rising retirement age is being taken into account. The total reserve of ftes will therefore rise more in comparison to the growth of the population.

Partly because of the growing population of elderly patients, GPs will set aside more consultation time for these patients. The average length of a consultation will therefore increase. In the model, the effects that this will have on 'efficiency' have been taken into account. The number of people who can be cared for within one GP fte will therefore decrease. The level per fte will similarly decrease from 2,026 in 2013 to 1,619 in 2025 and will eventually drop to 1,485 in 2031 (see Appendix 4 of sub-report 2, Figure 16).

Capaciteits orgaan

Sub-report 3. Dental care

Summary

This sub-report contains the training estimates for four professions in the dental care sector: dentists, oral hygienists, dental surgeons and orthodontists. For the dentists and oral hygienists these are the third recommendations to be made, including the first, indicative recommendations dating from 2009. In 2010 an influx into dental training of 374 and an influx of 358 into oral hygienist training courses was what was advised by the ACMMP. These recommendations were not adhered to and so the inflow was maintained at 240 for dentists and 300 for oral hygienists. Since 2001 there have been recommendations concerning the intake into training courses for dental surgeons and orthodontists. The last recommendations, dating from 2010, were as follows: an influx of 16 for dental surgeons and 9 for orthodontists was advised. Both recommendations were followed.

Research

In the case of these recommendations, research was both commissioned and carried out. The supply side of the four professions has also been investigated by means of surveys. The surveys inquired about work activities, the nature and size of the employment contract and expectations in relation to outflow out of the profession. The influx of dentists coming in from abroad with foreign qualifications was also investigated, by means of a survey conducted among IHCP-registered dentists with degrees gained abroad. In addition research was also done to examine the regional distribution of primary dental care throughout the Netherlands and a consumer survey was carried out to investigate people's perceptions of primary dental care. Finally, research was also done into the numbers of operations carried out by dental surgeons and an investigation was made into the size of the implantology care business within dental surgery and primary dental care.
All the results of the above-mentioned research were implemented to determine the values of the different parameters. These parameters have a bearing upon the demand of care, the supply of care and deployment. Beside these specific studies, external research and other sources of information were also drawn upon and experts were consulted.

The care demand

The expectation is that the demand for dental care will rise, especially in conjunction with certain socio-cultural developments. For dentists this means that they will see a growing demand of care among elderly patients due to the expanding technical possibilities (3%), for oral hygienists there will be a considerable increase in the prevention demand, partly due to the acceptance of the profession of oral hygienists from the patient perspective (25%). In connection with the slight increase seen in implantology and the further expansion being seen in facial surgery, the demand for dental surgery (6%) and orthodontists (4%) will continue to rise.
In the primary dental care area the demand will only rise slightly thanks to the changing demographics. The demand for orthodontists will decline because of changing demographics (-14%), due to a strong decrease in the numbers of 12-year-olds, which will also reduce demand for orthodontists. For dentists and oral hygienists an epidemiological increase of 3% is expected. Furthermore a slight unmet demand of around 1-2% is taken into account for all four disciplines

Supply

The number of working professionals in the dental care sector and the influx into the training courses was:

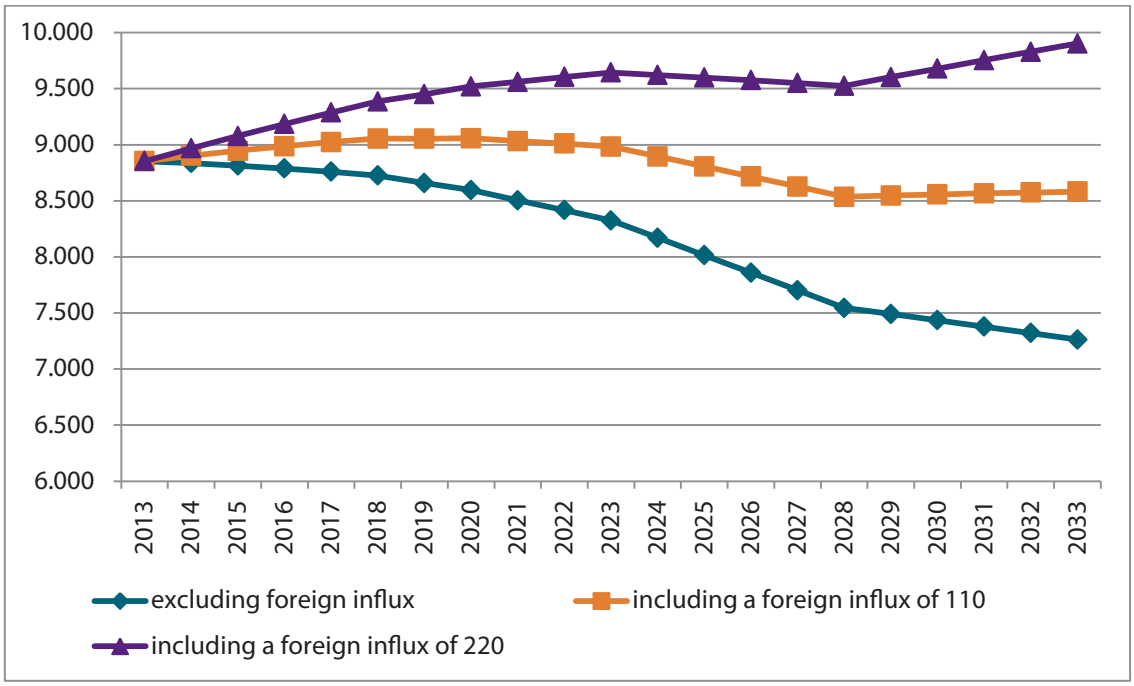
Table 1: Supply of working professionals and influx into training courses as of 1st Januari 2013

	Working people 1/1/2013	influx in training courses
Dentists	8.854	240
Oral hygienists	3.216	300
Dental surgeons	260	16
Orthodontists	304	9

The developments on the supply side display certain specific characteristics. The number of oral hygienists is higher than the 2,425 recorded in 2010. More oral hygienists than the numbers previously given appear not to be members of the professional organisation (NVM). Additional research among oral hygienists led to the discovery of a sharp increase in the number of working oral hygienists previously presumed to be in employment. Furthermore there is a big difference in the age distribution between dentists and oral hygienists. Of the dentists, 44% are 50 years or older but in the case of oral hygienists 60% are younger than 40 years of age. The replacement of dentists due to advancing age is therefore also much greater. The average fte of dentists (0.84 fte) and oral hygienists (0.71 fte) has remained similar to the 2010 level. Among the dental surgeons and orthodontists there was a slight decrease in the average fte. On the basis the expected number of working hours in the next five years, the effective provision for those hours was set at 2.5% for dentists and 2% for dental surgeons. For oral hygienists and orthodontists this will presumably remain at the same level.
Members of all the professions will be required to work longer as the retirement age has been raised by two years. The effect of this will be a decrease in the required influx. The training yield (or: training efficiency) for oral hygienists has been adjusted from 60% in 2010 to 70% in 2013. It is a different way of measuring the training efficiency that accounts for the 8 years of training combined with the dropout percentage seen in the first two years of training.
Since 2010 the number of registered dentists coming in from abroad has been growing. It reached 252 in 2012. Especially the influx from Mediterranean and East-European countries has increased considerably. Research done in 2012 among foreign-trained dentists shows that roughly half of the dentists did work in the Netherlands for certain period of time. That is why, in the workforce mode, both the foreign influx and a training efficiency of 60% for oral hygienists has been taken into account. The influx of foreign dental surgeons is still taken into account because it has not been shown that increasing the intake in the Dutch training programmes has any effect on the foreign influx. Three dental surgeons with foreign degrees were taken into account. The following graph shows the projected developments in the total number of dentists without, with and with half of the influx of foreign dentists included in those figures.

Capaciteits orgaan

Figure 1: Comparison of dentists with and without any foreign influx



Work deployment

In the last recommendations all the work deployment parameters were set at 0%, except for the 3% set aside for the professional development of dentists and oral hygienists. In the 2013 recommendations this was taken into account together with the 2% professional development allowed for dental surgeons on the basis of the broadening of their professional scope to include oral and maxillo-facial surgery.

Within the work deployment area, substitution is the most important factor. Research dating from 2009 and 2010 shows that dentist substitution mainly worked in favour of prevention assistants. Substitution in the direction of oral hygienists did take place, but seemed to be stagnating.

On the basis on those results the 15% total substitution from dentists was divided into 7.5% for oral hygienists and 7.5% for prevention assistants. A 7.5% substitution of the work of 9,000 dentists is a considerable amount. Field research gathered from 2012 showed that substitution, which is what the government wants, is not yet visible and measurable, even though the tasks of oral hygienists are expanding. This is something that is very much related to work setting and to organizational factors. The following individual factors also play a role: the views of dentists concerning the role of the oral hygienist, the fewer number of hours that oral hygienists work and the perceptions and ambitions of oral hygienists concerning their own career developments. New research has not produced any new insights. It has therefore been decided that the 15% substitution of dentists should be maintained and that 7.5% should still go to oral hygienists and 7.5% to prevention assistants.

Considerations concerning the scenarios and recommendations
In these recommendations three scenarios were used: something termed the trend scenario, the growth scenario and the drop-in-demand scenario. In the trend scenario the set parameters were used in the calculations. In the other two scenarios, the growth and the drop-in-demand scenarios, a couple of parameters were respectively incremented or lowered. The underlying premiss is that the economic crisis has brought with it a number of uncertainties about the demand for dental care, as a result of which such demand is difficult to predict.

In the trend scenario, as stated above, all the parameters were taken into account. Alongside the gap in unmet demand and the demographic developments, the following parameters were also considered: socio-cultural developments, epidemiology, the shortening of the actual working time, professional developments, patient-linked and non-patient-linked hours, efficiency and substitution. The trend scenario assumes that the set trends will continue into the future.

The growth scenario shows an extra increase of 10% in the socio-cultural developments for all the professions, higher influx from abroad, a sharper decrease in the actual working hours and more substitution in the direction of the oral hygienist. In this scenario a higher influx into the training programmes will be necessary.

The drop-in-demand scenario, on the other hand, shows an extra decrease of 10% in the socio-cultural factors, lower influx from abroad and a rising or levelling off with regard to the actual hours worked. If this scenario were implemented less influx into training programmes would be required.

The two most extreme scenarios were made on the assumption that uncertainties might well arise or new possible policy developments. Depending on the development of these factors either a more pessimistic or a more optimistic scenario will unfold. The most important uncertainty at this point is the economic recession and the influence that this could have on the demand for dental care, especially in view of the fact that much dental care can only be insured if patients take out extra private insurances. Furthermore, the size of the influx from abroad, which seems to be predominantly economically driven, is also an uncertain factor. It has also become clear during the last few years that substitution is difficult to predict. In addition, it has emerged that substitution will stagnate, especially if there is no particular policy on this from the government. Another factor is the training yield (or efficiency) of the training of oral hygienists. Introducing decentral training placement seems to be a method that could help to enhance the influx into the training programs, thereby possibly also increasing training efficiency.

If one looks at two of the more extreme scenarios it is obvious that the annual influx in training programs for dentists should be fixed at between 241 and 324 while for oral hygienists it should be between 194 and 436. As long as the economic situation remains unsure and unstable the ACMMP advises that an average between these two extremes should be selected and that the influx for dentists should be fixed at 287, a rise from the previous level of 240 while the influx for oral hygienists should be maintained at 309.

Capaciteits orgaan

The range for dental surgery lies somewhere between an influx of 5.4 and 15.4 and for orthodontists it is between 5.4 and 12.6. The advice is to choose the trend scenario and lower the influx for dental surgery from 16 to 11 whilst maintaining the influx for orthodontics at 9.
The table below shows the final recommendations in the last column.

Table 2: Final recommendations

	Minimum advice	Maximum advice	Final recommendations
Dentists half of which is foreign influx	241	324	**287**
Oral hygienists	194	436	**309**
Dental surgeons	5.4	15.4	**11**
Orthodontists	5.4	12.6	**9**

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Sub-report 4. Social Medicine

Summary

Government policy can influence much more in social medicine than in other medical areas. This is due to the fact that it is not the patient but rather the government that is normative for the demand for social medicine.

Within the main area of Employment and Health (A&G) the government determines, through the Occupational Health and Safety Act (OHSA), precisely who qualifies for occupational healthcare services and when an occupational health doctor must be mobilized. The actual implementation of occupational healthcare services is left to numerous private organisations which, in fierce competition with one another, are also responsible for training all the occupational healthcare doctors. The OHSA was changed in 2006. Since then employers no longer need to contract an Employment Service to provide occupational healthcare services. This has increased the freedom of choice for employers. The effect, though, is that the demand for Employment Services is decreasing year on year. The turnover and outcomes of these Employment Services have been under pressure for years, all of which also has a negative effect on the way in which the occupational health doctor functions. The results of this situation have become visible in two ways over the last couple of years. In the first place the percentage of occupational health doctors working for an Employment Service fell from 77% in 2010 to 67%. In the second place, hardly any doctors are being trained within the Employment Services due to the uncertain financial prospects. The ACMMP warned of these effects in 2010. The question, however, is whether the expected further decline in registered occupational health doctors will have an effect on the policy aims of the Ministry of HWS for the National Prevention Programme.

The Minister for Social Affairs and Employment has now asked the Social and Economic Council for advice on five possible scenarios in relation to the development of occupational healthcare in 2020. That is why the ACMMP has decided to postpone the advice on occupational health doctors until the Social and Economic Council has presented its recommendations. This sub-report shows only the quantitative consequences of training occupational health doctors if the current policy concerning intake into the relevant recognized further training remains unchanged. If the current training intake levels are maintained then the number of registered occupational health doctors will decline from 2,154 in 2010 to 1,650 in 2020 and finally to 1,300 in 2025.

The developments within social care legislation have little influence on the workforce of insurance doctors. The decentralisation of social care can possibly cause work to shift slightly from National UWV to local authorities. Apart from the efficiency advantages to be gained from such decentralisation, vertical substitution possibilities also open up. These efficiency effects on the projected workforce for insurance doctors are not great. What might be a worrying point is the low intake levels for insurance doctor training. The training or retraining of occupational health doctors is no longer an option either due to the falling numbers in this group as well. This could mean that within the main Employment and Health (A&G) area a lot more medical trainees will have to be taken on. In the case of insurance doctors there is the strategic advantage of having one big employer (National UWV)

with many trainers compared to the fragmented Employment Services. These Services have access to a limited number of trainers and will be financially at a disadvantage if they do take on medical trainees.

Within the main area of Employment and Health medicine (A&G) the government and various other stakeholders are working on the above-mentioned policy initiatives. On this basis it is possible to make fairly accurate predictions on the future social healthcare demands. Furthermore, during the last five years, the sector has worked hard to dispel the quantitative deficits of training institutes created between 2000 and 2007 in relation to the numbers of medical trainees. Because of these efforts the unmet demand within the preventive youth medicine profile dropped from 178% to 130% in the space of two years. For other profiles and the main field of Employment and Health there are no shortages. The average age for medical trainees within the Employment and Health (A&G) area is high which will lead to a higher future outflow into the workforce. The profiles have only been registered since 2006 and the technique used to adjust the outflow to meet the changing rising retirement age is also new. This adds to all the uncertainty surrounding future outflow in these specialist fields. The recommendations have therefore been given bandwidths or ranges.

In the main Employment and Health (A&G) area the advice is to have an annual influx of 43 to 49 medical trainees going on to become insurance doctors. All the uncertainties surrounding the future of the profession of occupational health doctor have culminated in the decision of giving no advice for this particular specialization. There were indicative calculations for the socio-cultural and horizontal substitution parameters and these were arbitrarily set at 0%.

The intake advice for the non-subsidized profiles and specializations within the Employment & Health (A&G) sector is:

Specialization/profile	Bandwidth	
Profile: Policy and recommendations medicine	17	22
Profile: Forensic medicine	22	29
Profile: Medical evaluation and advice	8	8
Second phase training: Policy and recommendations medicine	17	22
Second phase training: Forensic medicine	12	16
Second phase training: Medical evaluation and advice	4	4

The intake levels for subsidized profiles and specialisms within Employment & Health (A&G) area is:

Specialization/ profile	Bandwidth	
Profile: infectious diseases management	15	19
Profile: preventive youth medicine	112	144
Profile: Medical Environmentology	3	4
Profile: tuberculosis treatment	5	6
Second phase training: Profile: Infectious disease management	15	19
Second phase training: Profile: Preventive youth medicine	21	22
Second phase training: Profile: Medical Environmentology	3	4
Second phase training: Profile: tuberculosis treatment	5	6

The ACMMP has a slight preference for the minimum extremity of this bandwidth while all the policy developments within social and preventive healthcare are still pending.

The 2010 recommendations to remove the specialist second phase training financial barriers for Employment and Health specialists after profile training, have been adopted by the Ministry of HWS. The ACMMP once again recommends that specialist second phase training for forensic medicine, medical evaluation, and policy and recommendations medicine as well as all the other social medicine specialist areas should be incorporated into the financial fabric of the Education Fund. In that way unwanted fluctuations in the intake levels of these specialist fields but also in all the subsidized training programs can be reduced. Furthermore the ACMMP advises the Ministry of HWS to break the deadlock in the coordination of all the training profile discussions within the Employment and Health (A&G) sector. The lack of coordination and the lack of government funding for social medicine in general will eventually threaten the policy ambitions of the National Prevention Program set by the Ministry.

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Sub-report 5. Specialists in geriatric medicine

Summary

The specialist area of geriatric medicine has developed very quickly since it was first recognized in 1990. With 1,491 registered specialists in geriatric medicine (SGM) as of January 1st 2013 it was numerically the fifth biggest specialization in the Netherlands. Furthermore there are 30 social geriatric doctors working in the same healthcare sector. Due to the ever ageing population, the demand for care and therefore the capacity of SGMs will have to grow in the coming 10 years. Changes in the living situations of these people as well as the higher educational status of the population will somewhat temper these developments.

New policy developments

In the coalition statement [1] of the VVD (the Liberal party) and the PvdA (the Labour party) and the government policies ensuing from that statement, the emphasis was on transferring part of the social insurance (AWBZ)-financed care to the Health Insurance Act division and to local councils. his will have a large impact on both intramural and extramural care for the elderly. Geriatric rehabilitation care has been transferred from social insurance care (AWBZ) to the Health Insurance Act area since January 1st 2013. Assessments made by the centrally organized CIZ for geriatric rehabilitation have thus become redundant. As a consequence of the new criteria attached to the stricter social insurance care (AWBZ) regulations the number of people who will actually live in care or nursing homes will decline. The elderly with lower 'intensity care packages' who can possibly safely live at home will have to appeal to local councils or to the Health Insurance Act for funding. Because the share of lower 'intensity care packages' among intramural clients is going to decrease, the remaining clients will, as a result, need higher 'intensity care packages' and more care. The phased-in reforms within the intramural care being organized for the elderly will lead to more complex healthcare demands. Furthermore the competition for extramural care will become more fierce. In these reforms, a key role for GPs will be to coordinate care for patients living at home. The same will apply to the vulnerable elderly. The care or recommendations concerning care for these patients, living at home, will be given by the specialist in geriatric medicine (SGM) in conjunction with the GP.

Shortage of Specialists in Geriatric Medicine

In 2010 there were doubts as to whether the number of SGMs would grow steadily enough to be able to meet all the future healthcare demands. Especially the lack of interest in the field of specialization on the part of MDs was a cause for concern. Now, three years on, we know that the advised intake levels were not realized and that the number of job vacancies has risen even further reaching 18% in the first quarter of 2013.

The number of vacancies for SGMs is high. The number of MDs working in the field of healthcare for the elderly has finally increased but this all points to sustained unmet demand. In practice, more and more geriatric medical care is being provided by MDs, nurses, nurse practitioners and physician assistants. The rise in healthcare demands based on the relevant demography is steeper than was predicted in 2010. The shortage of SGMs will therefore become harder to compensate than was predicted in 2010.

1 Building Bridges, Coalition agreement, 29th October 2012.

Policies concerning substitution should be directed towards this shortage. Finally, in practical terms, care should be managed more professionally and more efficiently.

Innovations and projects

Between intramural care settings there are big differences in the ratio of available SGMs and the number of beds they serve. The big variation can be partly accounted for by the size of the institution and partly by various historically and locally formed policies. Much will have to change if the supply of care is to be aligned with the rising demand of care. Implementing innovations requires policies and such processes can take many years to complete.

The reforming of the chronic care sector means that people will, in future, live at home longer so the care of the elderly will look very different in 2031. In the field of geriatric medicine these changes are already being anticipated. The Royal Dutch Medical Association (KNMG) released a position paper[2] in 2010 on medical care for the elderly. In this position paper a pivotal role is described for the SGM, especially in the role of consultant for the GP. In 2011 and 2012 the SGM and GP professional bodies as well as stakeholders within the field of healthcare responded positively to this position paper. There are several best practices which can serve as good examples.
Verenso (a professional body) and Soon (MDs in training as SGMs) have campaigned to enhance the image of the SGM. The effects of this campaign will become clear when medical students do their internships in geriatric medicine and afterwards consider becoming SGMs. The training institutes will use selection and allocation criteria to train well motivated MDs in an effort to thus decrease the attrition rates.
Nationally big projects and programs focused on care for the elderly have been put in place such as, for example, the National Programme for the Care of the Elderly, Deltaplan Dementia and special courses for GPs and SGMs. By the end of 2012 the Board for Medical Specializations (CSG) had set up the Care for the Elderly Project which aims to give the matter of caring for the elderly a more prominent place in the curricula of all medical specializations.

Advice

Based on the above-mentioned developments the ACMMP recommends basing the intake levels on the preferred or **realistic scenario** and achieving an equilibrium in the short term (2025). This will entail having an intake level of **120** medical trainees. With such a number, if the recent interest in the profession continues to increase, the training places will be utilized to best effect and the unmet demand will decline even quicker.
If vertical substitution lags behind all the expectations then there is always the **realistic scenario** option without a substitution option and equilibrium for the longer term (2031). This would result in an intake level of **128** medical trainees.

2 Royal Dutch Medical Association, 2010, Strong medical care for the vulnerable elderly.

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Sub-report 6. Specialists for the Mentally Disabled

Summary

The specialization for the mentally disabled was officially recognized by the Minister of HWS in 2000. Until the year 2000 the care for the mentally disabled had mainly been provided by experienced GPs or former GPs. The first three years after having been recognized, the number of Specialists for the Mentally Disabled (SMD) rose quickly because retrospectively the group of doctors working with the mentally disabled was able to register as SMDs. From 2003 onwards the influx into this specialist area was only possible if doctors had completed their formal medical training as SMDs. The fluctuations in the numbers of registered SMDs are attributable to registering or unenrolling from the register. There is no influx from abroad, as the specialization is not recognized in any other country.

As of January 1st 2013 there were 200 registered SMDs. Approximately 186 (93%) of them worked 0.87 fte on average. Of the registered SMDs, 73% are female. The age and sex distribution of SMDs is somewhat uneven. More than 60% of the male SMDs will leave the workforce in the next 10 years. After that the age and sex distribution will become less uneven, even though the specialist field will remain feminized.

The supply and demand market in relation to care for the mentally disabled can best be described as a demand market. For every 5 SMDs there is 1 job vacancy. The situation of perpetual vacancies does not, however, lead to substitution by psychologists or nurse practitioners. There has been an increase in the number of MDs working in this field. Furthermore the retirement age of SMDs is rising and the average fte (despite the feminization) has increased by 0.03 since 2010.

The realised intake levels since 2005 have been, on average, 15 per year, with peaks in 2009 and 2012. According to the Registration Committee for Medical Specializations, 20 medical trainees started the training for SMD in 2012. The total number of medical trainees has varied only slightly since 2010. The percentage of female medical trainees is, however, slightly declining.

The uncertainties surrounding the recommendations are great. Compared to 2010, the most influential factor for the recommendations on the demand side is the socio-cultural aspect. The way in which society positively supports the mentally disabled to become fully active members of society and the fact that the mentally disabled can appeal to the SMD still remain important factors in relation to future demand. Added to this is the government policy concerning social insurance (AWBZ) for care for the mentally disabled emerging from the coalition agreement made in 2012.

In the 2010 recommendations it was announced that the choice of scenarios would depend on the number of registered SMDs monitored in the past few years. The ACMMP has decided upon a minimum intake level of 17, based on a realistic scenario that should reach an equilibrium in 2025. The maximum intake level is fixed at 24, based on the maximum scenario, again achieving equilibrium in 2025. The corresponding yearly growth in the demand for SMD care is 1.8% and 2.4% respectively. With unmet demand in mind, the ACMMP recommends having a yearly intake of **20 to 24** medical trainees in training for SMD.

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Sub-report 7. The mental health care professions

Summary

Following the first recommendations on the mental healthcare professions published in 2011, come now, in the form of this sub-report, the 2013 recommendations, all of which are also included in the overall recommendations[1]. In the compilation of these recommendations, attention has been paid to the many different aspects. First of all a supervisory committee was created (see Appendix 1 of sub-report 7), with representatives drawn from the various professions, insurance companies, training institutes and different organizational practices (in the form of associations belonging to those institutes). This supervisory committee directs research initiatives and translates the findings into intake level recommendations.

In the second place five major research projects[2] were commissioned and the supervisory committee then went on to discuss all the results. These results were then used as input for the model. In all the research proposals and research reports, the different healthcare branches or sectors were taken into account. In that way a differentiated impression could be gained of the direction and speed of the separate developments being seen in each profession within the different branches. Finally the members of the supervisory committee also initiated expert meetings to provide input on specific parameters concerning the work process[3].

Future research

For future workforce planning the supervisory committee has initiated research into the deployment of people with master's degrees in psychology and pedagogy (without IHCP-registration). The supervisory committee furthermore initiated research into the shift in workload from specialized mental healthcare institutions to primary mental healthcare and general practices within the primary healthcare division[4]. These investigations were started up only recently. The results will be integrated into the next ACMMP recommendations which are due to be come out in 2015. The committee will also look into ways in which sharper and more quantitative insight into the parameters concerning the deployment of work can be gained.

Training

The training institutes have concluded, on the basis of figures gathered over the past few years, that the training yield has improved considerably since the previous recommendations of 2011.

1 The first recommendations for the mental health professions was independently published advice. The second recommendations formed part of the integral ACMMP recommendations.

2 Nivel (2012) The workforce of psychologists, orthopedagogists and mental health NPs.
Regioplan (2012). The developments in the demand for mental health professions.
Kiwa Prismant (2012). Demographic changes and the demand for five IHCP-registered professions within the mental health sector.
IPSE Studies (2013). Trends in the deployment of work within the mental health sector.
Kiwa Prismant (2013). Epidemiology and the demand for five IHCP-registered professions within the mental health sector

3 The ACMMP also uses the method of holding expert meetings to estimate future workforce trends within other professions.

4 In the Government Agreements made with stakeholders within the mental health sector three echelons are cited: the GP with a mental health general practice nurse, general, basic mental healthcare and specialised mental healthcare. The research design was created before the Agreements were made. The implementation of the research and the research reports will take these three echelons into account.

This applies particularly to the courses given for mental health (MH) psychologists, clinical psychologists, neuropsychologists and psychotherapists.

There is a difference between the number of registered trainees and the number of subsidized training places. The registrations for MH psychologists, psychotherapists and mental health nurse practitioners (NP) exceed the number of subsidized training places.

The training of clinical neuropsychologists is not subsidised. The influx of social psychiatric nurses into the shortened training of mental health NPs has led to a temporary increase in the number of registered trainees participating in these training programmes.

The demand for care

The policy initiatives of the government[5] and of suppliers of mental healthcare focus[6] on a reduction (through self-management) and a reversal (to basic mental healthcare) of the demand of care. The influence that demographic changes have on the demand is small. The demographics are changing slightly, but no increase in the demand for mental healthcare is expected. The decrease in the numbers of younger people and the increase in the numbers of elderly patients has different effects on the different professions. The former development will affect MH psychologists as they see relatively large numbers of younger people in their practices. The latter development will have an effect on the mental health NP, who tends to see predominantly older patients. Epidemiological changes were not revealed.

The provision of care

A survey that was conducted among 3,000 professionals and had a response rate of around 50%, provided considerable workforce-related information. For instance, the gender distribution between the various professions as well as the part-time employment factor both for men and women became clear. Furthermore insight was gained into the number of working professionals compared to the number of registered professionals. The mental healthcare professions, with the exception of the mental health NPs, are known for their huge registration overlap. Figure 4 of this report gives a good overview of that overlap. The survey also showed the way in which the different professions are dispersed over the various branches within the mental healthcare sector. Most professionals are active in the mental healthcare branch. However, the portion that they represent never exceeds 50%, except for in the case of mental health NPs. Apart from working in the mental healthcare branch, these professionals are also deployed in primary psychological needs practices, nursing and care homes, in mentally disabled welfare, hospitals, youth care and in the rehabilitation sector (see Table 16 of this sub-report). The psychotherapists and clinical psychologists have the highest average age, therefore outflow from the workforce in the coming years will be much higher in that group than was estimated in the last recommendations. Another important finding shows that, compared to the last recommendations, the estimated outflow from the workforce of MH psychologists, clinical neuropsychologists and mental health NPs will be lower than was originally anticipated.

5 Government Agreements on the Future of Mental Healthcare 2013-2014.
6 Several professional organisations: NIP, LVE, NVP, GGZ NL, NVvP, LVG, Meer GGZ.

Work deployment

In the last recommendations the work deployment parameters were not used and were thus set at 0%, except for the efficiency parameter. In the current recommendations, a blend of research results and expert opinions was used to quantify certain parameters[7].

The changes resulting from certain professional developments, which are worth mentioning, apply to the relatively new professions of clinical neuropsychology and to the mental health NP. The effects of the efficiency measures that have been taken and have been reviewed within the professions and by the branches are, at times, contradictory but the efficiency impacts are minimal in each of the professions.

In all the professions that have been examined, minimal horizontal substitution is expected, particularly where the branches and professional groups within the mental healthcare sector are concerned. In these estimates horizontal substitution in the direction of the clinical neuropsychologist is expected, again because that profession is fairly new. Both the experts and the branch organizations expect to see vertical substitution from non-IHCP-registered psychologists in the direction of MH psychologists and, to a certain degree, among psychotherapists, clinical psychologists and clinical neuropsychologists. It is expected that vertical substitution will be seen between the psychiatrist and the mental health NP.

Recommendations

In contrast to the initial, provisional recommendations of 2011, the present recommendations are of an advisory nature. This advice is based on five major research projects as well as various other reliable and complete sources[7] of information. These quality improvements contribute to making the advice bandwidth narrower. What is inherent to all the changes in mental healthcare demands is that there are also uncertainties about the way in which this demand will be met. Due to such uncertainties and because of the relatively short period of training, the ACMMP chooses to aim for the closest year of equilibrium which is: 2025.
The second choice the ACMMP made was for what is known as a 'continuing trend'. Both research and expert opinion verify that for the MH psychologist, psychotherapist, clinical psychologist and the clinical neuropsychologist the developments are too uncertain to opt for a 'continuing trend'. These uncertainties apply to professions where a higher influx rate is expected (clinical psychology and clinical neuropsychology) and to professional areas where a lower influx is expected (psychotherapists and MH psychologists).
For the mental health NP it is expected that a continuing trend will be seen. This is partly stimulated by ongoing substitution away from the psychiatrist towards the NP. The reverse effects on the expected numbers of psychiatrists can be found in the recommendations made for medical specialists/psychiatrists. The effecting of this development will all depend on the rate at which barriers to substitution, such as professional developments and financing, can be taken away.
The growing need for mental health NPs can also be related to the increasing numbers of elderly people. This profession is predominantly devoted to elderly patients.

7 The parameters of unmet demand, efficiency, horizontal and vertical substitution constitute an exception. The values of these parameters are derived from expert meetings (see Section 1.3)

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The advice

The recommendations made by the ACMMP concerning intake levels for the mental health profession are as follows. This relates to the yearly intake levels from 2015 onwards, reaching an equilibrium in 2025 and including the ACMMP's preference.

	Bandwidth		Preference
MH psychologists	585	655	**585**
Psychotherapists	271	295	**271**
Clinical psychologists	245	266	**245**
Clinical neuropsychologists	20	25	**20**
Mental health NP, 3-year training*	57	87	**87**

* Exclusively the 3-year training, therefore excluding the 32 training places for the 2-year training courses provided at the colleges of higher education.


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Advisory Committee on
Medical Manpower Planning

PO box 20051
3502 LB Utrecht
The Netherlands

visiting address
Domus Medica
Mercatorlaan 1200
3528 BL Utrecht
The Netherlands

telephone
+31 30 282 38 40

e-mail
info@capaciteitsorgaan.nl
www.capaciteitsorgaan.nl