THE FUTURE IS ALMOST THERE

Attitudes of medical students towards medicine for older people and their motives for future career choice
The future is almost there

Attitudes of medical students towards medicine for older people and their motives for future career choice

ACADEMISCH PROEFSCHRIFT

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De Boelelaan 1105

door

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          prof.dr. C.M.P.M. Hertogh

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Colofon
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<td></td>
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<td></td>
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A career in elderly care medicine; an option for today’s medical student?  
Auteurs: AA Meiboom, H de Vries, MB Soethout, CMPM Hertogh, F Scheele  
An adapted version is published in Tijdschr Gerontol Geriatr 2018 July 12.

Chapter 6:  
Raising enthusiasm for the medical care of elderly patients: a broad framework for an elderly friendly medical curriculum.  
Auteurs: AA Meiboom, H de Vries, C van der Zee, CMPM Hertogh, F Scheele  
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Chapter 1

GENERAL INTRODUCTION
INTRODUCTION

The number of older people in the Netherlands continues to grow, including the number of vulnerable older people with complex problems who need the medical care provided by geriatricians and elderly care physicians. In the Netherlands the Capaciteitsorgaan has calculated that the care demand for elderly care physicians will continue to increase and that the capacity of this profession should therefore grow (1). This means more training slots are needed. However, in recent years not all available training slots were utilized. The same problem occurs in other countries. In the United States, for example, only 63% of the geriatric medicine first-year fellowship training slots was utilized (2). So it is important that more medical students develop an interest in a future career in elderly care medicine. To achieve this we need a better understanding of the factors that influence the interest in elderly care medicine and geriatrics.

Which factors are included in the students’ specialty choice?

Various studies have examined which factors students include in their choice of specialty.

Factors

The study by Kassebaum shows that the type of patient problems encountered was the most influencing factor in the specialty choice of medical school graduates (3).

A more recent study by Maiorova shows that work content, type of patients and lifestyle options play major roles in career decisions (4). The exposure of medical students to the three studied specialties, surgery, internal medicine and general practice, encourages them to consider a career in that specialty. They use the clerkships to match their specialty preference with reality. The influence of role models was only significant for the likelihood of becoming an internist.

Retrospectively, clinical and general practitioner residents rated interest in a specific field and experiences in medical school as the most influencing factors for their career choice (5). For public and occupational health residents, the most important factor was working office hours.
**Hidden curriculum**

Decision-making is also influenced by subjective norms, according to the theory of reasoned action. Implicit beliefs and norms are transmitted to medical students in the so-called hidden curriculum, as a side effect of formal education (6). This hidden curriculum is believed to have a real impact on medical students according to Phillips and Clarke (7). In their qualitative study, medical students tried to adapt to their teachers’ values. The authors stated that some students may rethink their career plans when confronted with denigrating remarks about physicians in other specialties.

**Process**

Less has been published about the question when medical students decide on their future specialty. In one US study a large percentage of new medical students expressed an interest in pediatric medicine, surgery, and general practice. These are disciplines they may have come in contact with. Most of the students changed their specialty choice at the start of the clinical phase or before graduation. At the start of the final year, 20 per cent had not yet decided on a specialty. By the end of the final year, when all students must choose a residency, 99 percent had made their decision (8). In Great Britain, where students have two years after their five-year medical training to work in different specialties before they must choose a specialization, the choice of a specialty proves to be influenced by experiences in that specialty during medical school, as well as experiences gained in the two years after that. Surgery was generally chosen before graduation, whereas the decision to pursue other specialties, such as psychiatry, was made at a later stage (9).

In summary, type of patients and patient problems, work content, experiences in medical school, a clerkship, role models and aspects of the hidden curriculum are important factors in the specialty choice, especially the primary care specialty choice. For most students the career choice changes during medical school; for some specialties the decision is made earlier, during medical school, for others at a later stage, after graduation.

None of these studies looked specifically at the interest in geriatrics.¹

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¹ We have used the term ‘geriatrics’ in internationally published studies and in search strategies applied to international literature, as other countries do not know the elderly care medicine specialty. The difference between the two can be described as follows:
Chapter 1

There are studies that focus on the influence of different factors in relation to an interest in geriatrics. However, these generally examine only a few aspects and they are so diverse that we conducted a review.

In relation to the timing of a geriatrics career choice a British study showed that geriatrics is chosen years after graduation (10).

CENTRAL RESEARCH QUESTIONS AND OVERVIEW

Based on the presented overview of the literature on influencing factors in specialty choice in general among medical students, it would be useful to study in what way these factors influence the medical students when they consider elderly care medicine or geriatrics as a career.

Hence, the central research questions of this thesis are:

1. Which factors influence medical students’ interest in a career in elderly care medicine or geriatrics in a positive or negative way?
2. How and when do trainees make their choice for a career in elderly care medicine or geriatrics and which factors influence this process?

In addition to searching for causes, we also wanted to focus on finding solutions, so the third research question in this thesis is:

3. How can we raise medical students’ enthusiasm for the medical care of elderly patients?

The Dutch elderly care physician is responsible for the transitional care in the hospital, geriatric rehabilitation, long-term care and terminal care in the nursing or residential home and, when consulted by the general practitioner, for the complex patients with comorbidity at home. The hospital geriatrician is responsible for the (acute) hospital care for geriatric patients. In other countries hospital care as well as community and nursing home care is usually delivered by the geriatrician.

As this thesis looks at both situations, the terms ‘geriatrics’ as well as ‘elderly care medicine’ are used in this thesis. When we used the term geriatrics, it is relevant for both hospital geriatrics and elderly care medicine.
REFERENCE LIST

(1) Capaciteitsorgaan. Capaciteitsplan 2016; Deelrapport 5; Specialist ouderengeneeskunde. 2016.
Ref Type: Generic

Ref Type: Internet Communication


Chapter 2

WHY MEDICAL STUDENTS DO NOT CHOOSE A CAREER IN GERIATRICS: A SYSTEMATIC REVIEW.

Auteurs:
AA Meiboom
H de Vries
CMPM Hertoghs
F Scheele

Chapter 2

SUMMARY

BACKGROUND

While the demand for doctors specialised in the medical care of elderly patients is increasing, the interest among medical students for a career in geriatrics is lagging behind.

METHODS

To get an overview of the different factors reported in the literature that affect the (low) interest among medical students for a career in geriatrics, a systematic literature search was conducted using PubMed, Embase, PsycINFO, and ERIC. Quality assessment criteria were applied.

RESULTS

Twenty studies met the criteria and were included in the review.

In relation to the nature of the work, the preference of medical students is young patients, and acute somatic diseases that can be cured. The complexity of the geriatric patient deters students from choosing this specialty. Exposure by means of pre-clinical and particularly clinical education increases interest. The lack of status and the financial aspects have a negative influence on interest.

CONCLUSION

Exposure to geriatrics by means of education is necessary. The challenge in geriatric education is to show the rewarding aspects of the specialty.
BACKGROUND

Healthcare has to be arranged for the increasing proportion of older people in the population. According to the United Nations the number of people over 80 is likely to quadruple in most countries, reaching 400 million by 2050 (1).

One solution to meet the health care needs of the growing number of elderly is to increase the number of doctors specialized in the medical care of elderly people. Despite differences between countries, the main problem is that the interest among medical students in a career in geriatrics is lagging behind. In the United States, for example, 44% of the geriatric medicine first-year fellowship training slots were left unfilled in 2008, while many more geriatricians are needed in the future (2).

Many expert views can be found in the literature regarding the issue of insufficient interest in geriatrics. The main themes that are highlighted are (lack of) exposure to the field, finances and status, and the nature of the work.

Regarding exposure, both a lack of exposure to geriatrics and the scarcity of positive role models are said to contribute to the students’ lack of interest in geriatrics (3;4). In addition, the fact that there are not enough faculty members to teach, the lack of visibility of research programmes in comparison with other specialties, and a scarcity of trained leaders in geriatrics are also said to play a role (3;4).

The relatively low financial rewards (at least in some countries) and low status associated with the field are indicated as contributing factors to a lack of interest in geriatrics (3-5).

In relation to the nature of the work, treating a high number of elderly patients with chronic illnesses is reported to be less attractive than curing younger patients with acute illnesses (5).

However, the experts do not present the evidence for the factors they mention. Nor do they offer other possible explanations for the limited interest in geriatrics.

The above brings us to the following question:
What is known from scientific research regarding the factors that contribute to the interest or lack of interest of medical students in a career in geriatrics?

We performed a systematic search of the literature to get an overview of the different factors that are relevant in the decision of medical students to choose a career in geriatric medicine.

**METHODS**

A literature search was conducted by the researcher and a senior librarian on February 8, 2013, using PubMed, Embase, ERIC and PsycINFO. The search (Mesh) terms used were geriatrics, career, career mobility, career planning, career choice, specialisation, medical student, and clinical education.

Only original research was selected. A publication was deemed relevant if it included medical students’ interest in geriatrics in relation to possible influencing factors. No restriction was made as to the year of publication. Only studies written in English, French, German or Dutch were selected. There were no restrictions regarding country of origin.

Titles, abstracts and if necessary full text articles were independently reviewed for relevance by two researchers (AM, HdV). Disagreements were resolved through discussion with a third reviewer (FS).

Reference lists were checked for additional publications, which in turn were checked for relevance using the same criteria.

**QUALITY ASSESSMENT**

The quality of each quantitative study was assessed independently by two researchers (AM, HdV) on the basis of the validity scale developed by Bland et al., which provides a systematic approach for a “non-statistical meta-analysis” of the literature (6). The following data were extracted, using a predetermined form: author, year, type of study, data source, theory or model based, number of students as subjects, number of schools as subjects, sample size, level of training of respondents, variables. Quality scores ranged from 0 (minimum) to 100 (maximum). A higher quality score was given for good internal validity, the use of reliable measuring instruments, the research being based on a theory,
and larger samples and higher response rates in the research. If the two assessors could not reach consensus, the decision was made by a third researcher (FS).

Studies with a cumulative rating of 45, the cut-off chosen by Bland, were considered to have a sufficiently high level of evidence, and were included.

For each qualitative study, it was ascertained whether it contained a good description of the research team and reflexivity, the study design and the analysis and findings, the three domains of the consolidated criteria for reporting qualitative studies (COREQ) checklist (7). Detailed description of at least two of these items meant inclusion of the study.

**SPECIALTY CHOICE MODEL**

To organise our data we used the model of medical students’ specialty choice developed by Bland and Meurer (8). This model is based on the premise that medical students will try to match the perceived characteristics of the specialty to their career needs, based on their values which in turn are based on student characteristics like personality, preschool experiences, and demographic factors. Furthermore student values and the way students perceive specialty characteristics are influenced by medical school characteristics such as values and culture of the institution, faculty composition and curriculum.

To summarize the literature we used the main components from the Bland-Meurer model:

‘medical school characteristics’ (a combination of type of school, mission and structure, faculty composition, admission committee, faculty values, curriculum committee, student composition, institutional culture and curriculum), ‘medical student characteristics’, (a combination of medical students’ incoming values, graduate values and needs to satisfy) and ‘medical students’ perception of characteristics of geriatrics’.

To determine whether information is available for each component of the model, the results are summarized in relation to this model.

**ETHICAL APPROVAL**

Ethical approval is not necessary in case of this literature review.
RESULTS

ARTICLES
The literature search yielded 326 citations from PubMed. The search added 240 citations in Embase, 59 in ERIC and 22 in PsycINFO.

Many publications concerned the evaluation of educational programmes and/or the attitude of the medical student in relation to the elderly or the elderly patient. They were only selected if they also measured the medical student’s interest in geriatrics.

On the basis of the inclusion criteria, 281 titles were selected. Abstracts were available for 174 titles, of which 122 were excluded. From the 159 requested full articles, 18 were found to be relevant. In addition, five relevant references were selected, resulting in a total of 23 selected articles, i.e. three qualitative studies and 20 quantitative studies. Of the quantitative studies, two were excluded on the basis of a quality score of less than 45. One of the qualitative studies was excluded on the basis of insufficient quality (Figure 1). An overview of the included articles, including the assigned quality scores, can be found in table 1.

FACTORS
The findings from the 20 studies are categorised according to the summarized components of the Bland-Meurer model (see table 2).

In each category the qualitative studies are described first, followed by the quantitative studies.

Medical school characteristics
Faculty members and role models
In the UK, in a medical school with a Department of Health Care of the Elderly, significantly more students appeared to have an interest in geriatrics than in a medical school without a Department of Health Care of the Elderly (9).

Pre-clinical education
Three studies looked at the influence of geriatric courses in the first year of medical school on medical students’ interest in geriatrics as a specialty.
One medical school implemented the Geriatrics Continuity of Care Track, consisting of six sessions with three components; a 1-hour didactic presentation; a visit to an assigned older volunteer; responses to web-based reflection questions. No significant increase in interest in geriatrics was found after participation in the programme (10).

Figure 1: Search history
<table>
<thead>
<tr>
<th>Article Number</th>
<th>Author(s)</th>
<th>Year</th>
<th>Rate (%)</th>
<th>Population, Medical Students and Response</th>
<th>Design</th>
<th>Variables (Independent Variables)</th>
<th>Variables (Dependent Variables)</th>
<th>Measurement Tool</th>
<th>Quality Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Watts et al.</td>
<td>1986</td>
<td>94%</td>
<td>81 clinical students and response rate (rr)</td>
<td>Pre-experimental</td>
<td>IV: education</td>
<td>DV: interest and attitude</td>
<td>attitude: modified ASD Rosencranz-McNevin and Likert scale with specific medical content</td>
<td>65</td>
</tr>
<tr>
<td>10</td>
<td>Aiford et al.</td>
<td>2001</td>
<td>82%</td>
<td>404 first-year students before attachment</td>
<td>Etiologic-observational</td>
<td>IV: education</td>
<td>DV: interest and attitude</td>
<td>attitude: own questionnaire, some validity and reliability</td>
<td>60</td>
</tr>
<tr>
<td>11</td>
<td>Eskildsen et al.</td>
<td>2009</td>
<td>96%</td>
<td>129 preclinical students</td>
<td>Etiologic-observational</td>
<td>IV: education</td>
<td>DV: knowledge, attitude, work preference</td>
<td>attitude: own list</td>
<td>59</td>
</tr>
<tr>
<td>12</td>
<td>Carmel et al.</td>
<td>1992</td>
<td>86%</td>
<td>127 first-year students</td>
<td>Pre-experimental</td>
<td>IV: education</td>
<td>DV: interest and attitude</td>
<td>attitude: UCLA-GAS</td>
<td>67</td>
</tr>
<tr>
<td>13</td>
<td>Diachun et al.</td>
<td>2006</td>
<td>42%</td>
<td>42 first-year students</td>
<td>Etiologic-observational</td>
<td>IV: different form of education</td>
<td>DV: interest and prior interest</td>
<td>attitude: Palmore</td>
<td>53</td>
</tr>
<tr>
<td>14</td>
<td>Lu et al.</td>
<td>2010</td>
<td>71%</td>
<td>147 first-year students</td>
<td>Pre-experimental</td>
<td>IV: education</td>
<td>DV: interest</td>
<td>attitude: ASD Rosencranz-McNevin</td>
<td>74</td>
</tr>
<tr>
<td>15</td>
<td>Hughes et al.</td>
<td>2008</td>
<td>96%</td>
<td>163 first-year students</td>
<td>Etiologic-observational</td>
<td>IV: education</td>
<td>DV: interest and attitude</td>
<td>Own questionnaire, some validity and reliability</td>
<td>62</td>
</tr>
<tr>
<td>16</td>
<td>Peach et al.</td>
<td>1992</td>
<td>71%</td>
<td>58 and 70 fourth-year students</td>
<td>Pre-experimental</td>
<td>IV: education</td>
<td>DV: attitude towards elderly, medical attitude towards elderly</td>
<td>Rosencranz-McNevin Likert scale (attitude elderly medical care)</td>
<td>60</td>
</tr>
<tr>
<td>17</td>
<td>Sainsbury et al.</td>
<td>1992</td>
<td>66%</td>
<td>68 in total, clinical phase</td>
<td>Pre-experimental</td>
<td>IV: education</td>
<td>DV: attitude towards elderly, medical attitude towards elderly</td>
<td>attitude: AOSD Rosencranz-McNevin</td>
<td>50</td>
</tr>
<tr>
<td>18</td>
<td>Smith et al.</td>
<td>1989</td>
<td>99%</td>
<td>122 and 122 fourth-year students</td>
<td>Pre-experimental</td>
<td>IV: education</td>
<td>DV: attitude regarding elderly and attitude regarding elderly medical care</td>
<td>attitude: AOSD Rosencranz-McNevin</td>
<td>80</td>
</tr>
<tr>
<td>19</td>
<td>Green et al.</td>
<td>1983</td>
<td>100%</td>
<td>148 third-year students during general practice clerkship</td>
<td>Experimental</td>
<td>IV: Geriatric rotation</td>
<td>DV: intention to work with the elderly</td>
<td>Multidimensional questionnaire, compiled from previously developed and tested instruments, or by researchers on the basis of face validity; Factor analysis performed</td>
<td>80</td>
</tr>
</tbody>
</table>
Table 1: Summary of Publications about Interest in Geriatrics by Medical Students. (continued)

<table>
<thead>
<tr>
<th>Article Author</th>
<th>Year</th>
<th>Population, medical students and response rate (rr)</th>
<th>Design</th>
<th>Variables (Independent Variables Dependent Variables)</th>
<th>Measurement tool</th>
<th>Quality score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diachun et al.</td>
<td>2006</td>
<td>rr 90% ® 108 first-year students, follow up in the second year, rr of 80% ® 96 students</td>
<td>Observational</td>
<td>IV: factors</td>
<td>No known measurement tool. Measured validity and reliability themselves.</td>
<td>59</td>
</tr>
<tr>
<td>Sainsbury et al.</td>
<td>1994</td>
<td>rr 61.8% ® 102 graduates</td>
<td>Etiologic-observational</td>
<td>IV: going through entire clinical phase/other clerkships DV: attitude elderly medical care</td>
<td>Likert-scale, used before.</td>
<td>66</td>
</tr>
<tr>
<td>Fitzgerald et al.</td>
<td>2003</td>
<td>rr 98% ® 171 first-year students</td>
<td>Observational</td>
<td>IV: knowledge, attitude, previous experience with elderly care DV: interest</td>
<td>UCLA GASMSAS</td>
<td>54</td>
</tr>
<tr>
<td>Michielutte et al.</td>
<td>1985</td>
<td>rr 92% ® 403 students</td>
<td>Observational</td>
<td>IV: positive experience elderly care, intention internal medicine or general practice DV: interest</td>
<td>Palmore's Facts on Aging Quiz (knowledge and perception) (25)</td>
<td>59</td>
</tr>
<tr>
<td>Schigelone et al.</td>
<td>2004</td>
<td>20 first-year students</td>
<td>Qualitative</td>
<td>Experience with elderly, beliefs about geriatrics, beliefs about medicine</td>
<td>Interviews</td>
<td></td>
</tr>
<tr>
<td>Chua et al.</td>
<td>2008</td>
<td>rr 97.6% ® 244 first-year students</td>
<td>Observational</td>
<td>IV: gender and attitude DV: interest</td>
<td>UCLA GAS</td>
<td>45</td>
</tr>
<tr>
<td>Torrible et al.</td>
<td>2006</td>
<td>rr 45% ® 140 senior</td>
<td>Observational</td>
<td>IV: factors DV: attractiveness of GM</td>
<td>GRIST survey</td>
<td>45</td>
</tr>
<tr>
<td>Bagri</td>
<td>2010</td>
<td>30 fourth-year students</td>
<td>Qualitative</td>
<td>Factors</td>
<td>Focus groups</td>
<td></td>
</tr>
</tbody>
</table>
Table 2. Factors Associated with the (little) Interest in a Career in Geriatrics by medical students

<table>
<thead>
<tr>
<th>Factors</th>
<th>Influence to the interest in geriatrics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Articles qualitative</td>
</tr>
<tr>
<td><strong>Medical school characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Department of geriatric medicine</td>
<td>9+s</td>
</tr>
<tr>
<td>Preclinical education in geriatrics</td>
<td>10+ns, 11+ns, 12ns</td>
</tr>
<tr>
<td>Preclinical elective education in geriatrics</td>
<td>14+s</td>
</tr>
<tr>
<td>Clinical education in geriatrics</td>
<td>14+s, 16+s, 17+, 18+, 19ns</td>
</tr>
<tr>
<td>Knowledge of geriatrics</td>
<td>12ns, 22ns, 23ns, 24ns</td>
</tr>
<tr>
<td><strong>Medical student characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Previous personal contact with elderly/care</td>
<td>25+</td>
</tr>
<tr>
<td>of elderly</td>
<td></td>
</tr>
<tr>
<td>Female gender</td>
<td>15ns, 20+, 22+, 26+</td>
</tr>
<tr>
<td>Age of the student</td>
<td>15ns, 20ns, 26ns</td>
</tr>
<tr>
<td>Ethnic backgrounds of the student</td>
<td>15ns, 26ns</td>
</tr>
<tr>
<td>Medical students’ fear about aging and death</td>
<td>25+</td>
</tr>
<tr>
<td>Attitudes towards the elderly</td>
<td>15+s, 22s+, 23ns, 26+s</td>
</tr>
<tr>
<td>Seeing themselves as a healer</td>
<td>25-</td>
</tr>
<tr>
<td>Seeing themselves as a caretaker</td>
<td>25+</td>
</tr>
<tr>
<td><strong>Medical students' perception of characteristics geriatrics</strong></td>
<td></td>
</tr>
<tr>
<td>Few are cured/no direct benefit</td>
<td>25-, 28-</td>
</tr>
<tr>
<td>Management of chronic illness</td>
<td>20-s, 27-s</td>
</tr>
<tr>
<td>Focus on quality of life</td>
<td>25+-</td>
</tr>
<tr>
<td>Complexity of geriatric patients</td>
<td>28-(+)</td>
</tr>
<tr>
<td>Not feeling comfortable with ambiguity</td>
<td>20-s</td>
</tr>
<tr>
<td>Low financial reward</td>
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<td>Possibility to work part-time/perceived</td>
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<td>lighter call schedule</td>
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<td>Length of training (five years)</td>
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<tr>
<td>Lack of prestige</td>
<td>28-</td>
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</tbody>
</table>

Numbers are reference numbers  
+s is significant (P<.05) positive influence  
+ is positive influence, significance not mentioned  
ns is not significant (P>.05)  
-s is significant negative influence  
- is negative influence, significance not mentioned  
(+) is positive influence for a small percentage of students

After a one-week module on aging, consisting of sessions on topics ranging from molecular biology to societal aspects of aging, an increase was shown in the choice for geriatrics as a specialty. However, this increase was not statistical significant (11). No
difference in interest in working with the elderly was found before versus after a 24-hours course with lectures, discussions and interviews of elderly people (12).

A study that looked into the influence of different didactic methods did not show a measurable difference in interest in geriatrics between a 3-hour didactic session and a 3-hour experiential learning session (13).

One medical school implemented a voluntary extracurricular programme in which first-year medical students were partnered with elderly who were active and living independently (14). Throughout the school year the students and their senior partners met several times. Prior interest in geriatrics and participation in the programme were significant indicators for interest in a career as a geriatrician.

**Clinical education**

Five studies looked into the interest in geriatrics after clinical education.

A statistically significant increase was seen after a clinical training programme in geriatric medicine lasting eight working days (15). In one medical school students were randomly allocated to a geriatric medicine attachment or a general medicine attachment. Afterwards, significantly more of the students attached to geriatric medicine were prepared to consider a career with elderly patients (16). Two other studies also report an increase in interest after an attachment to healthcare of the elderly, lasting five weeks and one month respectively, but the statistical significance is not mentioned (17;18).

No difference in interest was observed between students who undertook a four-week geriatric rotation within a primary care clerkship of eight weeks, and those who did not (19).

**Longitudinal effect of education**

Only three studies examined the interest in geriatrics in a longitudinal way. Interest decreased significantly one year after preclinical education in geriatrics as compared to the level immediately after the education (13;20). Also, the interest in geriatric medicine as a career showed a significant decrease between the completion of a fourth-year health care of the elderly attachment and graduation (21).
Knowledge
Knowledge of geriatrics per se did not appear to be a significant factor (12;22-24).

Medical student characteristics

Pre-medical school experiences
Qualitative research has shown that little or negatively tainted previous experience with elderly persons had a negative influence on interest (25).

Quantitative research findings in this area vary.

Previous personal contact with elderly persons did not have any influence in one study (23). In another study the degree of positive feelings about previous contact with the elderly was significantly and positively related to intentions to work with the elderly (19). Previous experience with elderly care had a positive influence on interest in geriatrics in one study (22). In four other studies it appeared to have no influence (15;20;23;26).

The proportion of medical students reporting a positive work or volunteer experience with seniors was found to be significantly higher among those interested in geriatric medicine than among those not interested, indicating that the quality of the previous experience is more important than the quantity (27).

Demographic factors
Different studies have looked at a number of demographic factors. More women than men were interested in geriatrics (20;22;26). Another study found no difference between male and female students (15). Different ethnic groups of medical students in the United States and Singapore showed no difference in interest (15;26). Also, no difference was found for different age groups (15;20;26).

However, more men appeared to have a significant preference for younger patients, acute illnesses, diagnostic procedures, and cognitively intact elderly patients (13).

Fears and goals
Qualitative research reported that students interested in geriatrics expressed more fear about growing old - for themselves and others - and about death, especially the death of others close to them, but also the death of their patients. (25).
The authors hypothesized that these fears drive the students to help others in the areas that they fear. In the same study students who did not have an interest in geriatrics saw medicine as fast and exciting, with the goal of adding many years to the life of the patient, resulting in the belief that working with an older patient is not rewarding. Students with a moderate to strong interest in geriatrics on the other hand, saw themselves more as care-takers, looked forward to comforting patients and believed that raising the quality of life of a patient can also be rewarding.

**Attitude**

A few studies looked at the relationship between the attitudes of medical students towards the elderly person or to the medical care for the elderly patient and their willingness to consider a career in geriatrics.

In three studies a significant relationship was observed between interest in geriatrics as a career choice and their attitude (15;22;26). However, another study did not find such a relationship (23).

**Medical students’ perception of characteristics of geriatrics**

**Chronicity of disease**

Qualitative research has shown that students are discouraged because it is impossible to see the direct effects of treatment or curation (25;28). In addition, many of them see not being able to solve all of their patients’ problems as a personal failure (28). The students experience the decline and death of their patients as depressing (25;28).

Quantitative research has shown that students not interested in geriatrics perceived the chronicity of disease and the focus on quality of life as a barrier to geriatric medicine as a career choice (20). Long-term care is found less attractive by medical students not interested in a career in geriatric medicine (27).

**Complexity of geriatric patients**

Students find the geriatric patients too complex, according to qualitative research. They feel overwhelmed by the poor health, the number of medical problems, atypical disease presentation, and polypharmacy (28). To assess and manage a geriatric patient takes too much time in their opinion (28).
Not feeling comfortable with ambiguity
Quantitative research has highlighted that ‘not feeling comfortable with ambiguity’ in relation to the complexity of patients was a bigger barrier to selecting geriatric medicine as a career for students who are not interested in geriatrics than for those who are (20).

Financial and lifestyle considerations
The low financial reward as a negative influencing factor is reported in both qualitative and quantitative research (20;27;28).

The possibility of working part-time and the perceived lighter call schedule was found to be of importance to students in the clinical phase who had some interest in geriatrics (27).

The length of training (five years) was a barrier for first-year students in Canada to selecting geriatric medicine as a career (20).

Status
Quantitative research has shown that for students not interested in geriatrics, prestige was a deterrent, although not a major deterrent (20).

Fears
According to qualitative research medical students expect to have difficulty with the ethical dilemmas and are afraid of unrealistic expectations on the part of the families of patients (28). Students not interested in geriatrics feared their patients being non-compliant and thought this would be frustrating (25).

Patients’ age
In addition, students not interested in geriatrics rated caring for younger patients as an important practice characteristic (20).

Positive factors
On the other hand, research has also revealed characteristics of geriatrics that positively influence an interest in this field among a small proportion of students:

In qualitative studies, some students found the geriatric patient a challenge and end-of-life care rewarding (25;28).
Quantitative research has described that the focus on the entire patient as opposed to organ systems, the intellectual challenge and opportunities for research as well as the experience of perceived rewards in the field of geriatrics are a positive influence in a small proportion of students (19;27).

**DISCUSSION**

We conducted a literature review to get an overview of the different factors that contribute to the interest or lack of interest in a career in geriatrics among medical students. The following aspects are worth mentioning.

**MEDICAL SCHOOL CHARACTERISTICS**

An increase in interest in geriatrics was seen particularly after clinical education in geriatrics. But the question is how to maintain this increased interest throughout the following years in medical school.

A visible department of health care of the elderly did have a positive influence on the interest in geriatrics among medical students.

Bland and Meurer distinguished more medical school components in their model, as mentioned in the methods section, e.g. mission and structure, institutional culture and faculty values. We did not find any geriatrics-oriented research on these components.

**MEDICAL STUDENT CHARACTERISTICS**

The findings regarding demographic factors vary considerably.

A positive correlation was found between an interest in geriatrics and attitude (towards the elderly person or the medical care for the elderly patient) in three of the four studies. However, these studies utilised the UCLA Geriatric Attitude Scale, a scale validated for primary care residents, not for medical students (29). In addition, one of the studies also used the Maxwell-Sullivan Attitude Scale, a commonly used but non-validated scale designed for family practice residents (30;31). The items of both scales contain a mix of attitude in relation to the elderly patient and elderly medical care.
The possibility of working part-time and the perceived lighter call schedule are seen as attractive factors. This may provide an opportunity to draw more students towards geriatrics.

**CHARACTERISTICS OR PERCEIVED CHARACTERISTICS OF GERIATRICS**

Geriatrics has a number of characteristics that the majority of students do not find attractive. These involve working with chronically ill patients, working in long-term care, less curable diseases and dealing with only elderly patients. It is also becoming clear that the complexity of the geriatric patient deters students. However, these students were not exposed to geriatric patients in a geriatric clerkship, only in other clerkships. In other words, they lacked the potentially positive experience of learning to manage these complex patients. A study on the perceived needs in geriatric education also described that medical students and residents found caring for the elderly unattractive, because they do not know how to deal with the complexity involved, multimorbidity, shorter life expectancy, and balancing treatment of diseases with quality-of-life and psychosocial issues. However, when they learned to manage these patients, it was experienced as ‘rewarding’ (32). So, education and learning can transform an overwhelming experience into a rewarding experience.

The low financial rewards and the lack of prestige of the specialty do have a negative impact on the specialty choice for geriatrics. However, the impact of the low prestige of the field seems to be small. According to Album the prestige of specialties, the prestige of diseases, and the characteristics of the patients having the disease are interrelated (33). Specialties that are considered a less biomedical type of medicine were seen as less prestigious. Furthermore, specialties with a low level of prestige are associated with, among other things, elderly patients, chronic conditions, and less visible treatment procedures (33;34).

A study on specialty choices by medical students in general reveals that “type of patient problems encountered” was the factor rated as the most influential. (35)

The Theory of Reasoned Action (TRA) proposes that the best predictor of behaviour, like specialty choice, is the intention to perform that behaviour (36). Intentions consist of attitudes and subjective norms. In this case this means attitudes regarding geriatrics
or the medical care for elderly patients. Subjective norms, e.g. the importance of the opinions of others, may consist of disregard for geriatrics in their environment.

Based on the TRA and the finding that “type of patient problems encountered” was rated as the most influential factor of specialty choice in general, it seems worthwhile to improve medical students’ perception of and attitudes towards the type of patient problems in geriatrics.

**Strengths/Weaknesses**

A strength of this study is that it wants to systematically map out the factors that play a role in medical students choosing geriatrics, which has not been done before. Unfortunately, the research in this area is insufficiently consistent for statistical meta-analyses. For instance, there is no uniform definition of students’ interest in geriatrics. In addition, most studies look at only a few variables, and the underlying factors are defined and also measured in different ways, so that quantitative comparison is impossible. In some studies it was not possible to test the significance of the different factors due to the small number of students with an interest in geriatrics as a career. Besides, not all potentially relevant factors have been studied thus far, e.g. faculty culture and values.

In short: the current state of the literature does not allow for a complete understanding of the underlying factors of medical students’ interest in geriatrics. Also we could not determine from the literature if medical students with an interest in geriatrics actually choose this speciality.

Another strong point is that we assessed the quality of each article using the Bland validity score, and this article shows the validity of results for each study. Besides, the studies that were not included on the basis of an inadequate quality score did not show a different picture. The use of the Bland-Meurer model was helpful in structuring and understanding the data.

A limitation may be found in the generalizability of the findings, since the studies were conducted in different countries and different decades. However, factors found in older studies also emerge in more recent ones. Only the factor ‘a visible department’ is found only once in an article from 1986. However, this factor was not included in the other studies, and we expect it will have the same effect today."
RECOMMENDATIONS

Policy

Exposure to geriatrics by means of a visible department and faculty members, pre-clinical and particularly clinical education, appears to be important.

The challenge for politics and professional associations is to improve the image of geriatric medicine as well as the financial rewards. Prestige and high reimbursement are interrelated and associated with diagnostic and therapeutic technical procedures. The time has come to realize a more appropriate reimbursement for managing patients with multiple chronic conditions.

Medical education

To increase the level of enthusiasm of medical students for geriatrics, it is important to show them the rewarding aspects of long-term care. Also, they need guidance to learn how to manage the complexity of geriatric patients, as well as deal with ethical dilemmas.

A mandatory geriatrics clerkship or clerkship in a nursing home can show students the challenge of solving complex clinical puzzles. To learn to manage the complexity of geriatric patients the students have to learn to move from a disease-oriented approach to a patient goal-oriented approach.

Intolerance of uncertainty is associated with reliance on high technology and is a predictor of a non-primary care specialty choice (37;38). As medical students with a poor tolerance of uncertainty consider the work of a general practitioner to be too challenging, we may assume that they are also put off by the complexity of the geriatric patient (37;38). The learning environment of a nursing home, with its paucity of advanced diagnostic tools, gives medical students the opportunity to develop their clinical and deliberate decision-making skills instead of relying on the more standardized treatment options in the hospital (39).

Besides, to increase the number of geriatricians, tolerance of uncertainty should be a criterion for admission to medical school.

In addition to increasing the number of geriatricians, we have to ensure that all future physicians have the skills to manage the problems of elderly patients, as they will be spending more and more time caring for these patients. Hence, medical curricula as well
as residency training programs should pay more attention to the principles of geriatrics. The two following examples illustrate how this can be realized, for medical students and for chief residents.

In 2007 the AAMC Geriatric Competencies for Medical Students were developed through a multi-method consensus process (40;41). This document consists of a minimum set of 26 geriatrics-specific competencies to be implemented in medical schools in the United States to prepare graduating medical students for the tasks they have to perform as a first-year resident in caring for geriatric patients.

The ADGAP Chief Resident Immersion Training (CRIT) in the Care of Older Adults consists of a two-day program for chief residents in medical or surgical residency training and provides case-based training in geriatric principles with a focus on the care of complex older patients (42).

Research
Both explanatory and longitudinal research is needed to gain more insight into the weight and the relationship of the different factors over time, so that interventions can be more focused.

It seems worthwhile to examine whether the student perception of the characteristics of geriatrics is influenced by a clerkship in geriatrics and whether this perception is in line with the actual characteristics of this field. It is also interesting to ascertain whether the potential change in perception affects the interest of students.

In addition, it is important to see which forms of education have more effect on student perception and interest and whether the length of the clerkship plays a role in this.

As the complexity of the geriatric patient appears to be an important negative factor, it is interesting to see which forms of education may improve the sense of competence and whether or not this influences interest.

This study focuses on medical education. However, a number of physicians will make their career choice during postgraduate clinical training. Therefore, it is also relevant to search for interventions that are useful in postgraduate clinical training.
CONCLUSION

In relation to the lack of interest in a career in geriatrics among medical students, evidence was found for the following themes arising from expert views: a. lack of exposure, b. low status and low financial reward, c. nature of the work. Regarding the latter, supplementing what expert views say, it is becoming clear that students are deterred by the complexity of the geriatric patient.

This review presents an overview of the currently known factors that may underlie the limited interest of medical students in geriatrics.

To guarantee strong medical care for frail, elderly people in our ageing society, it is important to address these factors now.
Why Medical Students Do Not Choose a Career in Geriatrics: a Systematic Review.

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Why Medical Students Do Not Choose a Career in Geriatrics: a Systematic Review.


Chapter 3

DRAWN TOWARDS A CAREER IN ELDERLY CARE MEDICINE, BUT NOT UNTIL AFTER MEDICAL SCHOOL!
ELDERLY CARE MEDICINE AS A CAREER CHOICE.

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SUMMARY

In order to develop strategies to raise the interest of medical students in a career in elderly care medicine (a specialty in The Netherlands) we need more insight into the career choice process among medical students and graduates. In this qualitative study we conducted three focus group discussions with elderly care medicine trainees who had just started their specialist training, and, for the purpose of comparison, two focus group discussions with obstetrics and gynaecology trainees. We found that both the elderly care medicine trainees and the obstetrics and gynaecology trainees made their career choice after clinical exposure in the field. Most of the elderly care medicine trainees did not make their choice until after graduation, when they started working in nursing homes in temporary jobs. The obstetrics and gynaecology trainees made their specialty choice during medical school. Almost all focus group participants had a very negative perception of elderly care medicine during medical school. Once they started working in a nursing home their perception changed. They came to realize the work was more interesting, more difficult, more intensive and more meaningful than they had initially thought.
Drawn towards a career in elderly care medicine, but not until after medical school! Elderly care medicine as a career choice.

INTRODUCTION

The demand for doctors specialised in the medical care of elderly patients is increasing worldwide due to the growing number of elderly people. In Europe more than 20 per cent of the population will be 65 or older by the year 2025 (1).

Several specialties are involved in the medical care of complex elderly patients. In most countries it involves geriatricians or general practitioners who have had additional training. In Flanders and the Netherlands we have the specialists in geriatric medicine and the clinical geriatrician or the internist geriatrician for the complex elderly patient in the hospital, respectively. In addition, in the Netherlands we have the elderly care physician for complex patients in the nursing home. See Figure 1.

While the demand for specialists in the medical care of elderly patients increases, the number of students who start this specialist training lags behind the demand. In the Unites States one third of the geriatric training slots were left unfilled in the academic year 2008-2009 (2).

In the Netherlands the number of available specialist elderly care medicine training slots was not fully utilised in recent years. International research shows that the interest in a career in geriatric medicine is very limited among medical students (3-6). It therefore seems important to motivate medical students and medical graduates to choose a career in this discipline.

In order to implement more specific measures we need insight into the decision-making process of medical students and medical graduates regarding elderly care medicine.

Research into how medical students make career choices in general shows that career-related and patient-related aspects, as well as working hours, play a role in their choice of specialty (7, 8).

In Great Britain a retrospective study on the career choice of geriatricians revealed that only 4 per cent of them chose this specialty while in medical school. The clinical aspects of the profession were mentioned as the most important reason for choosing geriatric medicine (9).
Chapter 3

Figure 1. Medical training model the Netherlands

- Basic medical training/Medical doctor
  - Specialist training elderly care medicine
    - 3 years
  - Clinical geriatric medicine training
    - 2 years internal medicine
    - 3 years clinical geriatric medicine
  - Internal medicine training
    - Minimum of 4.5 years
    - 1.5 years focus on geriatrics
  - Elderly care physician for patients in nursing home
  - Clinical geriatrician for complex elderly patient in hospital
  - Internist-geriatrician for complex elderly patient in hospital

Medical training model Belgium

- Flanders
  - Basic medical training/Doctor of Medicine
  - Basic training general internal medicine
    - 3 years
  - Specialist training in geriatrics
    - 3 years
  - Geriatrics specialist
    - for complex elderly patient in hospital
Drawn towards a career in elderly care medicine, but not until after medical school! Elderly care medicine as a career choice.

This does not tell us much about the long and complex process that eventually led to the decision to proceed with specialist training in geriatric medicine; or in the Netherlands: in elderly care medicine.

For this reason we conducted an exploratory study into the career choice process of elderly care medicine trainees who recently started their specialist training, based on the following questions:

- How and when was the decision to pursue elderly care medicine made?
- Which factors played a role in this decision?

**METHOD**

**DESIGN**

We decided to conduct a qualitative study using focus groups because choosing a career is a complex process that involves a variety of considerations, motivations, emotions and values. In the focus group discussions the participants talk to each other and ask each other questions about their decision-making process, which may lead to common experiences being uncovered (10).

**PARTICIPANTS**

Focus groups were conducted with trainees who were just starting their specialty training in elderly care medicine. As their choice was made relatively recently, they are best able to articulate which factors played a role in their decision. We also chose obstetrics and gynaecology trainees who were at the start of their training to become specialists, or interns who will be starting their training shortly, to learn how interested students from a totally different field arrived at their decision and what their vision of elderly care medicine was.

**FOCUS GROUPS**

We selected first year trainees, who studied medicine at different universities, from the specialist elderly care medicine training of VU Medical Center (VUmc). We then formed three focus groups consisting of eight to ten trainees.
Obstetrics and gynaecology trainees were selected from the Sint Lucas Andreas Hospital (SLAZ), a teaching hospital affiliated with the VU Medical Center. Two focus groups of four trainees each were formed.

A moderator who is not an elderly care physician and who had no other involvement in this study conducted the focus groups. The moderator used a script describing several key questions and themes. The moderator was not connected to the interviewed trainees as a teacher or a group supervisor.

The focus group sessions were held at VU Medical Center and SLAZ.

All focus group sessions were audiotaped and fully transcribed. Data collection took place between 2009 and 2011.

**ANALYSIS**

We used the method of inductive thematic analysis, based on the following steps: become acquainted with the data, open coding, search for themes, reread the transcript, adjust themes, discuss the themes, and, finally, define and name the themes. In order to increase validity and reliability two researchers (AM and BH) independently coded the data, identified themes and subsequently compared coding and themes. Differences were discussed until consensus was reached. This process was then discussed with a third researcher (HdV).

**RESULTS**

Analysis of the results led to several themes and subthemes, which are listed below.

Themes:
- exposure
- perception
  - nursing home
  - discipline
  - elderly patients
- origin of perception
  - experiences before or outside medical school
  - experiences during medical school
Drawn towards a career in elderly care medicine, but not until after medical school! Elderly care medicine as a career choice.

- perception adjusted
  - fascinating work
  - meaningful work
  - intensive work
  - the nursing home

**EXPOSURE**

Clinical exposure to the discipline proved pivotal for all focus group participants in their choice of speciality.

Of the elderly care medicine trainees some became enthusiastic after an elective clerkship or eldest clerkship in elderly care medicine. But the majority of students were not drawn into the discipline until they started working in the nursing home, i.e. after medical school. Some of them ended up there as the result of a conscious decision to work in a nursing home temporarily, before starting training in a different specialty, like general medicine. Once in the nursing home they discovered they really enjoyed the work and decided to pursue specialist training in elderly care medicine. Others discovered the disadvantages of the hospital for them, either during their clerkships or later, after an internship in the hospital. But they still would not consider pursuing the specialty of elderly care medicine. Via one or several intermediate steps such as general medicine, rehabilitation medicine, youth/child and adolescent medicine, addiction medicine, mental health care and physician for the mentally handicapped, they ended up in the nursing home, more or less by chance or based on a tip by another person. They then discovered it was much more interesting than they had thought.

*Elderly care medicine trainee (‘ECM’) 1-B.* ‘I knew the discipline existed. I had been away for a year because of a pregnancy and a renovation, and then I thought, I’ll just update my CV and through BVK [a job agency] I ended up in the nursing home for two months. And at that moment I started thinking about specialist training. Because it turned out to be a much more interesting profession than I had ever thought.’

*ECM 3-J.* ‘What has been said about the hospital earlier, you know, the high work pressure, the focus on the disease, not the person who has the disease, not so much. Yes, then I found it was not really for me. And I initially started working in the mental health field. From there I went into care of the mentally handicapped and I noticed that these fields,
they were incredibly interesting, but I did miss the somatic element; that is when I started working here.’

The interest of all obstetrics and gynaecology trainees in their discipline was awakened while in medical school. The obstetrics and gynaecology theoretical course awakened their enthusiasm, and after their gynaecology clerkship they were sure they wanted to become gynaecologists.

Obstetrics and gynaecology (Ob/Gyn) trainee 2-A. ‘Yes, also during my clerkship [...]. And in med school as well, I thought it was an interesting discipline. But I really got enthusiastic during the clerkship [...] I had such a good time, especially during my work placement in the delivery room [...]’

PERCEPTION

Nearly all focus group participants, the elderly care medicine as well as obstetrics and gynaecology trainees, had a negative perception of the nursing home or elderly care medicine during medical school. Most of them had a neutral attitude towards the elderly patient.

Nursing home

They saw their grandparents or patients do everything to avoid ending up in the nursing home, which created the image that the nursing home had to be an awful place.

ECM 1-B. ‘I worked in home care, and they did literally everything and anything to avoid having to go to that facility.

A large proportion of the focus group participants had paid a brief visit to the nursing home, either as relatives, or as students. They had experienced the nursing home as a depressing place. They spoke of: “very sad for the residents”, “all doom and gloom.”

ECM 3-J. ‘[...] well, it was a very old building, and there were six people to a room [...] that was not very stimulating.’

Ob/Gyn 1–2. ‘I also thought the whole atmosphere was a little depressive; it really made me unhappy.’
Drawn towards a career in elderly care medicine, but not until after medical school! Elderly care medicine as a career choice.

**Discipline**

Ideas about the discipline were mainly negative. For elderly care medicine trainees this was true during medical school and for the obstetrics & gynaecology trainees also during the focus group discussion. Statements made included: it’s pretty insignificant, not much happening there, just prescribing paracetamols and sticking plasters, not ambitious, only if you can’t find a job elsewhere, not medicine, no cure for patients, only sedation, a lot of Alzheimer’s, not enough doctors, stronger focus on the social aspect rather than the medical aspect.

*ECM 1-A.* ‘[. . .] because I really thought, they don’t do anything there, it’s just prescribing paracetamols and sticking plasters.’

*Ob/Gyn 1-C.* ‘Yes, my grandparents were in a nursing home. Where, by the way, I had the kindest possible nursing home physicians, but [. . .]. Well, OK, my darling grandmother was either oedematous or dehydrated, or she would be sitting there high as a kite on all the benzies [benzodiazepines] they are given. No, this really isn’t practising medicine in my opinion’.

However, two obstetrics & gynaecology focus group participants also said: “not such a bad profession at all” and “an important profession, just not for me”. They were able to name a few positive characteristics of the profession, such as: solving puzzles, ethical, like a GP but with more complicated problems, elderly care medicine physician acts as a coordinator, a lot of termination of life and pain control, variation. But they found it too reflective, not enough action, and a way of thinking too much like an internist described as “leisurely figuring things out, waiting two months to see if things improve”.

**Elderly patients**

Most participants were not especially interested or had any particular problem with elderly patients. On the contrary, some participants in both the elderly care medicine and gynaecology focus group preferred the elderly patients because of their wisdom and stories.

*ECM 1-A.* ‘[. . .] I have always had a fascination for wisdom and elderly people [...] and this fascination, it played a role in my decision to pursue this profession.’
For some of them this had been part of the reason to choose elderly care medicine. For others it did not affect their choice of career. Some indicated that during medical school they were put off by death or scared of patients who had Alzheimer’s disease.

ECM 2-J. ‘Children have plenty of life ahead of them, there is something heroic in that, there is something to rescue. This is much less the case with elderly people and I used to feel death was quite scary, and mortality and the period of life before death are very much the issue especially with elderly people, and that, for me, was not very nice to deal with”.

**ORIGIN OF PERCEPTION**

**Experience before or outside medical school**

Several focus group participants had relatives who worked as professionals in the nursing home. For one of them this had led to a positive perception of the nursing home, which contributed to his choice of specialty. For the others it contributed to a negative perception of the nursing home.

There were also focus group participants, both elderly care medicine and obstetrics & gynaecology trainees, who had worked extensively with elderly patients in home care during medical school. This had resulted in a positive perception of the elderly patient. For some elderly care medicine focus group participants personal interaction with elderly patients in the medical circuit also contributed to their interest in elderly care medicine.

ECM 3-H. ‘Yes, I have been thinking about becoming a nursing home physician for a while, [...]. This is in part because my mother is in charge of the night shift at the nursing home [...] This means a totally different experience [...]. For me the nursing home was not by definition a place of doom [...]’

ECM 1-J. ‘My uncle was a nursing home physician and when I was there I thought, well this is not for me, there is no curing, just giving out paracetamols and plasters, everyone leaves at 4 pm, there is no ambition.’

**Experiences during medical school**

The majority of the focus group participants had little to no theoretical education regarding elderly care medicine. This had contributed to their negative perception. Some of them indicated that the theoretical lecture courses they did receive had been one-sided, focused for example only palliative care or ethics. Also mentioned was that one
Drawn towards a career in elderly care medicine, but not until after medical school! Elderly care medicine as a career choice.

of the curricula did include a course on elderly patients, but that the teaching was done only by a clinical geriatrician and they had missed the elderly care physician.

ECM 2-J. ‘But I feel the negative perception is present there also, at least at the universities.’

ECM 2-E. ‘Because it is more or less ignored, you know, it’s just, well…’

Ob/Gyn 2-R. ‘I didn’t even know it was a medical specialty’

Those who had been taught by a elderly care physician named positive as well as negative examples. A seminar where students had to solve complex cases was assessed as positive. A lecture promoting the discipline made a negative impression. Also, courses were taught by elderly care physicians who were fed up with the practical work. During a visit to a nursing home a elderly care physician mentioned the practical advantages of the work, such as the possibility to work part-time. However, the focus group participants indicated that as a medical student you are interested in the medical aspects of the profession, and messages like these come across as negative.

ECM 3-F. ‘[…] I know that during my entire medical school career I have had one, only one lecture from a nursing home physician and the only thing I remember is a man in a white coat in front of the auditorium loudly proclaiming how wonderful nursing homes were, but actually coming across as desperate.’

ECM 2-D. ‘But then there were also people who were fed up, so that sort of kills any enthusiasm.’

ECM 1-H. ‘And it was incredibly interesting [...] it was one disease, of one patient in the nursing home with a urinary tract infection, delirium and [inaudible]. You have to solve everything in a small group. And for me it was the [inaudible] to choose this specialty. Based on the way he presents himself, but also discusses everything!’

The focus group participants who had done their first year nursing attachment in a nursing home were left with a negative perception.

ECM 1-E. ‘I did a nursing attachment in the first year; you are 18 years old and it takes two weeks and what you remember of it, you are sitting in a room filled with aphasic
CVA patients and they always started to cry when you tried to talk to them and that is the image you remember.’

None of the focus group participants had done a compulsory elderly care medicine clerkship. This means they knew nothing about the discipline, which according to them contributed to their negative perception. Some had done an elective clerkship or eldest clerkship nursing home medicine and/or geriatrics. This contributed to their decision to pursue elderly care medicine, but the reason for doing the elective clerkship was a pre-existing interest in elderly care medicine. One participant experienced it as a stuffy work placement, causing the interest to decline.

[Moderator: “Why is the perception of elderly care medicine negative?]  

ECM 2-E. ‘I think it is largely due to ignorance. During medical school you have, well only two weeks are about ageing and that is all you learn about elderly care medicine.’

ECM 2-A. ‘No clerkships, nothing.’

Negative perceptions were inadvertently transferred not only through the teaching (or lack of teaching) of elderly care medicine. Negative comments by physicians from other specialties also contributed to the negative perceptions.

ECM 2-F. ‘There really were a few, surgeons mainly, who would give lectures and say like, well, those of you who will be going into general practice or elderly care medicine can go to sleep now. For the serious doctors we will now continue. Yes, that is an image that is painted and ehm, in my opinion this is a bad thing, but it does have an impact.’

**Perception Adjusted**

**Fascinating work**

Once they start working in the nursing home, the trainees’ perception of the discipline and of the nursing home was adjusted. Participants mentioned that it was much more enjoyable and much more difficult than they previously thought. It turned out that there was extensive observation and analysis instead of just paracetamols and plasters. The work was judged to be more interesting than they thought, even more interesting than the work in a hospital. Participants mentioned that the nursing home provided the opportunity to be a real doctor again, drawing conclusions based on physical
Drawn towards a career in elderly care medicine, but not until after medical school! Elderly care medicine as a career choice.

examinations. Also mentioned was that the work was based less on protocols and you have to continually weigh whether or not to treat. Also, you need better interpersonal skills.

ECM 3-C. ‘Yes, that is when my perception changed dramatically, so this was not about paracetamols and plasters, it was about solid observation and analysis. And to me that was a real challenge. Yes, that’s when I thought, this is it.’

ECM 2-A. ‘[…] that you don’t just do something, but that you ask yourself each time, what is the added value for this particular patient. And that you have the opportunity to do that, that you don’t simply think, well, the guidelines tell me to do this and this, and that’s it.’

ECM 1-A. ‘Well, during your education, you are also learning physical examination, what conclusions can you draw from very limited things, you know, stethoscope, reflex hammer, medical light, and that’s pretty much it. And as soon as you enter the hospital that all fades into the background, because, OK, you put your stethoscope on it, but the next thing you do is fill out the form requesting the chest X-ray. So you don’t have to listen to draw a conclusion. The X-ray will provide that. So that should also be emphasized in the relevant courses. Because in the nursing home you do base your conclusions on the physical exams you do. For me this was one of the critical reasons to choose this specialty, that you can be a real doctor. Instead of a person who is really good at quickly filling out forms.’

ECM 2-A. ‘And it also demands better interpersonal skills, I kind of underestimated that. […] and I really enjoy that too […]’

**Meaningful work**

Furthermore, the work in the nursing home was considered more meaningful than work in the hospital.

ECM 2-A. ‘Yes, I think that that [the confrontation with the patient’s quality of life and the question whether or not to treat the patient], is, in my opinion, much more meaningful work than in the hospital. Because now I feel, my work has never been more significant than now.’
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**Intensive work**

The image of an easy 9 to 5 job also proved to be wrong. The standby shifts, where you can be called out during the night and still have to continue as usual the next day make it hard, but also enjoyable.

*ECM 2-F. ‘In hindsight I feel it is much more intensive that the hospital, what I have to do now in 8 hours was much more tiring than what I did 12 hours a day in the hospital. Because it hits much closer to home, because you are confronted much more with, what is quality of life to you and do you treat or not, how do you support people, while in the hospital the doors close at that moment and you treat the patient, because from a medical point of view you must.’*

**The nursing home**

As far as the nursing home is concerned, it turned out not to be all gloom and doom; people were actually having a good time there.

*ECM 1-E. ‘That it did have to offer something to these people, that those people actually still really enjoyed themselves [...] and that improvement is possible [...]’*

**DISCUSSION**

In this study we looked at the question how and when the decision to specialize in elderly care medicine came about and which factors played a role in this decision. The results show that most of the elderly care medicine trainees made their decision after medical school. Clinical exposure to the discipline was decisive. During medical school most had a negative perception of elderly care medicine and of the nursing home. Experiences before and also outside medical school contributed to this perception. Once they started working in the nursing home the image was adjusted in a positive sense and many chose to pursue this specialist training.

The obstetrics & gynaecology interns indicate they were drawn into their discipline while in medical school; theoretical lecture courses piqued their interest and their clerkship decided their career choice.

Exposure to the discipline therefore appears to be a prerequisite element in being able to come to this decision.
Drawn towards a career in elderly care medicine, but not until after medical school! Elderly care medicine as a career choice.

A retrospective study among geriatricians in Great Britain also found that the decision to pursue a career in geriatrics was made relatively late, after medical school (11). Only 10% had received clinical education during medical school. Perhaps introducing a compulsory elderly care medicine clerkship could increase enthusiasm for the elderly care medicine specialty and raise students’ interest at an earlier stage. Research into the effect of a geriatrics clerkship shows that the interest in geriatrics is higher immediately after the clerkship (6, 12). However, it is not clear whether this increased interest translates into an increase in recruitment into specialist training.

The perception of elderly care medicine among the focus group participants during medical school was “paracetamol and plasters”, no real medicine and not challenging. Bagri found similar results in a qualitative study into medical students’ perception of geriatrics in the United States. The students mentioned the frustration of not being able to cure and they saw no intellectual challenge in the field, while at the same time they viewed the geriatric patient as too complex (13).

The negative perception of elderly care medicine was formed partly by factors outside medical school, but also by the study of medicine itself. For some it was caused by the lack of education in elderly care medicine. For others the education in elderly care medicine they received did not appeal to them or it had transferred, implicitly or unintentionally, incorrect perceptions.

We also observed that negative remarks by other physicians partly determined the perception of elderly care medicine. We know from the literature that the attitudes of medical students develop in interaction with the attitudes of the professionals who educate them (14).

Using this qualitative research method we have gained a better understanding of the process that ultimately leads to the decision to pursue a career in elderly care medicine and the factors that were important in this process. This yielded a more balanced image than questionnaires could have produced. However, retrospective research is always limited in the sense that people are not fully aware of the cognitive processes that have led to decisions.

For the sake of comparison we also examined the decision-making process of obstetrics & gynaecology trainees, a surgical profession with a focus on one organ system. This
does not tell us, however, whether the career choice process of, for example, trainees in internal medicine, a broader discipline, are comparable.

Some bias may have resulted from the fact that the first author is an elderly care medicine physician. However, we minimized this risk by using an external moderator and by means of discussions and feedback with the other authors throughout the process. The other authors include one general practitioner (HdV), one gynaecologist (FS) and one who has finished her pre-clinical curriculum of medical school, followed by a PhD traject (BH) and one other elderly care physician (CH).

**IMPLICATIONS FOR EDUCATION**

Education should give more attention to the intellectual challenge that the complex elderly patient poses to the physician, and to how medical intervention by the physician can improve the patient’s situation. A mandatory elderly care medical clerkship could demonstrate that the nursing home means involves ‘medical practice’ instead of merely ‘prescribing paracetamol and sticking plasters’. Role models who reflect enthusiasm without overdoing it, may help transfer positive perceptions. An early nursing attachment, valuable for professional development, is perhaps better carried out in hospitals.

**IMPLICATIONS FOR RESEARCH**

Further research must show whether a larger percentage of students who have done a compulsory elderly care medicine clerkship will pursue the elderly care medicine or geriatrics specialty, and whether they perhaps make this decision at an earlier stage.

With regard to teaching elderly care medicine in the bachelor phase we need to investigate in what way we can convey the value and the challenge of elderly care medicine and the satisfaction the profession brings to the generally young student who is still very much focused on curing and heroism.

Better insight is needed into the effects of the hidden curriculum, the side effect of education such as (unintentionally) transferring norms and values or beliefs that may influence the perception of elderly care medicine.

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Drawn towards a career in elderly care medicine, but not until after medical school! Elderly care medicine as a career choice.

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Chapter 4

THE HIDDEN CURRICULUM OF THE MEDICAL CARE FOR ELDERLY PATIENTS IN MEDICAL EDUCATION: A QUALITATIVE STUDY.

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Award for the best scientific paper NVNO Congress 2014.
SUMMARY

In spite of more attention being given to geriatrics in medical curricula, few new physicians are seeking training in this field. So far there has been no exploration of factors in the hidden curriculum that could potentially influence the persisting lack of interest in this field of medicine. To study this hidden curriculum in medical education in relation to medical care of elderly patients we used a qualitative research design including participant observations on two internal medicine wards in a teaching hospital and semi-structured interviews.

The results showed that elderly patients with multiple problems are seen as frustrating and not interesting. Medical students were not stimulated to go into the totality of medical problems of elderly patients. They picked up a lot of disparaging remarks about these patients.

The mainly negative attitudes demonstrated by role models, in particular the residents, may potentially influence the development of future doctors and their choice of career.
INTRODUCTION

In the upcoming decades the elderly population in the western world is expected to grow rapidly. For example, 4.5% of the European population was aged 80 or older in 2012 and in 2050 this proportion is expected to increase to 10% (1). (See for further information table 1.) Despite growth in this segment of society and the increased attention for older people and old age medicine in medical school, few new physicians are seeking training in elderly care medicine in the Netherlands (2). This is a specialization for physicians who work in nursing homes, a task carried out by geriatricians or general practitioners in most other countries. A similar trend is observed in other countries like the United States, where more than one third of the geriatric medicine first-year fellow positions went unfilled in academic year 2008-2009 (3).

Although a significant increase in the interest for a career in geriatrics is seen after a geriatric clerkship (a course of medical training in a specialty, lasting several weeks, during the last years of medical school) in the UK (4), a study in New Zealand has shown that the interest in geriatrics at graduation had decreased significantly compared to immediately after a geriatric clerkship (5).

Recent research of our group signaled that medical students in the Netherlands have reported disparaging remarks about geriatrics by other physicians, which have influenced their perception of this specialty in a negative way (6). This let us to hypothesize that an explanation for the decreasing interest in old age medicine by medical students might be found in attitudes shown by other professionals in other clerkships regarding the medical care for elderly patients or the specialisms in this field.

The transmission to medical students of attitudes, implicit beliefs, norms and values is hypothesized to take place in the so-called hidden curriculum, as a side effect of formal education (7). In this socialization process during medical school, students acquire the culture of their environment or the group of which they seek to become a member. The hidden curriculum can be transmitted through unplanned instruction that takes place between anyone who is teaching and students and through the structures and practices of institutions or wards (8).

To study this hidden curriculum during clerkships we designed an ethnographic research study in a teaching hospital in the Netherlands. The aim of this study was to generate
descriptive information about the hidden curriculum of medical education regarding the field of geriatrics.

The following research questions were addressed:

- What kind of attitudes, as part of a hidden curriculum, do residents and other professionals show to medical students in relation to elderly patients during their clerkship?
- Can we identify other elements of the hidden curriculum on the ward that potentially affect medical students’ perception of the medical care for elderly patients?

**METHOD**

Given the nature of our research question we opted for an explorative qualitative approach, combining participant observation with informal interviews with professionals. These informal interviews were meant to further explore, understand and validate observations. In addition, we conducted semi-structured interviews, in order to feedback findings and observed behavior and supplement the observational and informal interview/conversational findings. In view of the sensitive nature of our research question, these formal interviews were conducted only at the end of our study. The observer received thorough training in a four-day course on qualitative research methods developed by our research Institute EMGO+ (www.EMGO.nl). In addition, she was instructed by an experienced researcher on reflexivity in participant observation. During the study she was supervised on a weekly basis by the first author, while the other members of the research group were consulted regularly to give their feedback on the ongoing data collection and - analysis.

**SETTING**

We conducted this study on a general internal medicine ward and a gastroenterology ward in a teaching hospital. The medical team on these wards consisted of nurses, residents and attending physicians. Several medical students in their second or third clinical year were also posted to these wards. They had all had a four-week clerkship of elderly care medicine in their first clinical year.
A female student (CMD) in her third clinical year was assigned the task of conducting participant observations as a shadow student. She participated as a medical student during clerkship and at the same time observed the teaching environment to explore the hidden curriculum concerning elderly care. Because she passed this particular clerkship already, she wasn’t graded and the residents did not have to evaluate her.

**DATA COLLECTION**

The shadow student conducted ethnographic observations five days a week for a period of two months in the summer of 2012. She attended patient rounds and formal meetings, took part in informal interactions and conducted informal face-to-face interviews with several participants in the learning environment.

Brief contemporaneous notes were taken and extensive field notes were written up immediately after daily observations to create a thick description (9). Besides field notes the shadow student kept a reflective diary to ensure a certain distance from the observation notes and to ensure validity of the collected data (10).

The shadow student maintained a normal working relationship with the other medical students and shared the same working space. The staff was informed about the fact that overt observations were conducted and initially they were aware of the presence of the researcher. However, they soon got used to it and returned to their normal behavior. The incentive to trigger changes in behavior of the observed population was therefore very limited (11).

Once the fieldwork was completed and saturation (i.e. no new pertinent data were identified from the data that had been gathered) was reached, the shadow student interviewed three of the students and two resident physicians that she observed and worked with most frequently and were mainly quoted, one resident from the general internal medicine ward and one from the gastroenterology ward. These interviews served as a check to validate and gain a more profound understanding of the data gathered during the observations. Separate guides were created for each consecutive interview based on our research question and the analysis of the observations and the previous interviews. For instance, the participants were confronted with observed situations and asked about their interest in different types of patients, how the elderly patients were talked about, the delivered care for the elderly patients and the way medical students were stimulated to participate in the medical care for the elderly patients. In this way the
data collection could incorporate new information and emerging issues could be taken into consideration. Interviews were audio taped in their entirety.

**ETHICAL CONSIDERATIONS**

Before it was carried out, this study was approved by an accredited medical ethics board from the NVMO (Dutch Association for Medical Education) and by the local research ethics board of the participating hospital. Informed consent was received from all participants, (nurses, residents, attending physicians and medical students) prior to conducting the observations and interviews, acknowledging the anonymous use of their statements in this study. All interviewed participants were given identity codes to preserve anonymity.

**DATA ANALYSIS**

Weekly reflections were scheduled with AAM to discuss the fieldnotes and to make decisions regarding subsequent observations.

Initially the first two authors (AAM, CMD) independently generated open codes on fieldwork notes and transcripts, which were then grouped into higher-order organizing themes. Weekly meetings were scheduled to discuss the identified themes and to achieve 100% consensus on the intermediate results. Moreover, a third researcher (FS) with extensive clinical and research experience was consulted at every stage of the study. Reports on the research findings and the subsequent review of the themes were discussed with the members of the research group (AAM, HdV, CMPMH, FS). This method of identifying, analyzing and reporting patterns within data is in line with the inductive thematic approach. MAX-QDA, a qualitative software package, was used to manage the data.

**RESULTS**

In this section we have organized our findings and results, as they were derived from the observations and interviews, and divided them into three themes, namely: 1. Medical problems of elderly patients are not challenging; 2. Elderly patients are stereotyped; 3. Elderly patients frustrate the system. We focus our attention on selected illustrative observations and interview quotes to gain in-depth understanding of our research environment.
Medical problems of elderly patients are not challenging

Diagnoses

At the general internal medicine ward many elderly patients were admitted with problems like delirium and dehydration, pneumonia or a urinary tract infection.

The resident from the general internal medicine ward (resident 1) expressed that elderly patients are not the most exciting population to work with. In his words: “Always the same thing: a urinary tract infection, dehydration and delirium. Nothing astonishing or surprising.” (Fieldnotes) He also said: “I prefer patients where I can make a difference. Patients you can treat. But on this ward they are either very old or psychosocial patients, so there is very little to be gained.” (Interview)

This attitude was not hidden from medical students. As medical student 1 described the doctors’ view: “Elderly patients are generally not considered exiting, fun, interesting, entertaining, or as patients with any perspective.” (Interview)

Morning reports

Medical students always attended the morning reports, when patients were all discussed at length. However, less attention was paid to elderly patients with multiple problems, deceased patients older than 80 years, or patients who died after a palliative care trajectory.

Resident: “Mrs. X died Saturday.”

Attending physician: “Wait a moment, Mrs. X?”

Resident: “Yes, she died.”

Attending physician: “You can’t just say she died. Why was she admitted to our ward?”

Resident: “Oh, just for... Ultimately died as a result of multiple comorbidities.”

During another morning report a resident started to tell the story of the admission of an elderly patient that weekend.
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Attending physician: “Do you have a summary”

Resident: “Dehydration with a care problem and cognitive deficits.”

Medical student 1 whispering: “How nice, another one of those …”

Medical student 2 whispering: “Yes, wonderful…”

And sometimes the death of an elderly patient was not mentioned at all.

Daily rounds

During the daily rounds, the medical students, in addition to good examples, also witness examples of a lack of attention for typical problems of elderly patients.

Nurse: “Do we know what caused this patient’s delirium?”

Resident 1: “This patient does not have a delirium, but he is old. I don’t know, let’s wait a while and see what happens.”

Nurse: “This patient has a cough.”

Resident 1: “Yes, a bit of coughing is normal at that age … In the case of a delirium, one problem leads to the next and so on.” (Fieldnotes)

However, resident 1 said: “When you are working several weeks on this ward, where a quarter of the patients has a delirium, you learn to recognize it better and to understand better why anyone becomes delirious…” (Interview)

Intakes

One of the tasks medical students have is the intake of newly admitted patients. However, in most cases this intake had already been done in the emergency room.

Medical student 2: “Most of the patients came from the emergency room or from another ward. So I couldn’t do the intake. The only thing I could do was make an electrocardiogram or put in an iv.” (Interview)
Besides the intake they were not stimulated to find out more about the problems of the patients or to follow up on the patients.

Medical student 1 responded to the question what she was asked to do for the patients: “Very often they have already started with a treatment protocol, so there isn’t much to discover or to think about.” [...] “I was not encouraged to do anything.” (Interview)

Medical student 1:” I was told I could go and see new patients.” (Interview)

In the opinion of the medical students they learned the basic treatment of common problems, for example intravenous rehydration. Although they felt it was a very useful skill to learn, they experienced it as a bit boring after a while.

**Grand rounds**

Every week there were grand rounds by the entire medical staff consisting of nurses, medical students, residents and physicians, during which an elderly care protocol was used to check if all parameters had been observed.

Recurring points of attention during these grand rounds were medication use and discussing medical treatment options. “Let’s see if we can drop a few medications from this patient’s list.” (Fieldnotes) When an 85-year old patient was discussed, the subject of parameters of frailty was noticed by one of the physicians.

“It should be a challenge to deliver high quality care to an 80-year old and to select things you can improve. These are excellent patients to sort out drug interaction or contraindications with a range of medications and so on. It is important to look for this perfection in providing health care to patients of that age.” (Fieldnotes)

This example shows the positive role of some of the attending physicians who try to stimulate residents and students in elderly care. However, the medical students were not equipped to deliver this elderly care. When a medical student was asked her opinion about the grand rounds she answered: “It’s a bit confusing, these patients have so many problems that you don’t know where to start.” (Fieldnotes)
Meetings

During the daily meetings, like conferences and afternoon teaching sessions, the medical students were taught by discussing difficult patients or interesting cases. But despite the large population of elderly patients, the difficulties that accompany the ageing process were not taught. The next example indicates a lack of stimulation of medical students to focus on geriatric problems.

A student was looking for a topic for a clinical lesson and asked the supervising resident for suggestions.

Resident 1: “We only have delirious patients, that is not interesting.” (Fieldnotes) The student eventually chose ‘Vitamin B1 deficiency and the confused patient’ as a subject. One of the residents said: “Confusion is frequently recorded as delirium without knowing for sure.” (Fieldnotes), indicating they did not examine the confused patient enough. Nevertheless the confused patient was not seen as a subject of interest, a subject that raises questions that could be discussed in these particular meetings.

Elderly patients are stereotyped

The medical students witness residents, nurses and attending physicians using disparaging names or remarks, jokes and generalizations in relation to elderly patients, during formal and informal moments.

When the resident was asked about the phenomenon of disparaging names, he said he was aware of it but was sure that this does not influence the care for these patients.

“I fight as hard for the elderly patients as I do for the younger ones. I make a joke now and then, but never around the patient or in the corridor.” (Interview)

But medical student 1 stated: “These kinds of remarks emphasize the opinion that elderly patients are not interesting.” (Interview)

On the other hand, in the interviews the residents also expressed positive feelings about elderly patients.

Resident 1: “Elderly patients are thankful [...] are quickly satisfied.”
Resident 2: “elderly patients are adorable [...] they are more affecting than younger patients.” (Interview)

Besides jokes about typical patients, like elderly, obese or less intelligent patients, jokes are also made about elderly care. When entering the room for a grand round one of the internists said: “And how is this elderly ward doing?” (Fieldnotes)

The other residents teased the resident at the general internal medicine ward by saying: “hello there geriatrician!” (Fieldnotes)

Generalizations about the cognitive status of elderly patients were made frequently. The participants in the study always assumed that older patients had some sort of cognitive impairment. This was taken for granted.

Nurse: “I assisted the patient to go to the toilet and she said she was so thankful that she would never forget it. They are not totally 100%.” Medical student 3: “Yes, that’s normal in this age population. I’ll check her medical record to see if she has cognitive problems.” (Fieldnotes)

Elderly patients frustrate the system

Incorrect hospital admissions

According to one resident there were two kinds of frequently occurring, but incorrect indications for hospital admissions of elderly patients.

Resident 1: “There are situations that the patient is no longer able to stay at home and needs to be admitted to a nursing home, but gets admitted to the hospital. That is one thing. There are also terminally ill patients who are brought to the emergency room from a nursing home or home situation, even though we have already discussed with the family that there are no treatment options. In my opinion it is not a good thing to let the patient spend his last days in a strange hospital.” (Interview)

Discharge planning

The data show that the residents strived for a quick discharge of patients. But when the problem that an elderly patient was admitted to the hospital for was treated, several other medical and social problems remained. Medical student 3 (in her third clinical year)
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illustrated this: “Your job is done but then Pandora’s box opens with even more problems. It is exhausting. A resident hopes for patients with fewer problems.” (Interview)

Medical student 2 explained: “Physicians in general want to work quickly and efficiently and elderly patients are often a bit slower.” (Interview)

Medical student 3 stated: “This hospital really lacks a geriatrician on staff. A geriatrician could be a welcome addition, because many residents can do without elderly patients with a lot of problems. As can many physicians, I think. They solve one problem and then the patient is sent back to the family doctor. It would be good for the family doctor to also receive a more complete picture of the patient.” (Interview)

The multiple problems, including psychosocial problems, often resulted in a time-consuming discharge planning.

Resident 1: “Actual treatment takes up about 10% on this ward and then 75% is about the question where to send the patient.” (Interview)

The medical staff worried about patients blocking beds.

Internist: “This is a hospital for patients who are ill. Not for patients waiting for a place elsewhere. They don’t need the hospital care. As a consequence we don’t have a place for patients from the emergency room and we have to send them away.” (Fieldnotes)

**The elderly patient with a malignancy**

In the gastroenterology ward, which has many younger as well as older patients with malignancies, less difference was observed in physicians’ interest or attitudes regarding younger or older patients.

Resident 2 (gastroenterology ward): “On our ward it is often just one problem. That someone bleeds for example. Multiple problems are seen more on the general internal medicine ward.”

Resident 2: “Sometimes I prefer younger patients and sometimes I like having cute elderly patients on the ward. I like the variation.” (Interview)
DISCUSSION

We explored elements of the hidden curriculum, that can affect medical students’ perception of the medical care for older patients.

We found that residents on the general internal medicine ward frequently expressed their lack of interest in elderly patients in front of medical students. Comparatively less attention was paid to elderly patients in meetings such as morning reports and afternoon teaching sessions. Medical students were not stimulated to engage in an in depth analyzes of medical problems of the elderly patients or to follow up on these patients. The medical students were exposed to negative talk about elderly patients, for example disparaging remarks and sweeping statements about cognitive impairment. The residents also expressed feelings of frustration about the difficult discharge planning. Contrarily on the gastroenterology ward less difference was observed in physicians’ interest or attitudes regarding younger or older patients.

Our findings regarding the difference in attitudes regarding the medical problems of the elderly patients between the two wards observed call for further reflection. One possible explanation might be that this difference relates to the dominant nosological paradigm of medical education, with its focus on a pathophysiological and disease focused approach.

Such an approach is well adapted for a patient with one well defined disease, like the patients on the gastroenterology ward, irrespective of their age. However, a more holistic multidisciplinary problem-based approach can be more useful for elderly patients in general, but especially for the elderly patients on the general internal medicine ward with multiple and psychosocial problems. Even though some of the internists in our study tried to look at the bigger picture during grand rounds, the residents still utilized the pathophysiological or disease-focused approach and passed it on to the medical students. According to Tinetti and Fried this disease model is so entrenched that most clinicians are not even aware of its existence (12). This disease model may also explain why medical students are not stimulated to look beyond the urinary tract infection or why these patients with comorbidities are discussed less in morning reports and teaching sessions.

Besides, due to hospital structure, with its focus on the admission diagnosis, treatment and a quick discharge, elderly patients with multiple problems do not fit in this structure and are frustrating patients for the residents.
**Comparison with the literature**

A study by Higashi et al. (13), which explores the attitudes of physicians in training toward older patients in teaching hospitals in California, found attitudes similar to the attitudes in our study. They observed mixed feelings of frustration and warmth toward older patients. Also found were negative perceptions like: cognitively impaired end-of-life patients with complex medical problems involved more social work than actual medical care. So, these findings appear to be generalizable, at least in the Western world. The medical students in Higashi’s study showed the same attitudes as the residents, indicating that medical students take over the attitudes of the residents.

In a qualitative study in the US, assessing the geriatric training needs of academic general internists as geriatric care providers, it was demonstrated that the internists experienced frustrations when confronted with complex medical and social situations of elderly patients (14). The general internists’ approach in this study was described as pathophysiological, whereas the observed geriatricians used a social functioning approach with the same type of patient and didn’t experience frustration.

In our study we observed a considerable amount of disparaging remarks in relation to elderly patients. The question is whether this influences medical students, and if so, in what way. In a qualitative study in Canada, where medical students were asked to give examples of teachers’ discriminating words, attitudes or behaviors, students noted negative biases against people with special characteristics, such as immigrants, homosexuals, obese patients and patients with mental illness (15). The author concluded that when teaching contradicts the learner’s values, some medical students will rethink their personal beliefs and plans to fit their future doctor selves to these models. A study by Hunt in the US showed that some of the medical students, when confronted with negative comments about their career choice, altered their choice (16). So there is a reason to hypothesize that medical students with a preference for geriatrics can indeed be affected when this specialty is badmouthed.

The observation in our study that medical students were not stimulated to examine the problems of the old patient has, to the best of our knowledge, not been described before in the literature. The students also did nothing with the continuity of care. Their involvement did not go beyond the intake based on the admission diagnosis. They were also confronted with the frustration of the resident that this patient blocked a bed. In a study by Teherani, where longitudinal clerkships were compared with shorter discipline-
specific clerkships, medical students reported that continuity with patients contributed to
their learning and improved patient care (17). The students in the longitudinal clerkship
saw more positive role-modeling behaviors in their teachers and had more patient-
centered experiences.

**Strengths**

The strength of this study lies in the methodology used. The observing researcher gained
easy access to the field in the role of medical student. In the past Adler et al. have
shown the usefulness of students as ‘moles’, especially to reveal the hidden curriculum
by obtaining a ‘students - eye view’. (Adler, Hughes, & Scott, 2006)

The structure of interviews and observations was flexible enough to allow us to explore
responses that were new or of interest. There were no constraints of rigid questioning
or time limitation in either part of the research. Several steps were taken to ensure that
the findings were true to the participants’ descriptions and that another researcher
could follow the research process. In line with ethnographic principles, we carried out
this study *lege artis*.

**Limitations**

The results of this study have limited generalizability because it was carried out at one
hospital in one country. By choosing the general internal medicine and gastroenterology
ward, with a considerable variety of diseases, in a relatively well-organized hospital we
aim to minimize this limitation.

A second possible limitation of this study approach could be the observer’s own frame of
reference. As in all qualitative research, the possibility of bias is present because of the
relationships between the researcher and the participants. We have tried to limit this
risk by means of weekly discussions between the various researchers with their different
backgrounds. Finally, as we had to disclose the subject of our research to the medical
and nursing staff on the observed wards there was a risk that they would modify their
behavior toward the elderly patients when observed. However, our data shows they did
not feel inhibited in how they talked about elderly patients.

Finally, with this explorative study we could give a description of the elements of the
hidden curriculum like attitudes. To gain a deeper insight into underlying values, beliefs
and opinions, more research is needed.
Chapter 4

Conclusion
This observational research confirms the existence of a hidden curriculum regarding elderly patients and their care.

The mainly negative attitudes that role models, in particular residents, demonstrate do potentially influence the development of future doctors and their career choice.

The structure of medical wards not specifically intended to accommodate the elderly patient with multiple problems, as well as the way in which the medical student is confronted with these kinds of patients, form a substantial part of the hidden curriculum.

Recommendations

Research
Further research is essential to determine in what way this hidden curriculum influences the career choice of medical students.

More research is needed to determine which elements of the hidden curriculum encourage positive attitudes towards the medical care for elderly patients and the extent to which this would positively influence the career choice of students.

This type of study can be conducted in other countries to gain further understanding of how education might need to change on a global level.

Medical school
We can try to change the learning environment of the medical students. When medical students are stimulated to follow up on the elderly patients, their experience can be more rewarding and could possibly negate or reduce the effect of the frustration or lack of interest expressed by some residents.

Healthcare
Ideally, we should change the hospital structure and the attitudes of the residents. When physicians are able to use the social functioning approach instead of the pathophysiological approach regarding elderly patients with multiple medical and social problems, the quality of the medical elderly care will improve and medical students will see the state-of-the-art instead of frustrated general internal medicine residents.
The Hidden Curriculum of the Medical Care for Elderly Patients in Medical Education: a Qualitative Study.

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Ref Type: Generic

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Ref Type: Generic


Ref Type: Generic


A CAREER IN ELDERLY CARE MEDICINE; AN OPTION FOR TODAY’S MEDICAL STUDENT?

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SUMMARY

GOAL
To investigate the interest in and the perception of the profession of elderly care medicine among medical students in an ‘old’ and a ‘new’ curriculum, where the new curriculum had a mandatory elderly care medicine clerkship and more competency-based learning.

DESIGN
Cross-sectional and comparative survey

METHOD
At VUmc 120 medical students of the new curriculum were asked to complete a questionnaire in 2014 about professional preferences and professional characteristics. The same questionnaire had been presented five years earlier, in 2009, to 150 medical students of the old curriculum at the end of their final year.

RESULTS
The response rates were 100% in the new curriculum and 85% in the old curriculum. Of the students in the new curriculum 4.2% wanted to pursue a career in elderly care medicine and 12.5% were considering it. Percentages for students in the old curriculum were 0.8 and 8.6 respectively.

The characteristics of the medical profession that appealed to the students, but were not considered applicable to elderly care medicine included: diagnostics skills, diversity of work, acute complaints, visible results, and high income. The professional characteristics that students found to be applicable to this specialty, but less attractive for their future profession included: psychosocial, chronic and terminal conditions.

CONCLUSION
We observe a trend that students in the new curriculum are more interested in the profession of elderly care physician, even though this interest remains limited.

We recommend that medical schools offer a mandatory elderly care medicine clerkship and focus more on demonstrating that the characteristics students find appealing in the medical profession are indeed present in this specialty. Also, medical schools should concentrate more on guidance and treatment of patients with chronic and terminal conditions.
INTRODUCTION

As population ageing progresses, the care demand in terms of elderly care physician capacity, a Dutch specialism, also rises, and increased recruitment into elderly care medicine residency is recommended to meet this demand (1). However, not all available training slots have been fully utilized in recent years.

International studies show that the interest of medical students for a career in geriatrics is low (2-5).

We conducted this study to assess the size of this problem in the Netherlands. We explored the interest of medical students in the profession of elderly care physician, as well as their perception of specific professional characteristics, both in the ‘old curriculum’ and, five years later, in a ‘new curriculum’.

We expected that medical students from the new curriculum, that includes a mandatory elderly care medicine clerkship would be more interested in this profession than medical students from the old curriculum. In addition, the program of the new curriculum is more competency-based, we hypothesized that more attention for clinical reasoning, communication, collaboration and ethical considerations, all aspects of importance in elderly care medicine, could make that profession more attractive.

Our research questions with regard to final year medical students were:

1. How high is their interest in a career in elderly care medicine?
2. To what extent do they feel that attractive characteristics of the medical profession in general also apply to elderly care medicine?
3. To what extent do they consider the professional characteristics that in their opinion apply to the profession of elderly care physician to be attractive?
4. Is there any difference between medical students in the old and the new curriculum regarding the interest in this profession, the appreciation of the professional characteristics, and the application of the professional characteristics to this profession?
Chapter 5

METHOD

SETTING

In the ‘new curriculum’, i.e. VUmc-compas, mandatory theoretical courses about the elderly patient are included in the bachelor programme. During the first year of the Master’s programme students must do a mandatory elderly care medicine clerkship in the nursing home; they receive one week of preparatory training, followed by a four-week period of three days per week at the clerkship location and one follow-up day at the faculty. In addition, the VUmc-compas program is based more on competency-oriented learning using the Canmeds roles.

In the ‘old curriculum’, Curriculum ‘91 of VUmc, the theory-oriented preclinical program also contained mandatory theoretical courses about the elderly patient. In the clinical phase only an elderly care medicine elective was offered.

QUESTIONNAIRE

Between December 2013 and July 2014 a questionnaire about professional preferences and professional characteristics was handed out to 120 VU-compas medical students during an intervision session in their final year differentiation clerkship, which they completed there and then.

In the period January to September 2009 all 150 Curriculum ‘91 medical students received the same questionnaire during a final faculty meeting of the social medicine clerkship in their final year, which they also completed there and then.

Informed consent was obtained from all students.

Students were asked to indicate whether they would aspire to a career in elderly care medicine\(^1\) on a 5-point Likert scale (“1=absolutely not”, “2=preferably not”; “3=neutral”; “4=possibly”; and “5=definitely” respectively). They were also asked to indicate how attractive they considered 47 general professional characteristics for their future medical career, as well as the degree to which this characteristic in their opinion applied to the specific profession of elderly care physician. Options ranged from 1 to 5 (1=not very attractive at all; very little applicability, and 5=very attractive; very high applicability).

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\(^{1}\) In the questionnaire used in Curriculum ‘91, the former name of this profession, “nursing home physician” was used.
A career in elderly care medicine; an option for today’s medical student?

The section of the questionnaire with the 47 professional characteristics was designed as part of a larger study into career choice and influencing factors that VUmc has been conducting since 2002. These professional characteristics were generated in focus group sessions among first year and final year medical students, revealing four domains of medical practice, as described below (6;7).

1. required knowledge and skills
2. nature of medical professional practice
3. type of patients, contacts and medical conditions
4. characteristics of the day-to-day work

**ANALYSIS**

In view of the semi-quantitative scale, we used SPSS to determine the median of the scores for each professional characteristic.

Characteristics with a median of 4 or 5 are defined as “attractive”, those with median 3 as “less attractive”. Values 1 and 2 did not occur here. To determine the applicability of the professional characteristics to the profession of elderly care physician medians 1, 2 and 3 were defined as “do not apply” and medians 4 and 5 as “apply”. Any difference between the old and the new curriculum is described in the results section.

For the comparison of the interest in a career in elderly care medicine of students from both curriculums we dichotomized the data. Values 1, 2, and 3 were defined as ‘no interest’, and values 4 and 5 were defined as ‘interest’. The difference was tested using a chi square.

**RESULTS**

A total of 120 VUmc-compas students received the questionnaire, and all of them returned it (100%). All of these students had done the mandatory elderly care medicine clerkship 18 months earlier. All 150 Curriculum ’91 students received the questionnaire, and 128 (85%) were returned. The elective clerkship had been taken by four of the 128 students (3.1%).
Chapter 5

**INTEREST**

Five VUmc-compas students (4.2%) want to become elderly care physicians and 15 students (12.5%) are considering it (Table 1). Results for the Curriculum ‘91 students were one student (0.8%) and 11 students (8.6%) respectively. When interest is defined as ‘absolutely’ and ‘I am thinking about it’ (5 and 4 on the 5-point scale respectively) then 16.7% of the VU-compas students express an interest in the elderly care medicine specialty as compared to 9.4% of Cu ’91 students (p=0.087).

<table>
<thead>
<tr>
<th>Would you want to practice the profession of elderly care physician?</th>
<th>Students VUmc-compas N (%)</th>
<th>Students Cu ’91 N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolutely not</td>
<td>36 (30)</td>
<td>37 (28.9)</td>
</tr>
<tr>
<td>Preferably not</td>
<td>54 (45)</td>
<td>68 (53.1)</td>
</tr>
<tr>
<td>No opinion</td>
<td>10 (8.3)</td>
<td>11 (8.6)</td>
</tr>
<tr>
<td>I am thinking about it</td>
<td>15 (12.5)</td>
<td>11 (8.6)</td>
</tr>
<tr>
<td>Definitely</td>
<td>5 (4.2)</td>
<td>1 (0.8)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>

**ATTRACTIVENESS OF PROFESSIONAL CHARACTERISTICS**

A list of the professional characteristics that students find more or less attractive for their future profession is presented in Table 2. Many of these professional characteristics that they consider attractive in general, they also deem applicable to elderly care medicine. For example: treatment of patients, thinking at work, communication skills, trust relation with patients, pain release, guidance of illness, teamwork and knowledge of pathology. However, some professional characteristics they find attractive but not applicable to the profession, for example: diagnostic skills, acute complaints, diversity of work, visible results, and high income.

There are also several professional characteristics that they do consider less attractive for their future profession, but they do feel these apply to the profession of elderly care physician: knowledge of epidemiology, knowledge of psychosocial backgrounds, knowledge of health systems, psychosocial, chronic and terminal conditions (Table 3).

Curriculum ‘91 students did not consider the professional characteristic ‘older patients’ attractive, but VUmc-compas students did. The professional characteristic of ‘refer’ was considered less attractive by both groups, but CU’91 students felt this did, and VUmc-compas students felt this did not apply to the profession of elderly care medicine.
Table 2. Attractiveness of characteristics of medical profession

<table>
<thead>
<tr>
<th>Professional domain</th>
<th>Attractive characteristics of medical profession (median 4 and 4)</th>
<th>Less attractive characteristics of medical profession (median 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required knowledge and skills</td>
<td>Knowledge of anatomy</td>
<td>Knowledge of epidemiology</td>
</tr>
<tr>
<td></td>
<td>Knowledge of chemistry and physics</td>
<td>Knowledge of psychosocial background</td>
</tr>
<tr>
<td></td>
<td>Knowledge of pathology</td>
<td>Knowledge of health systems</td>
</tr>
<tr>
<td></td>
<td>Knowledge of pharmacotherapy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communication skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Practical skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knowledge of science</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reasoning skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improvisation skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Practical skills with equipment</td>
<td></td>
</tr>
<tr>
<td>Nature of medical-professional practice</td>
<td>Advise</td>
<td>Refer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prevention**</td>
</tr>
<tr>
<td></td>
<td>Diagnostic skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treatment of patients</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pain release</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guidance of illness</td>
<td></td>
</tr>
<tr>
<td>Type of patients, contacts, and conditions</td>
<td>Young patients</td>
<td>Older patients*</td>
</tr>
<tr>
<td></td>
<td>Long relation with patients</td>
<td>Simple complaints</td>
</tr>
<tr>
<td></td>
<td>Multiple conditions</td>
<td>Terminal conditions</td>
</tr>
<tr>
<td></td>
<td>Acute complaints</td>
<td>Chronic conditions</td>
</tr>
<tr>
<td></td>
<td>Multiple conditions</td>
<td>Psychosocial conditions</td>
</tr>
<tr>
<td></td>
<td>Long relation with patients</td>
<td>Healthy people</td>
</tr>
<tr>
<td>Characteristics of day-to-day work</td>
<td>Diversity of work</td>
<td>Routine work</td>
</tr>
<tr>
<td></td>
<td>Thinking at work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Physical work*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Talk at work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technically precise work*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Team work</td>
<td>Long working days</td>
</tr>
<tr>
<td></td>
<td>Trust relation with patients</td>
<td>Many consults</td>
</tr>
<tr>
<td></td>
<td>Visible results</td>
<td>Stressful work</td>
</tr>
<tr>
<td></td>
<td>Consultation</td>
<td>Irregular work</td>
</tr>
<tr>
<td></td>
<td>Part-time work possibilities</td>
<td>High prestige</td>
</tr>
<tr>
<td></td>
<td>High income</td>
<td></td>
</tr>
</tbody>
</table>

* Professional characteristic that is considered attractive by students in VU-compas curriculum, and not by students in Curriculum ’91.

** Professional characteristic that is not considered attractive by students in VU-compas curriculum, and is considered attractive by students in Curriculum ’91
Table 3.
Attractive professional characteristics (median 4 and 5) that students do not consider applicable to elderly care medicine (median 1-3)

<table>
<thead>
<tr>
<th>VUmc-compas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of anatomy *</td>
</tr>
<tr>
<td>Knowledge of chemistry and physics *</td>
</tr>
<tr>
<td>Practical skills</td>
</tr>
<tr>
<td>Knowledge of science</td>
</tr>
<tr>
<td>Practical skills with equipment</td>
</tr>
<tr>
<td>Diagnostic skills</td>
</tr>
<tr>
<td>Young patients</td>
</tr>
<tr>
<td>Acute complaints</td>
</tr>
<tr>
<td>Diversity at work</td>
</tr>
<tr>
<td>Physical work</td>
</tr>
<tr>
<td>Technically precise work</td>
</tr>
<tr>
<td>Visible results</td>
</tr>
<tr>
<td>High income</td>
</tr>
</tbody>
</table>

*Cu ‘91 students; also attractive professional characteristic, but does apply

Less attractive professional characteristics (median 3) that are considered applicable to elderly care medicine (median 4 and 5)

<table>
<thead>
<tr>
<th>VUmc-compas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of epidemiology #</td>
</tr>
<tr>
<td>Knowledge of psychosocial backgrounds</td>
</tr>
<tr>
<td>Knowledge of health systems</td>
</tr>
<tr>
<td>Terminal conditions</td>
</tr>
<tr>
<td>Chronic conditions</td>
</tr>
<tr>
<td>Psychosocial conditions</td>
</tr>
</tbody>
</table>

# Cu ‘91 students; also less attractive professional characteristic, but does not apply

**DISCUSSION**

**INTEREST**

Interest in a career in elderly care medicine is low among medical students who are close to graduating. We do see a trend that interest among students of the new curriculum is higher. In relation to our subject, the most important differences in the new VUmc-compas curriculum as compared to Cu ‘91 are: a mandatory elderly care medicine clerkship and more competence-based learning. The elderly care medicine survey conducted by the Royal Dutch Medical Association (KNMG) student platform shows that in faculties with a
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mandatory elderly care medicine clerkship (2 of 8 faculties), significantly more students consider elderly care medicine as their future specialization (8).

**Attractiveness of professional characteristics**

We can conclude that the students perceive none of the professional characteristics as really unattractive for their future profession in general, because median 1 and 2 did not occur.

Students feel that the majority of professional characteristics they find attractive for their future profession also apply to elderly care medicine; and that the majority of the less attractive professional characteristics do not apply to elderly care medicine (data not shown in Tables). This raises the question why there is so little interest in a career as elderly care physician. Students may be influenced by a perception of the medical profession, in which diagnosing and curing diseases and adding years to life are seen as the main tasks (9;10).

This perception of the medical profession is reflected in the characteristics students find attractive for their future profession, but deem not to be applicable to elderly care medicine, i.e. diagnostic skills, acute complaints, visible results. Earlier qualitative research has found that students were discouraged by the fact that treatment of geriatric patients does not produce immediately visible results (11).

Students consider psychosocial, chronic and terminal conditions less attractive for their future profession, and they do feel these characteristics apply to elderly care medicine. This was also reported in earlier qualitative and quantitative research (3;9;11;12). These characteristics do not fit in the cure-oriented perception of the medical profession as described above.

In view of these results it is remarkable that students consider some of the professional characteristics that may play a role in the treatment and guidance of patients with chronic or terminal conditions attractive. For example: reflection, communication, trust relation with patients, pain relief, guiding illness and teamwork. This raises the question whether students have a correct perception of the characteristics that play a major role in working with these specific patients.
The fact that students consider ‘chronic conditions’ and ‘terminal conditions’ per se to be less attractive is cause for concern, as they will be dealing increasingly with chronically ill patients, regardless of the specialty they choose. That is why it is important to understand what it is that makes them not appreciate these conditions. Students of the VUmc-compas curriculum are confronted with older, chronic and terminal patients for a period of 12 days in the nursing home. Despite the positive assessment of this clerkship, as expressed by student evaluations, appreciation of the professional characteristics psychosocial, chronic and terminal conditions has not changed. However, they indicate that ‘older patients’ is an attractive characteristic for their future profession, unlike curriculum ‘91 students. Perhaps 12 days is not long enough to demonstrate the interesting and challenging aspects of the medical care for patients with chronic or terminal diseases.

Students of the VUmc-compas curriculum are trained with more focus on competency than curriculum ‘91 students. However, this competence-based learning has not resulted in any significant change in how the students evaluate professional characteristics.

**STRENGTHS AND WEAKNESSES**

The degree to which students feel the various characteristics of the medical profession apply to elderly care medicine and whether they find the professional characteristics they deem applicable to elderly care medicine attractive, have not been examined before.

The effect of a few different factors in curriculums on an outcome measure can never be proven definitively, as there are always more, less obvious curriculum effects that may have an impact. However, by comparing two curriculums of one faculty, where the culture and teachers have remained largely the same and the most relevant changes relating to our subject were a mandatory elderly care medicine clerkship and more competence-based learning, we can get some idea of the effect of these two factors.

There can also be relevant factors in the five-year interval. For example, in recent years the issue of ageing and its related challenges have gained importance in society.

**RECOMMENDATIONS**

**Medical school**

To increase enthusiasm among students for a career in elderly care medicine, the initial medical training programme should focus more on elderly care medicine, in order to increase the students’ awareness of the specific professional characteristics of the
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medical care for complex elderly patients and to highlight the attractive sides of a future career in this field. A longer mandatory elderly care medicine clerkship would provide the best opportunity to do so.

When medical students have a better appreciation of the professional characteristics “psychosocial, chronic and terminal conditions ”, we expect them to become more interested in elderly care medicine.

Pols states that medical education prepares the students mainly for first consultations regarding new complaints and does not adequately prepare them for the totality of professional activities of the physician (13). The next version of the Framework for Medical Education in the Netherlands (Raamplan artsopleiding) should give more attention to the learning outcomes regarding the treatment and guidance of patients with chronic conditions and terminal conditions. To prepare the medical students for the professional activities related to these specific patients, they have to spend more time in clerkships in nursing homes or in-hospital geriatric services and general practices. These provide important opportunities for them to develop skills in continuity of care, deliberate decision-making, end-of-life care, communication, interprofessional collaboration and patient centered attitudes (14-17).

Research

Qualitative research among medical students can help us understand why they have little interest in a career in elderly care medicine or how they perceive the professional characteristics psychosocial, chronic and terminal conditions.

CONCLUSION

Despite the growing demand for elderly care physicians, interest among medical students in this specialty is limited. However we do see a trend that interest among students of the new curriculum is higher. Psychosocial, chronic and terminal conditions are considered applicable to this profession, but are found less attractive.

A mandatory elderly care physician clerkship of substantial length seems essential to increase medical students’ awareness of the professional characteristics of this discipline and show them the rewarding aspects of managing patients with chronic or terminal conditions.
Chapter 5

REFERENCE LIST

Ref Type: Generic


Ref Type: Generic


Ref Type: Generic


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A career in elderly care medicine; an option for today’s medical student?

RAISING ENTHUSIASM FOR THE MEDICAL CARE OF ELDERLY PATIENTS: A BROAD FRAMEWORK FOR AN ELDERLY FRIENDLY MEDICAL CURRICULUM.

Auteurs:
AA Meiboom
H de Vries
F Scheele
CMPM Hertogh

Submitted to BMC Medical Education
SUMMARY

To deliver high quality of care for the growing population of older patients more geriatricians are needed. However, the interest of medical students for a career in geriatrics is lagging behind due to a lack of exposure, the nature of the work, and the low status and financial rewards.

So far, only isolated interventions aimed at enhancing interest and/or attitudes with regard to geriatrics have been studied, pointing to the need for a broader-based strategy. The goal of this research is to find elements for a curriculum framework that can raise medical students’ enthusiasm for the medical care of elderly patients.

We used the concept mapping method developed by Trochim. This computer-assisted procedure consists of five steps: brainstorming, prioritizing and clustering with several experts, followed by processing by the computer and analysis.

The views that were generated were grouped into the following clusters: a patient-centered medical curriculum, a curriculum representative of patient population, geriatrics presented as intellectually challenging and emotionally appealing, senior-friendly role models, a clear professional perspective. The results are presented in the form of a graphic chart.

An agenda to discuss the necessary actions for drastic curricular reforms in medical schools is set. This may give some guidance to this urgent, but highly complicated issue how to make medical student enthusiastic for the medical care for elderly patients.
INTRODUCTION

There is an increasing demand for geriatricians due to a growing population of elderly people. For instance, in the Netherlands the demand for geriatricians is estimated to increase by 30% over the next 10 years (1). In the United States geriatricians are in dangerously short supply (2). A review that summarizes studies that assess the quality of care of vulnerable elderly concludes that the quality of care for elderly people is poor (3). The care for geriatric conditions showed greater deficiencies than the care for general conditions. To improve the quality of care for older patients with general conditions, more geriatricians are needed to train all medical students and residents, to conduct research and to develop standards of care for vulnerable older patients (4). In addition, all vulnerable patients aged 85 and older with geriatric syndromes and functional impairment should have geriatrician’s care (4;5).

However, there is very little interest among medical students for a career in geriatrics (6;7), due to a lack of exposure to this discipline (limited geriatric didactic content and especially limited geriatric clinical experiences), the nature of the work (chronic diseases and the complexity of geriatric patients) and the profession’s low status and financial rewards (8). Besides, even though a considerable proportion of hospital admissions concerns elderly patients (9), residents and medical students show mixed attitudes regarding the care for elderly patients, among which frustration with the hospital system, which seems to place more value on short-term efficiency and cure instead of (personalized) care (10;11).

A systematic review reporting on the effect of educational interventions on undergraduate knowledge, skills and attitudes in geriatric medicine showed a mixed picture regarding attitudes, although interventions of longer duration (years rather than hours or days) were more likely to improve attitudes than brief interventions (12). In the United States, several medical schools adopted Senior Mentor programs to reduce stereotypes about aging. In these programs medical students are matched with independent, relatively healthy older adults for a period of time. According to a national evaluation of 10 senior mentor programs, all demonstrated a positive effect on student attitudes towards older adults (13).

Several medical schools adopted more integrated geriatric content in the curriculum. One medical school with geriatrics integrated in problem-based learning and standardized
patients throughout the first three years and a required fourth year rotation in geriatrics showed positive effects on student self-efficacy, knowledge and skills. However, attitudes did not change significantly (14).

As the reliability and validity of the measures commonly used to assess medical students attitudes are questionable (15), our research group in a previous study applied medical students’ interest in geriatrics as an outcome measure in relation to different factors (8). That search yielded several studies of medical students’ interest in relation to curricular interventions.

Regarding preclinical education, one study reported that medical students who participated in an extracurricular program that partnered medical students with community-dwelling elders, had a significantly higher likelihood of being interested in geriatric medicine at the end of medical school (16). Two other studies, however, found no significant increase in interest in geriatrics among medical students after a preclinical geriatric course (17;18).

With regard to clinical education, two studies reported a significant increase in interest in a career in geriatrics after a clinical attachment in this field. Two other studies also reported an increase in interest after a geriatrics attachment but did not mention the statistical significance. However, a longitudinal study showed that interest in geriatrics decreased between the completion of a fourth year attachment in health care of the elderly and graduation (19).

Despite promising innovations in medical schools, such as senior mentor programs and clinical attachments, there are still not enough medical students interested in a career in geriatrics. Given the urgency of the situation, we want to advocate a more comprehensive approach. The main aim of this research therefore is to find elements for a curriculum framework, which might raise medical students’ enthusiasm for the medical care of elderly patients.

We will explore through concept mapping which guiding themes are important in the medical curriculum to raise the interest of the students for the medical care of elderly patients, to set an agenda for further discussion.
Raising enthusiasm for the medical care of elderly patients: a broad framework for an elderly friendly medical curriculum.

METHODS

Concept mapping, as developed by Trochim, is a particularly suitable method for mapping complex, not yet fully crystallized topics, into underlying concepts (20). It is designed to integrate input from experts with different backgrounds, by producing an interpretable visual map of their ideas and concepts and how these might be interrelated. Due to its structured format, which also includes free individual association on the topic, concept mapping is more resistant than focus groups to the effects of group dynamics. It consists of five steps: brainstorming, prioritizing, clustering, processing by the computer and analysis (multivariate statistical methods of multidimensional scaling and hierarchical cluster analysis), resulting in a visual map. By interpreting the clusters and their thematic differences, and naming the clusters and the axes, the map results in a conceptual framework.

It has been demonstrated that the internal representational validity of concept mapping is strong and the sorting and rating reliability are very strong (21). In the Netherlands the use of concept mapping is well established. It has been used, for example, to explore different topics in healthcare, such as coping with illness (22), and using surveillance technology in residential care (23), and it turned out to be a suitable method for exploring difficult subjects with different people over a relatively short period of time.

PARTICIPANTS

The research group invited three categories of experts: medical students, curriculum designers and physicians. To find enough participants, the research group selected 10 professionals from different medical schools - although the eight medical schools in the Netherlands do not differ substantially - with extensive experience in (re)building medical school curricula or with a position as an associate Dean, and 10 physicians who were active in patient care with older patients and active in medical education. Moreover, the research group asked students from the student panel that advises the Dean on improving the curriculum to participate. Of the invited participants, eight were able to attend the concept mapping session, i.e. three curriculum designers and three physicians, including one geriatrician, one elderly care physician, and one resident, and two medical students. The three curriculum designers are all experienced in (re)building medical school. Of the curriculum designers who did not attend, two have the same profile and three were associate deans.
PROCEDURE

The concept mapping session took place on March 11, 2014, under the supervision of an independent chair (CvdZ) specialized in working with the concept mapping method. The session entailed the following:

Step one (brainstorming): The session started with brainstorming in which the participants were asked to complete the seeding statement, prepared by the research group:

“A medical curriculum can only raise the enthusiasm of medical students for the medical care of elderly patients if....”

This task had to be carried out individually. When all participants had completed this task, they presented their statements in a group session. They were allowed to engage in discussion, but only to clarify the statements. The chair collected all statements on the computer.

Step two (prioritizing): The participants were then asked to rate the importance of all collected statements by dividing them into five groups of equal size, thus preventing all statements being valued the same or too high. Statements in group 1 were considered to be least important and statements in group 5 most important. This task was also carried out individually.

Step three (clustering): The participants were also asked to cluster the statements individually into groups of common features. A statement could only be used once. The number of groups was limited to ten by the software.

The subsequent steps were completed by the researchers, without the involvement of the participants.

Step four (analysis): Aided by the software program Ariadne (24) two types of analyses were conducted. First, the statements were positioned in a two-dimensional concept map, based on the clustering results. The location of each statement matters, as the distance between the statements represents how often these statements are placed together in a group by the participants. Second, the individual statements with close proximity on the map were grouped into clusters of statements that reflect similar concepts. The individual statements were joined in clusters of interrelatedness through
Raising enthusiasm for the medical care of elderly patients: a broad framework for an elderly friendly medical curriculum.

a process called hierarchical cluster analysis. The number of clusters was determined by the researchers, by looking at all cluster solutions grouped by the computer, examining which statements were grouped together in a cluster and deciding whether this grouping made sense.

The importance of each cluster was calculated based on the average score of the importance awarded to each statement by the participants in step two.

Step five (interpretation): In this phase of interpretation the researchers discussed the significance of the clusters and their thematic differences and finally named the clusters and the axes.

The research group consisted of two elderly care physicians (CH and AM), one general practitioner (HdV) and one gynaecologist (FS), all with a special interest in medical education.

According to Dutch law this type of research requires no ethical review. In addition, the medical students that participated in our panel were consulted not in the context of their study program, but in their capacity as members of a student panel that advises the Dean on improving the curriculum.

RESULTS

STATEMENTS

The seeding statement yielded 44 statements by the participants. All statements are listed in table 1. A top ten of statements is listed in table 2. The concept map is shown in figure 1.

CLUSTERS

Based on the sorting of the 44 statements, six clusters were created during the fourth step of the concept mapping process. These clusters are described below. The numbers in parentheses, varying from 1 to 5, represent the mean importance of the statements in that cluster. A higher number means higher importance.

The numbering of the clusters represents the clockwise sequence on the concept map (see also figure 1).
Chapter 6

Cluster 1: It is a patient-centered medical curriculum (mean importance 3.14)

This cluster contains ten statements, three of which can be found in the top ten.

The emphasis in this cluster is on issues that, although characteristic for geriatrics, should be more accentuated in the whole field of medicine and the total medical curriculum. This is illustrated by the three top ten statements of this cluster: “attention for the whole patient is represented as challenging”, “giving insight into limited curative ability of medicine” and “from cure to care”.

Cluster 2: It is a curriculum which is representative of the patient population (mean importance 3.5)

Three of the total of seven statements in this cluster can be found in the top ten. This cluster indicates the importance of a proportional amount of geriatric content and attention for the elderly patient integrated within the whole medical curriculum, as represented by statements like “continuous exposure to geriatrics throughout the whole curriculum” and “70% of medical cases for medical students should consist of elderly patients”. The participants explained the statement “a balanced curriculum, which is representative of the field of medicine” as follows: while most clinical encounters involve elderly or chronically ill patients, the management of chronic conditions is an important task in medicine that needs much more attention in medical school.

Cluster 3: Geriatrics is presented as intellectually challenging and emotionally appealing (mean importance 3.06).

This is the largest cluster as it contains sixteen statements, including three top ten statements. The emphasis in this cluster is on geriatrics education being presented as a challenging and appealing specialization. A separate and compulsory geriatrics clerkship was regarded as an important prerequisite. Students have to be shown that geriatrics tries to seek out the most talented physicians. Moreover, the importance of geriatrics should be promoted by key figures in medical school such as the Dean, as well as by other medical specialists.

Cluster 4: There are senior-friendly role models (mean importance 3.0)

This cluster contains five statements, of which one can be found in the top 10. The statements consider the importance of positive role models, such as proud teachers but also residents. Nevertheless, physicians from other specializations will continue to show
(often unconsciously) negative attitudes regarding the medical care for elderly patients, which they transfer to medical students. This might be counteracted by acknowledging this problem, paying attention from an early stage to professional identity development during medical school, and also by teacher professionalization on the job.

Cluster 5: Clear future professional perspectives are provided (mean importance 2.61)

None of the four statements in cluster 5 is found in the top ten. Nevertheless, all statements are about providing future professional perspectives - it must be clear to medical students who the key players in the field are, what the career perspectives, including financial rewards, are - and about helping students to find out what kind of doctor they want to become.

Cluster 6: (mean importance 2.63)

This is the smallest cluster containing two statements, neither one in the top ten. One of the students contributed the statement “making clear which treatment options there are”.

Like the previous statement, the other statement, “from individual physician to team player(s)”, could be perceived as a characteristic of geriatrics. However, the participant who presented this statement explained that this applied to all physicians, not just geriatricians: “all medical students should learn in medical school that a physician does not work alone, but always in cooperation with others, as a member of a team”. So these statements made it difficult to interpret the cluster and the researchers decided not to name this cluster. We still chose this grouping of six clusters, as the other five clusters did have a significant meaning and other cluster solutions grouped by the computer had less meaning.

Axes

The two axes in figure 1 can be seen as follows: statements above the y-axis concern the total medical curriculum, while the statements below the y-axis relate to dedicated geriatrics didactics. The statements to the right of the x-axis can be interpreted as tasks/challenges for curriculum designers and lecturers, whereas statements to the left of the x-axis can be seen as a clear perspective for medical students on the profession of geriatrician.
Table 1. Statements

All statements generated by the participants, sorted through hierarchical cluster analysis.

Cluster 1. It is a patient centered medical curriculum

<table>
<thead>
<tr>
<th>Statement number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Attention for the whole patient is presented as a challenge</td>
</tr>
<tr>
<td>4</td>
<td>Give insight into the limited curative ability of medicine</td>
</tr>
<tr>
<td>5</td>
<td>Insight into preventive possibilities</td>
</tr>
<tr>
<td>6</td>
<td>From cure to care</td>
</tr>
<tr>
<td>12</td>
<td>Insight into the patient population in the hospital</td>
</tr>
<tr>
<td>13</td>
<td>Less profession specific and more towards patient problems</td>
</tr>
<tr>
<td>24</td>
<td>Comorbidity instead of one single diagnosis</td>
</tr>
<tr>
<td>34</td>
<td>Think about social responsibility within the curriculum</td>
</tr>
<tr>
<td>35</td>
<td>Less emphasis on the biomedical paradigm</td>
</tr>
<tr>
<td>36</td>
<td>Start with patient perspective instead of the biomedical</td>
</tr>
</tbody>
</table>

Cluster 2. It is a curriculum representative of patient population (substantial amount of geriatrics)

<table>
<thead>
<tr>
<th>Statement number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A balanced curriculum, which is representative for medicine</td>
</tr>
<tr>
<td>10</td>
<td>Continuous exposure to geriatrics throughout the whole curriculum</td>
</tr>
<tr>
<td>11</td>
<td>70% of medical cases for medical students should consist of elderly patients</td>
</tr>
<tr>
<td>14</td>
<td>Elderly patients are not boring or difficult</td>
</tr>
<tr>
<td>22</td>
<td>Assessment of geriatric content</td>
</tr>
<tr>
<td>25</td>
<td>Death and dying should have a central space in the curriculum</td>
</tr>
<tr>
<td>44</td>
<td>Interdisciplinary education</td>
</tr>
</tbody>
</table>

Cluster 3. Geriatrics is presented as intellectually challenging and emotionally appealing

<table>
<thead>
<tr>
<th>Statement number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>The visibility of the scientific challenge of aging</td>
</tr>
<tr>
<td>8</td>
<td>The scientific gap that is there to discover is a great challenge</td>
</tr>
<tr>
<td>17</td>
<td>Promotion of the field by prestigious individuals and by medical specialists</td>
</tr>
<tr>
<td>18</td>
<td>The involvement of own family and loved ones within the curriculum</td>
</tr>
<tr>
<td>19</td>
<td>Creating empathy by more exposure to older people within the curriculum</td>
</tr>
<tr>
<td>20</td>
<td>Making use of current affairs or spectacular topics</td>
</tr>
<tr>
<td>21</td>
<td>Bringing the message that geriatrics is exclusive and for the very talented</td>
</tr>
<tr>
<td>27</td>
<td>The geriatric clerkship should be the best</td>
</tr>
<tr>
<td>28</td>
<td>An award for the most talented student regarding geriatrics</td>
</tr>
<tr>
<td>29</td>
<td>Organizing attractive elements in geriatrics such as e-health or games</td>
</tr>
</tbody>
</table>
Raising enthusiasm for the medical care of elderly patients: a broad framework for an elderly
friendly medical curriculum.

30 Geriatric literature and curriculum have to be of high quality
31 Intellectually challenging and emotionally appealing
32 Elderly people as a role model
37 Making use of reports in the media in the curriculum
38 Organization of journal clubs
39 A separate compulsory geriatric clerkship

Cluster 4. There are senior friendly role models

<table>
<thead>
<tr>
<th>Statement number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Role models in geriatrics</td>
</tr>
<tr>
<td>26</td>
<td>Early attention to professional identity development during medical school</td>
</tr>
<tr>
<td>41</td>
<td>Acknowledging that some physicians are not elderly minded</td>
</tr>
<tr>
<td>42</td>
<td>Proud teachers</td>
</tr>
<tr>
<td>43</td>
<td>Teacher professionalization on the job</td>
</tr>
</tbody>
</table>

Cluster 5. Future professional perspectives are clearly provided

<table>
<thead>
<tr>
<th>Statement number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>It must be clear to medical students who the key players in the field are</td>
</tr>
<tr>
<td>9</td>
<td>Insight into career perspectives</td>
</tr>
<tr>
<td>23</td>
<td>Insight into career perspectives including financial rewards</td>
</tr>
<tr>
<td>40</td>
<td>Helping students in gaining insight into what kind of doctor they want to become</td>
</tr>
</tbody>
</table>

Cluster 6.

<table>
<thead>
<tr>
<th>Statement number</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Making clear which treatment options there are</td>
</tr>
<tr>
<td>33</td>
<td>From individual physician to team player(s)</td>
</tr>
</tbody>
</table>

Table 2. The 10 most important statements of the concept mapping session

<table>
<thead>
<tr>
<th>Statement number</th>
<th>Statement</th>
<th>Mean importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>continuous exposure to geriatrics throughout the whole curriculum</td>
<td>4.5</td>
</tr>
<tr>
<td>1</td>
<td>a balanced curriculum, which is representative for medicine</td>
<td>4.38</td>
</tr>
<tr>
<td>4</td>
<td>give insight in the limited curative ability of medicine</td>
<td>4.38</td>
</tr>
<tr>
<td>17</td>
<td>promotion of the field by prestigious individuals and by medical specialists</td>
<td>4.38</td>
</tr>
<tr>
<td>16</td>
<td>role models in geriatrics</td>
<td>4.25</td>
</tr>
<tr>
<td>25</td>
<td>death and dying should have a central place in the curriculum</td>
<td>4.25</td>
</tr>
<tr>
<td>39</td>
<td>a separate compulsory geriatric clerkship</td>
<td>4.14</td>
</tr>
<tr>
<td>21</td>
<td>geriatrics is exclusive and for the very talented</td>
<td>4.0</td>
</tr>
<tr>
<td>2</td>
<td>attention for the whole patient is represented as challenging</td>
<td>3.75</td>
</tr>
<tr>
<td>6</td>
<td>from cure to care / searching for the scientific challenge of aging</td>
<td>3.63</td>
</tr>
</tbody>
</table>
Figure 1. Concept map

Each box is a cluster. The thickness of the red line represents the average rating for that cluster. The thickness of each point represents the average rating for that statement.
DISCUSSION

The main aim of this research was to find elements for a broad curriculum framework, which might raise medical students’ enthusiasm for the medical care of elderly patients.

The first element is: A patient centered medical curriculum. This element addresses not only the elderly patients, but teaches a more holistic state of mind for all medical problems. This element relates to an essential paradigm shift.

In the early 20th century, medical education in the United States and Canada was revolutionarily reformed by the Flexner report of 1910. One of these reformations entailed the establishment of the biomedical model in medical training. Although in the last decades medical schools have shifted their focus more towards competence-based learning, and incorporated more or less psychosocial or behavioral science components in curricula, it is still characterized by a duality, soma and psyche. The focus of clinical education remains on diagnosing and curing a disease and as a supplement, some attention for the individual patient, his context and care needs.

Medical students remain biomedical and disease focused and they do not appreciate education about psychological and social aspects (25).

This disease oriented model is not sufficient anymore in a time with a lot of patients with chronic diseases and multi-morbidity (26).

The statements in cluster 1, articulate a concept with a focus on the whole patient, the patient perspective and patient problems, less emphasis on the biomedical paradigm and more attention on care aspects. When the patient problems and the goals of the patient are the starting point of clinical decision-making, with the goal of restoring or remaining function, biomedical, psychological and social knowledge is needed. With the use of knowledge from all domains the dichotomy between soma and psyche, cure and care will disappear (27;28).

The second and third element both emphasize geriatrics education.

The second element is: A curriculum that represents the patient population. That implies that at least 50% of the content and the patient exposure should be geriatrics related.

The third element is the largest cluster, containing 16 statements: Geriatrics should be presented as intellectually challenging and emotionally appealing. While the second cluster implies that geriatrics is integrated in the entire curriculum, the statements in the
third cluster show that in addition to integrated geriatrics education, specific attention to the effectiveness of geriatrics education is necessary, for example at least by realizing a compulsory clerkship.

Although in the early 21st century medical schools in the United States, funded by the John A. Hartford and the Donald W. Reynold foundation, developed geriatric programs, there is still not enough interest in a career in geriatrics.

Moreover, many medical schools still do not include geriatric content in their curricula (29-32). And in medical schools that do have curricula with geriatric content, it is often undervalued, with little time spent learning about geriatrics even though the majority of these future physicians will end up caring for frail and complex elderly patients (33).

Even in a medical school that offers geriatrics in all four years of education, the medical students’ perspective on geriatrics was quite negative (34). In this qualitative study, medical students articulated a lack of intellectual stimulation, yet they were overwhelmed by the complexity of the geriatric patient. They were frustrated by the inability to cure and experienced the decline of patients as depressing. So, the question is how to present the complex geriatric patient with multimorbidity as challenging.

To challenge the medical students, they should be really involved in the multidisciplinary treatment and follow-up of these patients inside and outside the hospital, i.e. in the home situation and the nursing home, so that they not only feel challenged by the complex problems, but also learn how to deal with this complexity and see the impact of small interventions on patient’s functioning and quality of life. When geriatric content is embedded in a more holistic and patient centered curriculum, in cluster 1, geriatrics will not be perceived as a strange entity.

The fourth element is: there are senior friendly role models. Role models such as geriatricians who take pride in their work, are essential to achieve that students really come to understand the joy of good care for the elderly patients and feel the motivation coming from the intellectual challenge and from being part of an improving care system.

One study in the United States regarding career choice for family medicine showed that significantly more medical students choose family medicine as a career if at least one family medicine faculty member is in a leadership position (35). As long as the negative attitude prevails among professionals, it is important to address this explicitly. The statement “teacher professionalization on the job”, was explained as providing training to make supervisors of trainees aware of this subconscious attitude and how it affects the medical student.
Raising enthusiasm for the medical care of elderly patients: a broad framework for an elderly friendly medical curriculum.

The fifth element is about clear professional perspectives and reflects students’ need for a clear image of the work and career opportunities of geriatricians to enable them to make a solid career choice. Here, again, preclinical education and a compulsory clerkship are important. However, as a medical student you are mainly exposed to resident activities rather than the actual specialist activities. For this reason medical schools must also explicitly address career choice.

Summarizing, with an integrated approach that accommodates the elements from this concept map, with a curriculum whose underlying philosophy is based on patient-centeredness - in which the goals of the patient are central and biomedical, psychological and social approaches are integrated - , with geriatric education both integrated throughout the entire curriculum and also in a specific course and clerkship, with inspirational role models from elderly care medicine and geriatrics, but also with key figures in the curriculum promoting the discipline, and explicit attention to career choice and career prospects, we expect more medical students to choose a career in geriatrics and doctors in all specializations to be able to provide more appropriate care to elderly patients.

STRENGTHS AND LIMITATIONS

This is the first study in this field that makes use of concept mapping. In general, concept mapping has proven to generate valid and reliable results (21). By choosing physicians, students and curriculum designers as participants, we were able to build a framework with the integrated opinions of these three important stakeholders. Although we only included eight participants - where Trochim advises a group size of 10 to 20 people to ensure a wide variety of opinions - we could nevertheless ensure a broad range of viewpoints due to the three different types of stakeholders.

In order to get a thorough interpretation of the map, the interpretation phase was done by the researchers, without the participants, as their time was limited. Nevertheless, involvement of the participants during this phase might have strengthened the validity of our findings. Also, involvement of the participants in this phase could have helped to interpret cluster 6.
Chapter 6

**RECOMMENDATIONS**

**Research**

Since this was the first concept map in this field of research, it should ideally be repeated and compared to see if all the dimensions are covered.

Each cluster should be further specified and operationalized in focus group studies.

More studies are necessary to see which teaching methods make medical students feel challenged and emotionally involved in the medical care of the complex geriatric patients instead of bored or frustrated.

Further research is needed to ascertain if a curriculum built according to our concept map will increase the interest of medical students for a career in geriatrics including their attitudes regarding the medical care for elderly patients.

**Education**

Each medical school can develop their elderly friendly curriculum, based on the clusters from this concept map, with the individual statements acting as cues.

They can for instance use the same categories of stakeholders complemented with decanal representatives to further discuss the steps to be taken, how to overcome the potential barriers and develop a suitable program for that particular medical school.

**CONCLUSION**

The need for elderly-friendly medical education is evident. Small or singular interventions within existing curricula are not sufficient. In this study we used concept mapping, which resulted in the 5 main themes for a comprehensive curriculum change: 1. patient-centeredness as an underlying concept 2. a substantial amount of geriatrics integrated in the curriculum, 3. geriatrics, also in separate education or at least a clerkship, presented as intellectually challenging and emotionally appealing, 4. positive role models, and 5. a clear presentation of future professional perspectives. These themes require refinement in further discussion, but they provide leaders in medical education with a clear task.
Raising enthusiasm for the medical care of elderly patients: a broad framework for an elderly friendly medical curriculum.

REFERENCE LIST

(1) Capaciteitsorgaan. Capaciteitsplan 2016; Deelrapport 5; Specialist ouderengeneeskunde. 2016.
   Ref Type: Generic

   Ref Type: Generic


Chapter 6


Ref Type: Internet Communication


Raising enthusiasm for the medical care of elderly patients: a broad framework for an elderly friendly medical curriculum.
INTRODUCTION

In view of the limited interest among medical students in a career in elderly care medicine and geriatrics, we conducted a search for factors that can potentially influence their interest. Below a description is presented of the findings of the studies reported on in this thesis as they relate to the research questions. This is followed by a discussion regarding the findings and their significance. The discussion is concluded with the presentation of recommendations for the fields of education, research and policy.

RESEARCH QUESTIONS WITH MAIN FINDINGS

1. WHICH FACTORS INFLUENCE MEDICAL STUDENTS’ INTEREST IN A CAREER IN ELDERLY CARE MEDICINE OR GERIATRICS IN A POSITIVE OR NEGATIVE WAY?

How we arrived at answers

Answers to this research question are described in chapters 2, 3, 4 and 5.

The first study, described in chapter 2, and referred to as review study, provided a starting point for this thesis by presenting an overview of all the factors found in the literature that contribute to the interest or lack of interest of medical students in a career in geriatrics.

The second study, as described in chapter 3, describes the results of focus group discussions with elderly care medicine residents and gynaecology residents in relation

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1 We have used the term ‘geriatrics’ in internationally published studies and in search strategies applied to international literature, as other countries do not know the elderly care medicine specialty. The difference between the two can be described as follows:

The Dutch elderly care physician is responsible for the transitional care in the hospital, geriatric rehabilitation, long-term care and terminal care in the nursing or residential home and, when consulted by the general practitioner, for the complex patients with comorbidity at home. The hospital geriatrician is responsible for the (acute) hospital care for geriatric patients. In other countries hospital care as well as community and nursing home care is usually delivered by the geriatrician.

As this thesis looks at both situations, the terms ‘geriatrics’ as well as ‘elderly care medicine’ are used in this thesis. When we used the term geriatrics, it is relevant for both hospital geriatrics and elderly care medicine.
to the process of their specialty choice. We discussed the influence of experiences before, during and after medical school in relation to their developing specialty preferences and their final residency choice.

While aspects of the hidden curriculum are presumed to have a real impact on medical students and to play a role in their developing interests in medical specialties, we conducted an ethnographic study on an internal medicine ward to gain a more profound picture of medical school experiences. Chapter 4 describes the results of this study. To answer the first research question from a different perspective, chapter 5 presents the results of the questionnaire study on how final year medical students perceive characteristics of elderly care medicine and their appreciation of these characteristics. We compared the results of a cohort with a compulsory elderly care medicine clerkship and an older cohort without such an clerkship.

Below we will provide a synthesis of the results regarding the first research question, divided into exposure, perception of the nature of the work in elderly care medicine, and additional characteristics such as prestige, finances and lifestyle factors.

**Main findings**

**Exposure**

*Exposure to elderly care medicine*

The focus group study demonstrates that students had a negative image of elderly care medicine throughout medical school, partly due to the absence of geriatrics education. The students who had had the benefit of some course-based theoretical education in geriatrics, evaluated it as being one-sided because of its emphasis on psychosocial aspects or ethics. Furthermore, students did not appreciate the role models, who came across as too enthusiastic or not enthusiastic enough. The review describes studies that show a trend that taking theoretical courses results in an increased interest in a career in geriatrics among students. There is also evidence that a mandatory geriatrics clerkship increases this interest in the short term. The questionnaire study, which compares students in an old curriculum without a mandatory clerkship to students in a new curriculum with a mandatory elderly care medicine clerkship, shows a rising trend in interest.
Exposure to elderly patients in other disciplines
As described in the ethnographic study, students who are exposed to elderly patients with multimorbidity in other medical specialties see the negative attitude of residents regarding these patients, or hear negative comments about them.

Perception of the nature of the work in elderly care medicine
In general, elderly patients are not judged negatively according to the focus group study, the questionnaire study and the ethnographic study. However, as the review, the questionnaire study and the ethnographic study show, common characteristics of elderly patients, such as chronic illnesses, terminal conditions, “psychosocial conditions” or the complexity of the geriatric patient, contribute to the students’ limited interest in elderly care medicine or geriatrics. The focus group participants saw elderly care medicine as “handing out paracetamols and plasters”, which seems to comment on their perception of the chronic care of the elderly patient. The elderly patient with multimorbidity in the hospital was presented, as shown in the ethnographic study, as boring and frustrating.

In addition, the nursing home setting also turns out to play a role in the limited interest in pursuing a career in elderly care medicine. Visits to the nursing home, both during medical school and privately, generated the image of “a sad place”.

Status, finances and lifestyle
Lack of status seems to have some effect, according to the review. In the questionnaire study the professional characteristic of status was evaluated as moderately attractive for their future career. In the focus group study elderly care medicine was perceived as, “only if you can’t find a job elsewhere, not medicine”.

In the review study and the questionnaire study students consider the financial rewards and lifestyle factors like working part-time important.

2. How and when do trainees make their decision for a career in elderly care medicine or geriatrics and which factors influence this career choice process?

How we arrived at an answer
Especially the focus group study answers this question. Our review showed that only the longitudinal studies of student interest are relevant to answer this question.
Main findings

During medical school

The Focus group participants had a negative image of elderly care medicine throughout their studies due to factors related to medical school, as described earlier.

The obstetrics and gynaecology residents, on the other hand, had developed enthusiasm for their discipline while in medical school. Their enthusiasm was kindled mainly by the emotional impact of a delivery.

The review shows that preclinical and clinical geriatrics education may increase student interest, but the longitudinal studies show that the initially increased interest decreases at a later stage.

After medical school

The Focus group participants who had opted for elderly care medicine had only become enthusiastic about the discipline after graduating from medical school, when they became acquainted with the actual practice in the nursing home. Some of the focus group participants deliberately went to work in the nursing home temporarily to gain experience that could be useful for their preferred specialty. Others were still searching after they had discovered that working in the hospital was not what they had expected. They had not necessarily thought about elderly care medicine, but they ended up there more or less by chance.

3. How can we raise medical students’ enthusiasm for the medical care of elderly patients?

How did we obtain the answer

Chapter 6 describes the results of our concept mapping study in which we found elements for a curriculum framework that can raise enthusiasm for the medical care of geriatric patients.

The review and the questionnaire study also reveal elements that may positively affect the interest in elderly care medicine or geriatrics.

So, after presenting the factors that contribute to the problem of insufficient popularity of geriatrics, we conclude by presenting elements for a solution.
Main findings

Concept mapping has generated the following elements for an elderly friendly curriculum:

- It is a patient-centred medical curriculum; statements included: “start with patient perspective instead of the biomedical”, “give insight into the limited curative ability of medicine”, “less emphasis on the biomedical paradigm”.

- It is a curriculum representative of the patient population (substantial amount of geriatrics), with statements like “70% of medical cases for medical students should consist of elderly patients”, “death and dying should have a central space in the curriculum”.

- Geriatrics is presented as intellectually challenging and emotionally appealing, with statements like “the geriatric clerkships should be the best”, “organizing attractive elements in geriatrics such as e-health or games”, “promotion of the field by prestigious individuals and by medical specialists”.

- There are senior-friendly role models.

- Future professional perspectives are clearly provided, with statements like “insight into career perspectives”, “helping students to gain insight into what kind of doctor they want to become”.

Both the review and the questionnaire study reveal attractive aspects of geriatrics according to students, such as diagnosis, visible results like relieving pain and discomfort, guiding patient through illness, long-term relationship with patient, more than one condition at the same time, reasoning, teamwork, and part-time work.

DISCUSSION

The most important conclusion regarding the question why students do not choose a career in geriatrics is that students have a negative perception of the characteristics of the discipline. First of all the patient problems. Due to the chronicity of the illnesses of these patients, the students feel frustrated that the patient does not get better. They consider the multimorbidity too complex. Secondly, the type of medicine. Due to the age of these patients they experience not being able to add years to the patient’s life as ‘not rewarding’. The ‘not curing’ is experienced as incompatible with ‘being a
doctor’. Similarly, they do not evaluate palliative care positively. The added emphasis on psychosocial aspects is also not considered attractive.

Below we will address some aspects in more detail.

**Lack of exposure to good examples**

One important cause of the negative perception of the patient characteristics in geriatrics is the lack of exposure to positive examples of the medical care for these patients.

As our ethnographic study showed, the interns were confronted with a negative attitude of the residents regarding elderly patients with multimorbidity. The negative comments made by the doctors and nurses that were observed during this study generally referred to the elderly patient and incidentally to geriatrics. A study from the United States shows that 67 per cent of students hear negative remarks from professionals about their preferred specialty (bashing), and that this caused 23% of them to change their choice of specialty (1).

A US study showed that the attitude of medical students regarding chronically ill persons was less favourable towards graduation as compared to when they started medical school (2). In general students evaluated their experiences with chronically ill patients as positive, especially if they were personally involved in the immediate care for the patients, but much less so when they only observed the residents or specialists providing care for these patients. Furthermore, a proportion of the students assessed the care for chronically ill patients as less positive. The authors hypothesized that these negative experiences perhaps played a role in the students’ attitude becoming less positive. Qualitative research among recent medical school graduates in Great Britain showed that some of them had received theoretical education about palliative care, but that all of them had been insufficiently exposed to dying patients or patients in need of palliative care during the clinical phase (3). They were even kept away from these patients. Their tasks consisted of clerking new patients or seeing patients with signs. Because knowledge on palliative care is not tested, students did not consider it important. A large proportion of them did not understand that they would later be caring for patients in a palliative phase and that patients would even die. They also described that the subject of dying is taboo in the hospital; death was viewed as failing.
In our ethnographic study we saw that in the case of chronic patients with multimorbidity, students were only involved in the admission diagnosis, for example dehydration. They were not encouraged to go into the multimorbidity and the multiple problems of this patient, problems that kept the patient from getting better despite treatment, for example rehydration.

This leads to our hypothesis that student do not appreciate chronically ill patients and terminal patients because they are not involved in the medical care that needs to be provided. It is not part of their tasks as interns and they lack good role models who show how to provide sound medical care for these problems.

A mandatory geriatrics clerkship can increase student interest in this discipline, as the findings of our studies show. It at least appears to be a precondition for raising enthusiasm among more students, because they can only form an opinion after being exposed to the discipline. The mentioned studies in the introduction on specialty choice in general show that the experiences students have with a specialty in medical school seriously influence any interest in this specialty. The mandatory elderly care medicine clerkship of 12 days in our questionnaire study is probably too short to give the students rewarding experiences. However, there are other important reasons for a mandatory elderly care medicine clerkship, namely because all future medical school graduates need to learn skills to provide medical care to elderly patients with complex problems.

It is important to see what the clerkship needs to kindle students’ enthusiasm. A study on a psychiatry clerkship, another discipline that is not very popular among medical students, shows that the clerkship increases enthusiasm for this discipline mainly the students are actively involved in patient care and when they see patients respond well to treatment (4).

It is also important to investigate what makes preclinical education about elderly or chronic patients appealing or not appealing. According to a study by Draper, students expect a curriculum with a biomedical orientation, which results in them not appreciating education about, for example, psychosocial aspects (5). In a medical school where students made home visits to chronically ill patients students felt the learning effect was disappointing when their patient had adapted to their illness (6). They preferred patients with acute problems that could be solved. Apparently students want to see a patient get better and be able to provide a solution.
A Nijmegen study found that students in an elective geriatric course discovered that minor interventions in complex patients can make a large difference to their quality of life (7). They also found that when students saw how you can assess and weigh the variety of treatment options in the case of a vulnerable patient with multimorbidity, the complexity that initially put them off them was converted into an appealing, complex puzzle. This suggests that geriatrics education needs to let students experience that, despite the absence of spectacular cures, they actually can make a difference for the patients. It must furthermore provide tools to the students to make the complex problems of the patients manageable.

**LOW STATUS OF ELDERLY CARE MEDICINE**

The low status of geriatrics also appears to affect the interest in this discipline, although only two of the studies included in the review refer to this. The questionnaire study showed it was not a factor of importance. However, the question is whether students are aware of their possible susceptibility to status, or whether the results are biased as a result of socially desirable responses. According to the study of Lepièce et al., medical students start attaching more importance to status during their clinical phase, which they spend largely in the hospital (8). Another observation was that students who were more susceptible to status were more interested in technique-oriented subjects. Prestige orientation is not a fixed characteristic but it is influenced by the socialization process in medical school (9). So, we hypothesize that when medical students experience more exposure to the less prestige-oriented disciplines like general practice and elderly care medicine, they become less susceptible to status and can therefore also develop more interest in the less prestigious disciplines.

**LIFESTYLE FACTORS AND FINANCIAL PROSPECTS**

The characteristics “shorter work days: and “working part-time”, which the students appreciated and also deemed applicable to elderly care medicine, could have a positive impact on the interest in this discipline. On the other hand, they did not feel that the also appreciated characteristic of “high income” applied to elderly care medicine.

In the United States the importance of lifestyle and income increased between 1998 and 2004 (10). In the period between 2002 and 2008 the factors “hours/working conditions and domestic circumstances” became more important and the “financial prospects” less important in decision-making regarding their future career for graduates in Great Britain (11).
Elderly care medicine can benefit from the increasing importance of the lifestyle factor in students’ specialty choice. In general this is a discipline that allows for part-time working. However, the focus group study showed that bringing this up as an attractive factor too early in medical school may backfire. Because the students interpreted it as a lack of motivation and ambition. In the final phase before graduation and in the years after that, this factor becomes more important for part of the students, and should be included in the career orientation then. The relatively low income, on the other hand, presents a problem, all the more as this is not an isolated factor, but seems to be related to the status of a discipline and to diagnostic and technical procedures (12;13). This requires a different system of financial compensation, in which technical procedures and guiding patients are rewarded equally.

**Late decision for this specialty**

Those who eventually chose a career in elderly care medicine had made their decision at a late stage, several years after graduating. In the UK is also found that most geriatricians made their career choice more than five years after graduation (14).

This late choice can be explained by the lack of, or at best limited exposure to, elderly care medicine during medical school. It is possible that more exposure to elderly care medicine during medical school would have kindled enthusiasm for this discipline at an earlier stage, and also in a larger group of students.

An American study shows that 45 per cent of students had already predicted their final speciality choice at the start of medical school, and 69 per cent at the end of the second year (15). What stands out here is that these choices were made before the start of the clinical phase, and they remained stable. This might lead to the conclusion that part of the students had already developed a specialty preference based on personal experiences, or those of people close to them, with healthcare, but also that a significant part of the students are influenced by the theoretical, course-based education in the first two years. This suggests that it is important to also offer geriatrics in the first theory-based phase of the training, not just in the clinical phase.

However, it is also possible that, despite sufficient exposure to geriatrics, this discipline will only be appreciated at a later stage. One reason could be that the graduates find out later that their original choice of speciality does not suit them after all, or that they do not like the work in the hospital, as the focus group study shows.
A study in Great Britain also looked at the stability of the specialty choice among young physicians from year 1 post-graduation to year 3 post-graduation (11). This choice remained stable in 75 per cent of students. Those with a stable career choice were more influenced by, among other things, experiences as students in this specialty, and their enthusiasm for this specialty started before medical school. Working conditions and domestic circumstances generally influenced the graduates who changed their initial choice, and they often shifted to general practice instead of their original hospital specialty. In this group enthusiasm can potentially be raised for elderly care medicine.

Another reason for late decision-making might be that it takes some clinical experience for the focus on cure to diminish and the perspective is broadened to include the value of guidance and improving quality of life.

**IMAGE OF THE MEDICAL PROFESSION**

Students mainly see themselves in the future as doctors who diagnose and cure their patients (16).

A curriculum with a predominantly biomedical orientation will perpetuate this misconception of the medical profession. This professional identity of students also contributes to the negative perception of geriatrics (16). This indicates the necessity to organize a curriculum in such a way that students learn at an early stage that diagnoses and curing constitute only a part of their future profession, and that an important component consists of treating and guiding chronically ill and even dying patients. The emphasis in many medical schools should therefore be shifted from hospital clerkships to work placements in general practice and nursing homes. Thistlewaithe describes that nearly all clinical conditions can be learned in general practice, with the exception of intensive care for acute patients (17). In addition, there are specific competences that can only be learned in general practice, for example continuity of care. A study in Great Britain shows that students indeed see a wide range of clinical conditions in general practice (18). The most important learning outcomes in nursing homes are end-of-life care, deliberate decision-making, communication, interprofessional collaboration and patient-centred attitudes.

Competences that students need to master in order to provide sound medical care to chronic patients have been described on the national level and internationally (20-23). It is high time that these competences are also included in the official learning outcomes.
Furthermore, a different definition of health is better suited to today’s patient population. The current WHO definition of health is: “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.” In case of the frequently chronic patients it makes sense to use the new definition of health by Huber: “Health as the ability to adapt and self manage, in the face of social, physical and emotional challenges”, where it is the physician’s duty to promote the patient’s health (24). This puts the concept of ‘cure’ in a different perspective. If students are exposed to this image from the start, they will experience making a contribution to the improvement of their patients’ health according to this definition as ‘rewarding’. The clinical decision-making model of Tinetti as described in chapter 4 is in line with this definition of health (25). This model looks at the effects of symptoms on the physical, psychological, and social functioning of a patient; the main focus is on the patient goals, and treatment is aimed at the biological and non-biological factors that can be influenced to achieve the patient’s goals.

**THE CURRICULUM FRAMEWORK**

The framework for a curriculum that is intended to kindle students’ enthusiasm for the medical care for elderly patients that resulted from the concept mapping study is in perfect alignment with the factors found in the other four studies. Sufficient exposure with a mandatory clerkship is one of the recommendations. Also, suggestions are made on how to present this medical education in an appealing way. With key figures in the curriculum that promote elderly care medicine the perception of the professional status can be improved. The suggestions to include elderly patients in the entire curriculum, and not just in geriatrics, and to reduce the emphasis on the biomedical and disease oriented model, can help students develop a broader perspective to include other than strictly curative aspects of medicine. This creates a more realistic image of the medical profession and also makes geriatrics less of the odd one out and more appreciated.

**STRENGTHS AND WEAKNESSES**

**Strengths**

The lagging interest in geriatrics displayed by medical students while the number of geriatric patients is rising due to demographic developments is a huge international problem.

This problem has been studied frequently. Most of the studies have focused on the medical students’ attitudes towards elderly people or elderly patients. Far fewer have
looked at the actual interest in geriatrics as a future career. Furthermore, they are isolated studies that investigated only one or at most a few aspects. The strength of our study is that we have looked at all the relevant studies in the review, and have also investigated the problem from different perspectives, i.e. factors as well as the career choice process, and the formal as well as the informal curriculum. This has resulted in a deeper understanding of the problem.

Another strength is the ‘mixed methods approach’, in which we conducted a review, a quantitative study and three separate qualitative studies.

In addition to gaining a better understanding of the problem, we also looked at solutions. Another strong point here is the fact that these studies were all conducted from the educational perspective, which increases the applicability of the generated recommendations in the actual practice of medical schools.

**Weaknesses**

The results of several sub-studies are not automatically generalizable.

In the review we included articles from the United States, Great Britain, Australia and New Zealand, so it would seem that the results are applicable to the Western world.

The questionnaire study was conducted on only one faculty. We did look at two different curriculums, making the results stronger than if we had done just one measurement.

Furthermore, both this study and the review, as well as international studies, show that students do not appreciate the professional characteristics chronic, terminal and psychosocial conditions; they prefer acute and singular illnesses.

In the qualitative retrospective study of the specialty choice process we examined the decision to pursue the elderly care medicine specialty. This specialty exists only in the Netherlands. In other countries geriatricians often carry out the tasks included in this discipline. The timing of the decision to pursue geriatrics is not the same in all countries; it often follows several years of residency. However, the findings from the focus group study that a large proportion of the ‘trainees’ develop an interest in elderly care medicine at a later stage, has also been observed in Great Britain and the United States.
It is remarkable that all the elements from the concept mapping study are completely in line with the conclusions and recommendations from the other studies, which clearly supports the findings. Longitudinal qualitative research among students to explore their perception of the medical profession in general and of elderly care medicine in particular would have made the study more powerful. However, the lack of both time and finances made this impossible.

As the principal investigator is an elderly care physician who studies the lack of interest in her own field, there is a risk of bias. To minimize this potential effect we set up a project group that includes a GP and a gynaecologist, in addition to a second elderly care physician.

**RECOMMENDATIONS**

**Recommendations for education**

As the limited interest in geriatrics is related to the limited appreciation of patients with chronic illnesses and the image that medical students had of the medical profession with its focus on curing, it will take more than interventions in geriatrics education to improve the image that students have of the discipline. It will take major changes in the entire curriculum to realize this and to prepare the students for the patient population they will encounter in their future profession.

**Underlying principles for new curriculum**

Based on our research, the starting points of the curriculum can be outlined as follows. The chronic patient takes central stage in the curriculum, in which health is defined following Huber as: “Health as the ability to adapt and to self-management, in the face of social, physical and emotional challenges”, and where the task for the physician is to improve the patient’s health.

Tinetti’s individually tailored model serves as the basis for the clinical decision-making.

**Bachelor programme**

The bachelor programme must be based on mainly patient problems; the problems may concern a first presentation of a new complaint or illness, as well as problems in the chronic or terminal stages of one or more chronic illnesses. This would be a theme throughout the entire curriculum, and a substantial number of cases concern elderly
patients. With the presented patient problem in mind students are asked, for example in a study assignment, to figure out the biomedical aspects of the illness, the history taking, characteristic complaints, physical findings, additional diagnostics and differential diagnosis of a first presentation, the course of the illness, the functional, psychosocial, and societal consequences of the illness, as well as later problems, symptoms and complications of the illness and last but not least preventive measures on the individual and population level.

Early patient contacts are also important. Projects in which medical students follow patients with chronic illnesses over a longer period of time, preferably in a team with students from other backgrounds in Interprofessional Education, are useful to become acquainted with the patient perspective at an early stage, to learn how to guide these patients through the developing process of the illness in a multidisciplinary way.

**Master programme**

Important in the Master programme is that the students are further trained in all tasks that are part of guiding and monitoring older patients with chronic illnesses and/or multimorbidity.

As long as the hospital system remains as it is now, focused on speedy diagnosis and speedy discharge, hospital clerkships are not suitable to learn competences regarding these patients. A lot more time will have to be reserved for placements outside the hospital, for example in general practice, elderly care medicine and rehabilitation medicine, where most competences and clinical conditions can be learned.

But in the discipline-bound clerkships, including hospital clerkships, students should be involved not only in admissions, where they prepare a first differential diagnosis based on history taking and physical examination, but also in the daily care for patients who are hospitalized for a longer period or who are deteriorating and will die. They can write plans for the further approach and guidance for patients who have already been diagnosed. Consultation hours at the outpatient clinic should make up a larger part of the clerkship, and students should see not only new patients, but also patients who are being checked or monitored, in order to gain knowledge and skills regarding monitoring.

To reduce the number of physicians who make derogatory remarks about other disciplines, such as elderly care medicine, interprofessional learning should be included in
advanced training. When residents from clinical disciplines can tag along with elderly care medicine residents and vice versa, they will gain a sound idea of each others’ expertise, which is conducive to collaboration and mutual respect.

**Postgraduates**

As long as there are residents who discover after several years that they are not happy in the hospital, it is useful to reach out to this group, for example by organizing information meetings, to raise their enthusiasm for elderly care medicine.

**Recommendations for research**

In order for a curriculum to be representative of modern patient problems, it makes sense to first inventory, by means of qualitative research, the activities physicians must prepare for in the medical care of elderly and chronically ill patients in everyday practice. This can be accomplished via semi-structured interviews and focus groups with professionals, but also via ethnographic research.

It still needs to be investigated which types of geriatrics education generate enthusiasm, are intellectually challenging and have an emotional appeal. Education developed for this purpose should be evaluated, qualitatively as well as quantitatively. Again, semi-structured interviews and focus groups are suitable here, but student narrative reflections can also provide meaningful insights (15).

We recommend investigation of the ideal duration of a geriatrics clerkship, and whether it should take place early or late in the clinical phase.

Also, more insight is required into what makes a good elderly care physician or geriatrician role model. This could be explored via focus groups with interns.

In a new curriculum, as proposed above, we recommend measuring whether the interest of students for a career in elderly care medicine has increased and their attitude towards the medical care of elderly patients has improved.

**Recommendations for politics and professional organizations**

Low financial rewards and lack of status of the specialty have a negative impact on the interest in elderly care medicine. As mentioned earlier, the specialties that are considered
less biomedical have low prestige, but they are also associated with, among other things, less technical procedures and particular patient groups such as the elderly and chronically ill. Technical procedures, financial compensation and status are therefore interrelated. This means the time has come for a new compensation structure, in which technical procedures are not paid better than guiding, supporting talks.
Chapter 7

REFERENCE LIST


Chapter 8

SAMENVATTING
SUMMARY
DANKWOORD
CURRICULUM VITAE
SAMENVATTING

Door de demografische ontwikkelingen zijn er steeds meer specialisten ouderengeneeskunde nodig. Echter, het aantal opleidingsplaatsen voor het specialisme ouderengeneeskunde in ons land is de laatste jaren niet volledig benut geweest.

Dit proefschrift gaat over de oorzaken van de geringe belangstelling van geneeskundestudenten voor een carrière in de ouderengeneeskunde.

Hoofdstuk 1 geeft een inleiding op dit onderwerp met een uitwerking van de centrale onderzoeksvragen. We hebben beschreven wat er bekend is aan factoren die van invloed zijn op specialisatiekeuze in het algemeen, wat er bekend is over het keuzeproces en hoe dat resulteerde in de centrale vraagstellingen voor dit onderzoek, namelijk:

1. Welke factoren zijn van invloed op de interesse van geneeskundestudenten in een carrière in de ouderengeneeskunde op een positive of negatieve manier?
2. Hoe en wanneer wordt de keuze voor een carrière in de ouderengeneeskunde gemaakt en welke factoren hebben invloed op dit proces?
3. Hoe kunnen wij het enthousiasme van geneeskundestudenten voor de medische zorg voor oudere patiënten vergroten?

Hoofdstuk 2 behelst een review die wij hebben gedaan om een overzicht te krijgen van de factoren die beschreven zijn in de wetenschappelijke literatuur die van invloed zijn op de interesse van geneeskundestudenten in een carrière in de ouderengeneeskunde. Daarvoor hebben wij systematisch gezocht in PubMed, ERIC en Psycinfo. Met twee personen hebben we artikelen geselecteerd op relevantie en op kwaliteit.

1 We hebben de term “geriatrics” gebruikt in internationaal gepubliceerde studies en in zoekstrategieën ten behoeve van de internationale literatuur, omdat het specialisme ouderengeneeskunde niet voorkomt in andere landen. Het verschil tussen deze twee kan als volgt beschreven worden: de Nederlandse specialist ouderengeneeskunde is verantwoordelijk voor de transitiezorg in het ziekenhuis, de geriatrische revalidatie, langdurige zorg en terminale zorg in het verpleeghuis en kan geconsulteerd worden door de huisarts voor de complexe oude thuiswonende patiënten. De Nederlandse klinisch geriater of de internist ouderengeneeskunde is verantwoordelijk voor de (acute) zorg voor complexe oude patiënten in het ziekenhuis. In andere landen wordt meestal zowel de ziekenhuiszorg als de zorg in verpleeghuizen voor deze patiëntencategorieën geleverd door de geriater. Wanneer wij in deze samenvatting de term “ouderengeneeskunde” gebruiken is dit relevant voor zowel het specialisme ouderengeneeskunde als voor die beroepsgroepen die in binnen- en buitenland de geriatrische zorg op zich nemen.
Samenvatting

We onderscheidden factoren met betrekking tot de aard van de werkzaamheden, met betrekking tot de mate waarin studenten geconfronteerd worden met de ouderengeneeskunde (exposure) en met betrekking tot status en financiën.

Met betrekking tot de aard van de werkzaamheden binnen de ouderengeneeskunde vonden wij dat studenten de voorkeur hebben voor jonge mensen met acute somatische ziekten die genezen kunnen worden. Studenten verwachten te weinig bevrediging te vinden in de medische zorg voor chronisch zieke of stervende patiënten. Daarnaast schrikt de complexiteit van de geriatrische patiënt hen af. Met betrekking tot exposure vonden wij dat preklinisch onderwijs ouderengeneeskunde en vooral een coschap in dit vakgebied de belangstelling voor ouderengeneeskunde vergroot. De gebrekkige status van ouderengeneeskunde en de relatief lage financiële vergoeding vormen een barrière voor geneeskundestudenten om te kiezen voor de ouderengeneeskunde.

Wij hebben aanbevolen om in de geneeskunde opleidingen meer aandacht te geven aan ouderengeneeskunde, waaronder een verplicht coschap ouderengeneeskunde. Daarbij is het ook belangrijk dat studenten leren grip te krijgen op de complexiteit van de geriatrische patiënt.

Omdat imago, de hoogte van het inkomen en technische diagnostische en therapeutische procedures met elkaar samenhangen hebben wij de politiek aanbevolen om het declaratiesysteem zodanig te veranderen dat het begeleiden en monitoren van patiënten en het bespreken van behandelopties met de patiënt waarbij eventueel gekozen wordt voor het afzien van behandelingen, evenzeer financieel gewaardeerd wordt als het doen van verrichtingen.

In hoofdstuk 3 hebben we ons kwalitatief onderzoek beschreven naar het keuzeproces van recent ingestroomde artsassistenten in opleiding (AIOS) tot specialist ouderengeneeskunde.

Om geschikte maatregelen te kunnen nemen om de instroom in deze opleiding te vergroten, wilden wij meer zicht krijgen op het hele proces en alles wat daarop van invloed was, dat uiteindelijk bij deze artsassistenten geleid heeft tot de keuze voor het specialisme ouderengeneeskunde.
Deze studie werd uitgevoerd met drie focusgroepen met AIOS van het specialisme ouderengeneeskunde en ter contrast met twee focusgroepen artsassistenten gynaecologie.

Alle artsassistenten waren enthousiast geworden na klinische blootstelling aan het vakgebied. Voor de AIOS specialisme ouderengeneeskunde was dit pas na hun studie, na eerst andere dingen gedaan te hebben, als zij eenmaal werkzaam waren in het verpleeghuis in een tijdelijke baan. De artsassistenten gynaecologie hadden hun keuze al tijdens de studie gemaakt.

Vrijwel alle focusgroepdeelnemers hadden als geneeskundestudent een negatief beeld van het specialisme ouderengeneeskunde. Dit werd mede veroorzaakt door de studie zelf, waarbij het ontbreken van onderwijs, een te eenzijdige benadering van het onderwijs, of de negatieve opmerkingen van andere specialisten een rol speelden. Ook de confrontatie met het verpleeghuis of met familie of patiënten die vooral niet naar een verpleeghuis wilden, gaf een negatief beeld.

Eenmaal werkzaam in het verpleeghuis werd het negatieve beeld bijgesteld. Ze vonden het veel leuker, moeilijker, intensiever en zinvoller dan gedacht.

We hebben aanbevolen dat elke geneeskunde faculteit een verplicht coschap ouderengeneeskunde in het verpleeghuis opneemt in het curriculum om te laten zien dat het “echt dokteren” is in plaats van “pappen en nathouden”. Nader onderzoek zou moeten uitwijzen of deze eerdere en positiewere blootstelling aan het vakgebied resulteert in een grotere belangstelling en keuze in een vroegere fase voor het specialisme ouderengeneeskunde.

In hoofdstuk 4 hebben wij verslag gedaan van onze etnografische studie. Mede omdat in hoofdstuk drie naar voren kwam dat negatieve opmerkingen van andere specialisten ook een rol hadden gespeeld in het negatieve beeld van ouderengeneeskunde wilden wij meer zicht krijgen op het verborgen curriculum. Daarvoor heeft een geneeskundestudent in het kader van haar wetenschappelijke stage de taak gekregen om mee te draaien als coassistent in een coschap interne, maar ondertussen te observeren welke attitudes artsassistenten en andere professionals ten aanzien van de oudere patiënt laten zien aan de coassistenten.
We zagen dat de oudere patiënt met multiple problemen door artsassistenten gezien werd als niet interessant enerzijds en frustrerend anderzijds, mede door het ziekenhuisysteem waarbij de focus ligt op snel ontslag. De studenten werden niet gestimuleerd zich te verdiepen in de problemen van deze patiënten. Daarnaast hoorden zij vaak negatieve opmerkingen over deze patiëntencategorie. Wij denken dat deze voornamelijk negatieve attitude van rolmodellen van invloed kan zijn op de carrière keuze van geneeskundestudenten.

Wij hebben geneeskundefaculteiten aanbevolen om de leeromgeving zodanig te veranderen dat studenten gestimuleerd worden zich breder te verdiepen in deze patiënten en hen te volgen, zodat zij daar een positieve ervaring aan kunnen overhouden. Tevens zouden alle dokters opgeleid moeten worden met de vaardigheden om deze oudere patiënten met multimorbiditeit door middel van het biopsychosociale model te benaderen in plaats van het pathofysiologische model.

**Hoofdstuk vijf** gaat in op onze kwantitatieve studie naar de belangstelling van geneeskundestudenten voor het specialisme ouderengeneeskunde.

Door middel van vragenlijsten hebben wij bij studenten aan het einde van een ‘nieuw’, curriculum met een verplicht coschap ouderengeneeskunde in het verpleeghuis en bij studenten van het curriculum daarvoor, zonder verplicht coschap ouderengeneeskunde, de belangstelling gemeten voor het beroep van specialist ouderengeneeskunde. Tevens is met deze vragenlijsten gemeten welke beroepskenmerken studenten waarderen voor hun latere beroep en welke zij al dan niet van toepassing vinden op het beroep van specialist ouderengeneeskunde.

Van het nieuwe curriculum wilde 4.2% van de studenten graag specialist ouderengeneeskunde worden en 12.5% dacht erover. Van het oude curriculum was dat respectievelijk 0,8% en 8,6%.

De beroepskenmerken die studenten aantrekkelijk vonden, maar niet van toepassing achten op het specialisme ouderengeneeskunde waren onder andere: diagnostiek, diversiteit, acute aandoeningen, zichtbare resultaten en een hoog inkomen. De beroepskenmerken die studenten van toepassing vonden op dit specialisme, doch minder aantrekkelijk vonden voor hun latere beroep, waren onder andere: psychosociale-chronische en terminale aandoeningen. Mogelijk speelt hierbij een beeld van het
artsenberoep een rol, waarbij zij met name het genezen en het toevoegen van jaren aan het leven als hun belangrijkste taakopvatting zien.

Omdat het ons zorgen baarde dat deze aandoeningen minder gewaardeerd worden, terwijl studenten in hun latere beroepspraktijk veelvuldig hiermee geconfronteerd zullen worden, hebben wij aanbevolen om in het raamplan en de geneeskunde opleidingen meer aandacht te besteden chronische en terminale patiënten. Hiermee verwachten wij dat studenten beter voorbereid worden op hun toekomstige taken en een reëler beeld krijgen daarvan. Wanneer zij zich realiseren dat chronische patiënten in vrijwel elk specialisme veel voorkomen en niet alleen in het specialisme ouderengeneeskunde, kan de waardering voor dit vakgebied groter worden.

Hoofdstuk 6 geeft een beschrijving van onze concept mapping studie.

In vervolg op de vier eerdere studies waarin wij zochten naar de oorzaken van het gebrek aan belangstelling voor ouderengeneeskunde onder geneeskundestudenten wilden wij met onze vijfde studie kijken naar mogelijke oplossingen.

Door middel van concept mapping, een methode waarmee men inzichten van verschillende experts met verschillende achtergronden op een gestructureerde manier in kaart kan brengen en de onderlinge verbanden daartussen zichtbaar kan maken met een visueel schema, hebben wij een antwoord gezocht op de vraag: “Er is pas sprake van een curriculum dat de studenten enthousiast maakt voor de medische zorg voor oudere patiënten als, ..”

Van de geselecteerde participanten hebben twee geneeskundestudenten, drie curriculumbouwers en drie artsen die ervaring hebben oudere patiënten en met onderwijs, waaronder een internist ouderengeneeskunde, een specialist ouderengeneeskunde en een AIOS gynaecologie, deelgenomen aan deze conceptmappingsessie.

Dit resulteerde in een conceptmap met vijf clusters of elementen. Daaruit komt naar voren dat geneeskundestudenten geënthousiasmeerd kunnen worden voor de medische zorg voor oudere patiënten als (1) de onderliggende filosofie van het curriculum gebaseerd is op een patiënt- en context gerichte benadering, waarbij de problemen en doelen van patiënten het startpunt zijn van klinisch redeneren en het herstellen van gestoorde functies op biologisch, psychisch en sociaal gebied het uitgangspunt is. Binnen een
filosofie als deze verwachten wij dat geneeskundestudenten het begeleiden van chronisch zieke patiënten als even vanzelfsprekend percipiëren als het genezen van ziekten, waarmee ouderengeneesekunde beter zou passen in het beeld dat zij hebben van hun toekomstige beroep. Daarnaast (2) is het belangrijk dat onderwijs ouderengeneesekunde in voldoende mate geïntegreerd in het curriculum wordt opgenomen evenals in apart onderwijs met in ieder geval een verplicht coschap ouderengeneesekunde, waarbij (3) het onderwijs gepresenteerd wordt als uitdagend en emotioneel appellerend, (4) door positieve rolmodellen, waarbij eveneens sleutelfiguren binnen het curriculum zich positief uitleten over de ouderengeneesekunde en waarbij (5) studenten een duidelijk beroepsperspectief aangereikt krijgen van de ouderengeneesekunde.

Deze elementen verdienen nog verdere verfijning. Daarom hebben wij geneeskunde-opleidingen geadviseerd, eventueel met dezelfde categorieën experts, deze elementen verder te bediscussiëren, eventuele potentiële barrières te inventariseren, evenals de stappen hoe die barrières te overwinnen, om zo een programma op te stellen, gebaseerd op deze elementen, dat het beste past bij de desbetreffende opleiding.

**Hoofdstuk 7** combineert de resultaten van dit proefschrift en presenteert antwoorden op de centrale onderzoeksvragen.

Een van de belangrijkste conclusies met betrekking tot de vraag waarom studenten niet kiezen voor de ouderengeneesekunde is dat studenten een negatieve perceptie hebben van de kenmerken van het vakgebied. De chroniciteit van ziekten van deze patiënten spreekt hen niet aan en de multimorbiditeit wordt als te complex ervaren.

Wij hebben beschreven dat het gebrek aan exposure van goede voorbeelden voor de medische zorg voor complexe oudere patiënten ten grondslag lijkt te liggen aan deze negatieve perceptie van het vakgebied.

Tevens hebben we beschreven dat de eventuele keuze voor dit vakgebied pas laat gemaakt wordt. Dit kan komen door de geringe exposure tijdens de studie. Het is ook mogelijk dat potentiële kandidaten de ouderengeneesekunde pas waarderen wanneer ze wat meer ervaring hebben of wat ouder zijn.

Een curriculum kan studenten beter enthousiasmeren voor de medische zorg aan oudere patiënten als het meer patiënt-georiënteerd is ten opzichte van ziekte-georiënteerd,
een substantieel aandeel ouderengeneeskunde heeft, representatief voor de patiëntpopulatie, zowel geïntegreerd als apart, dat de studenten uitdagt en emotioneel raakt en een duidelijk beroepsperspectieven biedt, met enthousiasmerende rolmodellen.

Het heersende beroepsbeeld, waarin dokters diagnosen stellen en ziekten genezen, lijkt ten grondslag te liggen aan de geringe waardering voor patiënten met chronische ziekten, een belangrijk kenmerk van de ouderengeneeskunde. Om die reden kan niet alleen met interventies in het onderwijs ouderengeneeskunde bereikt worden dat studenten een positiever beeld krijgen van dit vakgebied. Daarom hebben wij aanbevolen om de chronische patiënt centraal te stellen in het curriculum als geheel waarbij gezondheid gedefinieerd wordt volgens Huber als: “gezondheid als het vermogen zich aan te passen en een eigen regie te voeren, in het licht van de fysieke, emotionele en sociale uitdagingen van het leven”, waarbij de arts als taak heeft om de gezondheid volgens deze definitie te bevorderen. Daarbij hebben wij onder andere geadviseerd om meer tijd in te ruimen voor stages buiten het ziekenhuis, als huisartsgeneeskunde, ouderengeneeskunde en revalidatiegeneeskunde, alwaar de meeste klinische condities of medische vraagstukken en bijpassende competenties geleerd kunnen worden. Op deze manier worden studenten, ook degenen die een andere carrière kiezen dan in de ouderengeneeskunde, goed voorbereid op de belangrijkste taken van het artsenberoep, waarvan het begeleiden van patiënten met chronische ziekten, naast het stellen van diagnosen, een grote plaats inneemt. Tevens verwachten wij daarbij dat studenten een reëler beroepsbeeld ontwikkelen, betere voorbeelden zien van de medische zorg voor complexe oudere patiënten en daarmee de ouderengeneeskunde beter gaan waarderen.

Omdat een deel van de basisartsen pas na enkele jaren ontdekt dat het ziekenhuis hen toch niet bevalt, hebben wij aanbevolen deze groep actief te benaderen om hen te enthousiasmeren voor de ouderengeneeskunde.
SUMMARY

Demographic developments increase the need for elderly care medicine physicians. However, not all training slots for the elderly care medicine specialty have been utilized in recent years.

This thesis addresses the causes of the limited interest of medical students in a career in elderly care medicine or geriatrics.

Chapter 1 presents an introduction to the subject including an elaboration of the central research questions. We describe what is known about factors that influence specialty choice in general and what is known about the process of choosing a specialty, and how this resulted in the central research questions, namely:

1. Which factors influence medical students’ interest in a career in elderly care medicine or geriatrics in a positive or negative way?
2. How and when do trainees make their choice for a career in elderly care medicine or geriatrics and which factors influence this process?
3. How can we raise medical students’ enthusiasm for the medical care of elderly patients?

Chapter 2 contains a description of the literature review we carried out to obtain an overview of the factors that influence the interest of medical students in a career in geriatrics as reported in the scientific literature. We conducted a systematic search of PubMed, ERIC and Psycinfo. Two persons selected articles based on the criteria of relevance and quality.

As regards the nature of the work in geriatrics, we found that students prefer young people with acute and curable somatic diseases. Students do not expect the medical care of chronically ill or dying patients is satisfying enough. In addition, they are deterred by the complexity of the geriatric patient. With regard to exposure we found that preclinical geriatrics education and especially a geriatrics clerkship increases interest in geriatrics. The students viewed the lack of prestige of the speciality and the relatively low financial rewards as barriers to choosing a career in geriatrics.
One of our recommendations is to give more attention to geriatrics, including a mandatory geriatric clerkship. It is also important that students learn to get a grip on the complexity of the geriatric patient. As prestige, income level, and technical diagnostic and therapeutic procedures are interrelated we recommended politicians to change the claim system so that financial compensation for guidance of patients and non-intervention is on the same level as for medical treatments.

In Chapter 3 we described our qualitative study into the career choice process of elderly care medicine trainees who recently started their specialist training. To be able to take suitable measures to increase interest in this specialist training, we needed better insight into the entire process and all influencing factors that ultimately led to these trainees choosing to pursue a career in elderly care medicine.

This study involved three focus groups consisting of elderly care medicine trainees and two focus groups with obstetrics and gynaecology trainees. All trainees had become enthusiastic about their specialty after clinical exposure to it. For the elderly care medicine trainees this generally happened after graduation, after they had done other things and once they started working temporary jobs at the nursing home. The obstetrics and gynaecology trainees had already made their decision while in medical school.

Nearly all focus group participants had a negative perception of elderly care medicine. This was caused in part during medical school, where the lack of formal tuition, an overly one-sided approach to education, or negative comments by other specialists played a role. A negative perception also resulted from being confronted with the nursing home or with family members or patients who desperately wanted to avoid going into a nursing home.

Once they started working in the nursing home the negative perception was adjusted. The work proved to be much more enjoyable, difficult, intense and meaningful than expected.

We recommended that all medical schools include a mandatory elderly care medicine clerkship in the curriculum to demonstrate that working as an elderly care physician is “being a real doctor” instead of just “prescribing paracetamol and plasters”. Further research is needed to show whether this earlier and more positive exposure to the
speciality results in increased interest in and a career choice for elderly care medicine at an earlier stage.

**In Chapter 4** we reported on our ethnographic study. Partly because Chapter 3 revealed that negative comments by other specialists had played a role in the negative perception of elderly care medicine, we wanted to gain a better understanding of the hidden curriculum. To this end a medical student was given the task to participate as a trainee in an internal medicine clerkship, and at the same time also observe which attitudes residents and other professionals display to the medical students regarding the elderly patient.

We found that residents saw the elderly patient as not interesting on one hand, yet frustrating on the other. This is partly due to the hospital system that focuses on quick discharge. The students were not stimulated to look deeply into the problems of these patients. In addition they frequently heard negative comments about this patient category. We think that this predominantly negative attitude of role models may affect the career choice of medical students.

We have recommended medical schools to change the curriculum so that students are encouraged to learn more about these patients and to follow up on them, so their experience can be more positive. Also, all physicians should be taught the skills to approach these elderly patients with multimorbidity based on the biopsychosocial model instead of the pathophysiological model.

**Chapter 5** addresses our quantitative study into the interest of medical students in elderly care medicine.

We used questionnaires to measure interest in a career in elderly care medicine among students at the end of a “new” curriculum that included a mandatory elderly care medicine clerkship, and students who followed the previous curriculum, that had no mandatory elderly care medicine clerkship.

The same questionnaire was also used to measure which professional characteristics students appreciate in a future career, and which characteristics they feel do or do not apply to the profession of elderly care medicine.
Of the students in the new curriculum, 4.2% wanted to pursue a career in elderly care medicine, and 12.5% were considering it. For the students in the old curriculum these figures were 0.8% and 8.6% respectively.

The professional characteristics students found appealing, but did not deem applicable to the profession of elderly care medicine, included: diagnostics, diversity, acute diseases, visible results and high income. The professional characteristics that students felt applied to this specialty, but were less attractive for their future career included: psychosocial, chronic, and terminal conditions. The perception of what the profession of physician should be, curing and adding years to life in particular as the most important tasks, may play a role here.

This underappreciation of these conditions concerned us, because students will be confronted with them frequently in their future professional practice. We therefore recommended that more attention be given to chronic and terminal patients in the Framework for Medical Education in the Netherlands and in the medical curriculums. In this way we expect students to be better prepared for and to develop a more realistic perception of their future tasks. When they have a better appreciation of the professional characteristics psychosocial, chronic, and terminal conditions we expect them to become more interested in a career in elderly care medicine.

Chapter 6 describes our concept mapping study.

Following the four earlier studies searching for the causes of the lack of interest in geriatrics among medical students, we wanted to examine possible solutions in our fifth study. Using concept mapping - a method to map insights of different experts from different backgrounds in an organized way, that can reveal links between them in a visual diagram - we attempted to find an answer to the question: “You may speak of a curriculum that generates enthusiasm in students for the medical care for elderly patients only when ...”

Two medical students, three curriculum designers and three physicians with educational experience, including one geriatrician, one elderly care physician and one resident, participated in this concept mapping session. This resulted in a concept map with five clusters or themes. These show that medical students can be made enthusiastic for the medical care for elderly patients if the underlying philosophy of the curriculum is
based on a holistic patient approach, in which the problems and goals of the patients are the starting point for clinical decision-making and restoring disturbed biological, psychological and social functions. In a philosophy like this we expect medical students will perceive guiding chronically ill patients as just as natural as curing diseases, which would mean geriatrics fits better in their perception of their future career. Furthermore, it is important that geriatric education is integrated in the curriculum as well as taught separately through at minimum a mandatory geriatric clerkship. The training needs to be presented as challenging and emotionally appealing, by positive role models, and key figures within the curriculum talk about elderly care medicine in a positive way and students are handed a clear perspective of the elderly care medicine profession.

These themes require further specification. For this reason we have advised medical schools to continue to discuss these themes, if desired with the same categories of experts, and inventory potential barriers, as well as the steps needed to overcome these barriers, in order to organize a programme, based on these themes that are compatible with the training in question.

Chapter 7 combines the results of this thesis and presents answers to the central research questions. One of the major conclusions regarding the question why students do not choose a career in geriatrics was that the students have a negative perception of the characteristics of the discipline. The chronicity of these patients’ diseases does not appeal to them and the multimorbidity is experienced as too complex.

We described how the lack of exposure to good examples for the medical care of complex elderly patients appears to be at the basis of this negative perception of the profession.

We also described that any decision to pursue a career in this profession is made at a late stage. This may be due to the limited exposure in medical school. Or perhaps potential candidates only learn to appreciate geriatrics when they have gained some experience or are a little older.

The professional perception of students, in which doctors make diagnoses and cure illness, seems to be at the basis of the limited appreciation for geriatrics, the specialty that is characterised by patients with chronic and terminal diseases.
For this reason it will take more than interventions in geriatric education to achieve a more positive perception of the speciality among students. And so we have recommended letting the chronic patient take central stage in the curriculum in which health, following Huber, is defined as: “the ability to adapt and to self manage, in the face of the physical, emotional and social challenges of life”. The physician’s task is to improve the patient’s health according to this definition. We recommended, among other things, to reserve more time for work placements outside the hospitals, for example in general practice, elderly care medicine and rehabilitation medicine, where most competences and clinical conditions can be learned.

In this way students are effectively prepared for the main tasks of the medical profession, where apart from diagnosis, guidance of patients with chronic conditions plays an important part. We also expect that students will develop a more realistic image of the profession, see better examples of the medical care for complex elderly patients and will therefore have a better appreciation of geriatrics.

Because a proportion of the residents discover only after several years that they do not like the hospital after all, we recommended reaching out to this group to motivate them to choose elderly care medicine.
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Dinsdag 2 oktober 2018 om 13:54 in de aula van de Vrije Universiteit De Boelelaan 1105 te Amsterdam

na afloop bent u van harte welkom op de receptie

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