Reasons for elderly patients GP visits: results of a cross-sectional study

Objective: The aim of this study is to describe the frequency of reasons for elderly patients visits to a general practice (GP) setting.

Subjects and methods: Cross-sectional data from 8,877 randomly selected patients were assessed during a 1-year period by 209 GPs in the German federal state of Saxony. The reasons for visits, performed procedures, and results of visits were documented. In this study, the data of patients aged 65 years and older are analyzed and the procedural and nonprocedural reasons for visits are described.

Results: In all, 2,866 patients aged 65 years and older were included. The majority of patients (1,807) were female. A total of 4,426 reasons for visits were found, distributed on 363 International Classification of Primary Care-2 codes. In the mean, there were 1.5 reasons for a GP visit from each patient. The top five nonprocedural reasons for visiting the GP were: cough (1.8%), back complaints (1.6%), shoulder complaints (1.3%), knee complaints (1.1%), and dyspnea (1.0% of all reasons for visit). The top five procedural reasons for visiting the GP included follow-up investigations of cardiovascular or endocrine disorders and immunizations. The top 30 nonprocedural reasons for visits covered 21.9% of all reasons for visiting. The top 30 procedural reasons covered 54.3% of all reasons for visits.

Conclusion: The current work indicates that people aged 65 years and older consult the GP more frequently for procedural than for nonprocedural reasons. The top 30 procedural and nonprocedural reasons for visits cover ~75% of all reasons for visits in these patients.

Keywords: elderly, geriatric, general practice, primary care, reason for visit, reason for consultation

Introduction

Today, ~25% of the German population is older than 65 years and this percentage will increase further. Recent data suggested that the risk of nursing home administration has not changed over the last years and brought no evidence for a decrease in morbidity.¹ It becomes conclusive that more elderly will visit German GPs during consultation hours. There are some studies that investigated the reasons for GP visits in Germany²-⁴ and other European⁵-⁷ and non-European⁸ countries. Data regarding the top 20 reasons for visits from elderly patients are published in the German CONTENT-study.⁴ However, in that investigation, the results are presented for two summarized groups of elderly patients: the 65- to 74-year-olds and those 75 years and older. The reasons given in the CONTENT-study reflect no symptom codes and no procedural codes of the International Classification of Primary Care (ICPC-2),⁴ this makes it hard to depict the reasons for visits in the narrow sense. Therefore, a cross-sectional review of general practice access for patients 65 years of age and older may provide an interesting perspective. Identifying and describing needs and trends in care could

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be very helpful for funding sources (eg, government, health insurances, and Medicaid/Medicare) as well as for streamlining care priorities.

The Saxon Epidemiological Study in General Practice (SESAM 2) was planned to characterize the consultation frequency, the management, and the results of visits/differential diagnoses and the significantly more frequent comorbidities of patients visiting a typical setting of mostly single-handed general practices in Germany, covering both urban and more rural areas. The registration of the contacts of elderly people was a minor part of the study. The aim of the current investigation is to describe for what reasons elderly patients visit the GPs’ during consultation hours in order to illustrate their health care needs and the related demands on the GPs.

Subjects and methods

The Saxon Society of General Practice (Sächsische Gemeinschaft für Allgemeinmedizin [SGAM]) contacted all GPs in Saxony by mail. They received no incentive for the participation. The study was set out to document reasons, diagnostic and therapeutic procedures, and the results of visit (chosen diagnosis). The study design was reviewed by the Saxon Medical Association prior to the data estimation. According to the Model Professional Code for Physicians, no specific vote of an ethics committee was necessary.

Of the 2,510 physicians contacted, 270 GPs agreed to participate and 209 cooperated during the complete duration (1 year). Cross-sectional data were collected from October 1, 1999 to September 30, 2000. Case recording was carried out on 1 day a week. The day of recording for the respective week was determined by the Department of General Practice (Monday to Friday), and the choice between morning or afternoon consultation hours was made by the Department of General Practice at random. The tenth consultation of the consultation hour was selected and documented by the respective general practitioner. Multiple recording of the same patient was avoided. House calls were not taken into consideration. A total of 8,877 patients (5,050 [56.9%] female, 3,824 [43.1%] male, and three not specified) were randomly selected from the general practice offices, and 13,632 reasons for visit were encoded. In all, 2,866 of the randomly selected patients met the criterion (age 65 years or older) to be analyzed for this investigation. The study design was reviewed by the Department to save the participating GPs’ time and to ensure correct coding.

For the current work, data from all the patients who participated in the SESAM 2 study and who were 65 years and older were analyzed. Statistical analyses of the data were performed using Statistical Packages for Social Sciences (SPSS 15.0; SPSS Inc., Chicago, IL, USA).

Results

Of all the patients, 2,866 were aged 65 years or older. The majority of these elderly patients were female (1,807; 63.0%) and came at an appointed time (1,768; 61.8%). The percentage of the elderly among general practice patients is twice their percentage in the population (Table 1).

In all, 4,426 reasons for visiting were found distributed across 363 different ICPC 2-codes in the assessed patients. The mean number of reasons for visit per patient was 1.5 (Table 1). Half of the patients (1,549; 54.0%) visited for one reason, 1,017 (35.5%) for two, 271 (9.5%) for three, and 29 (1.0%) for four reasons.

Approximately half of the 30 most frequent reasons for visits were procedural. Overall, the top 30 nonprocedural and the top 30 procedural reasons for visits represent 75% of all reasons for visit in the elderly. Table 2 summarizes the 30 most frequent nonprocedural reasons for visit. The top five were cough, back complaints, shoulder complaints, knee problems, and shortness of breath. The 30 most frequent procedural reasons for visit are presented in Table 3.

Discussion

It was found that the elderly patients consult their general practitioner for procedural reasons more frequently than for
nonprocedural reasons. The recent investigation indicates that cough, complaints of the back, the shoulder, the knee and dyspnea were the most common nonprocedural reasons for visits in the elderly patient.

The frequency of cough as a reason for visit decreased in the elderly compared to young people and adults.\(^1^2\) As supported by Ponka and Kirlew, it was found that, even in the elderly, infections of the airways are the most common cause for cough (data not shown).\(^1^3\) Macfarlane et al reported that older patients were more likely to consult for lower back pain and that the prevalence of severe lower back pain continues to increase with age.\(^1^4\) Furthermore,

### Table 1

| Age group (years) | Male patients (n) | Female patients (n) | Ratio (M/F) | Percentage among all patients (%) | Percentage among the population (%) | Sum of all RFV | Number of different reasons for visit |
|-------------------|-------------------|---------------------|-------------|-----------------------------------|-------------------------------------|---------------|-------------------------------------|
| 65–69             | 386               | 478                 | 0.81        | 9.73                              | 5.3                                 | 1,302         | 242                                 | 1.51                 |
| 70–74             | 333               | 495                 | 0.67        | 9.34                              | 4.4                                 | 1,277         | 231                                 | 1.54                 |
| 75–79             | 204               | 418                 | 0.49        | 7.00                              | 3.4                                 | 987           | 192                                 | 1.59                 |
| ≥80               | 135               | 416                 | 0.32        | 6.21                              | 3.9                                 | 860           | 189                                 | 1.56                 |
| Total             | 1,058             | 1,807               | 0.58        | 32.28                             | 15.5                                | 4,426         | 363                                 | 1.55                 |

Notes: Data are based on the age distribution of the population at the end of the year 2001. Data from: [https://www-genesis.destatis.de/genesis/online](https://www-genesis.destatis.de/genesis/online).\(^2^8\)

Abbreviations: RFV, reasons for visit; M, male; F, female.

### Table 2

| ICPC   | RFV*  | Total (n=4,426) | 65–69 years old (n=1,302) | 70–74 years old (n=1,277) | 75–79 years old (n=987) | ≥80 years old (n=860) | Percentage (%) in different age groups |
|--------|-------|----------------|---------------------------|---------------------------|------------------------|-----------------------|---------------------------------------|
| R05    | Cough | 1.76           | 1.46                      | 2.34                      | 1.20                   | 1.99                  | 1.99                                 |
| L02    | Back symptoms/complaints | 1.65             | 1.99                      | 1.36                      | 1.45                   | 1.86                  | 1.86                                 |
| L08    | Shoulder symptoms/complaints | 1.29             | 1.59                      | 1.56                      | 1.13                   | 0.58                  | 0.58                                 |
| L15    | Knee symptoms/complaints | 1.06             | 0.93                      | 1.10                      | 1.20                   | 1.03                  | 1.03                                 |
| R02    | Shortness of breath/dyspnea | 0.99             | 1.00                      | 0.84                      | 0.88                   | 1.28                  | 1.28                                 |
| A04    | General weakness/tiredness | 0.88             | 1.26                      | 0.65                      | 0.88                   | 0.70                  | 0.70                                 |
| S06    | Local redness/erythema/rash | 0.86             | 0.60                      | 1.10                      | 0.69                   | 1.03                  | 1.03                                 |
| L01    | Neck symptom/complaint excluding headache | 0.81             | 1.26                      | 0.71                      | 0.63                   | 0.58                  | 0.58                                 |
| H82    | Vertiginous syndromes | 0.79             | 0.80                      | 0.39                      | 0.38                   | 1.86                  | 1.86                                 |
| D01    | Generalized abdominal pain/cramps | 0.77             | 1.00                      | 0.52                      | 0.63                   | 0.96                  | 0.96                                 |
| P06    | Disturbances of sleep/insomnia | 0.77             | 0.53                      | 0.71                      | 1.13                   | 0.83                  | 0.83                                 |
| L03    | Low back complaint excluding radiation | 0.75             | 0.93                      | 0.78                      | 0.63                   | 0.58                  | 0.58                                 |
| L04    | Chest symptoms/complaints | 0.75             | 1.00                      | 0.65                      | 0.38                   | 0.96                  | 0.96                                 |
| L14    | Leg/hip symptoms/complaints | 0.70             | 0.60                      | 0.84                      | 0.69                   | 0.58                  | 0.58                                 |
| D02    | Stomach pain/ache | 0.68             | 0.80                      | 0.65                      | 0.88                   | 0.32                  | 0.32                                 |
| A80    | Accident/injury not otherwise specified | 0.63             | 0.40                      | 0.39                      | 0.88                   | 1.03                  | 1.03                                 |
| N17    | Vertigo/dizziness (excluding H82) | 0.63             | 0.40                      | 0.65                      | 0.69                   | 0.96                  | 0.96                                 |
| L86    | Lumbar disc lesion/radiation | 0.59             | 0.86                      | 0.65                      | 0.32                   | 0.45                  | 0.45                                 |
| R21    | Symptoms/complaint throat | 0.56             | 0.60                      | 0.71                      | 0.38                   | 0.45                  | 0.45                                 |
| D06    | Other localized abdominal pain | 0.50             | 0.60                      | 0.26                      | 0.69                   | 0.45                  | 0.45                                 |
| P01    | Feeling anxious/nervous/tense | 0.50             | 0.46                      | 0.71                      | 0.38                   | 0.32                  | 0.32                                 |
| L17    | Foot and toe symptoms/complaints | 0.47             | 0.80                      | 0.39                      | 0.38                   | 0.26                  | 0.26                                 |
| S02    | Pruritus (excluding D05 X16) | 0.47             | 0.33                      | 0.39                      | 0.69                   | 0.58                  | 0.58                                 |
| K01    | Pain attributed to heart | 0.45             | 0.46                      | 0.32                      | 0.38                   | 0.70                  | 0.70                                 |
| K07    | Swollen ankles/edema | 0.45             | 0.33                      | 0.52                      | 0.38                   | 0.58                  | 0.58                                 |
| D11    | Diarrhea | 0.43             | 0.66                      | 0.26                      | 0.32                   | 0.45                  | 0.45                                 |
| N01    | Headache (excluding N02 N89 R09) | 0.43             | 0.66                      | 0.45                      | 0.19                   | 0.26                  | 0.26                                 |
| U01    | Painful urination | 0.43             | 0.40                      | 0.26                      | 0.88                   | 0.86                  | 0.86                                 |
| A03    | Fever | 0.41             | 0.53                      | 0.06                      | 0.32                   | 0.83                  | 0.83                                 |
| L12    | Hand and finger symptoms/complaints | 0.41             | 0.46                      | 0.52                      | 0.50                   | 0.00                  | 0.00                                 |
| Sum    | 21.87 | 23.69 | 20.77 | 20.17 | 22.68 |

Notes: *Relative frequency is always related to all RFV (procedural and nonprocedural) as indicated by the absolute number (n) given for each age group in the head of the table. *Codes used in this column are ICPC codes.

Abbreviations: RFV, reasons for visit; ICPC, International Classification of Primary Care.
Table 3 The 30 most common procedural RFV in the total sample of patients 65 years old or older and their relative frequency (%) in different age groups

| ICPC  | RFV               | Total (n=4,426) | 65–69 years old (n=1,302) | 70–74 years old (n=1,277) | 75–79 years old (n=987) | $\geq$80 years old (n=860) |
|-------|-------------------|----------------|----------------------------|---------------------------|-------------------------|-----------------------------|
| K63   | Follow-up visit unspecified | 12.47          | 11.08                      | 12.92                     | 12.98                   | 13.39                       |
| T63   | Follow-up visit unspecified | 5.92           | 5.97                       | 5.84                      | 5.55                    | 6.28                        |
| K31   | Medical examination/health evaluation partial | 4.29           | 4.31                       | 4.15                      | 3.66                    | 5.25                        |
| K39   | Physical function test | 4.16           | 3.98                       | 3.83                      | 4.54                    | 4.42                        |
| A44   | Immunization/preventive medication | 3.93           | 4.31                       | 4.02                      | 3.72                    | 3.46                        |
| T34   | Blood test | 3.66           | 2.85                       | 3.83                      | 4.16                    | 4.10                        |
| K50   | Medication/prescription/injection | 3.10           | 2.79                       | 2.92                      | 3.84                    | 3.01                        |
| A63   | Follow-up visit unspecified | 3.07           | 2.99                       | 2.99                      | 3.47                    | 2.88                        |
| A50   | Medication/prescription/injection | 1.97           | 1.39                       | 1.62                      | 1.70                    | 3.59                        |
| A30   | Medical examination/health evaluation complaint | 1.29           | 1.13                       | 1.23                      | 1.45                    | 1.41                        |
| S56   | Dressing/compression/packing | 1.24           | 1.13                       | 1.49                      | 1.51                    | 0.70                        |
| K34   | Blood test | 1.15           | 1.06                       | 1.49                      | 1.32                    | 0.58                        |
| T50   | Medication/prescription/injection | 1.15           | 1.33                       | 1.43                      | 1.13                    | 0.58                        |
| T31   | Medical examination/health evaluation partial | 0.79           | 0.93                       | 1.04                      | 0.63                    | 0.45                        |
| L31   | Medical examination/health evaluation partial | 0.59           | 0.53                       | 0.71                      | 0.82                    | 0.26                        |
| B34   | Blood test | 0.56           | 0.53                       | 0.84                      | 0.50                    | 0.26                        |
| R31   | Medical examination/health evaluation partial | 0.50           | 0.86                       | 0.26                      | 0.38                    | 0.45                        |
| R63   | Follow-up visit unspecified | 0.45           | 0.20                       | 0.39                      | 0.82                    | 0.45                        |
| T61   | Results of examination/procedures from other providers | 0.45           | 0.53                       | 0.45                      | 0.50                    | 0.26                        |
| T60   | Results of test/procedures | 0.43           | 0.53                       | 0.39                      | 0.63                    | 0.13                        |
| K58   | Therapeutic counseling/listening | 0.38           | 0.33                       | 0.45                      | 0.69                    | 0.00                        |
| K61   | Results of examination/procedures from other providers | 0.38           | 0.40                       | 0.26                      | 0.50                    | 0.45                        |
| L63   | Follow-up visit unspecified | 0.36           | 0.13                       | 0.65                      | 0.32                    | 0.32                        |
| A61   | Results of examination/procedures from other providers | 0.32           | 0.46                       | 0.39                      | 0.32                    | 0.00                        |
| A31   | Medical examination/health evaluation partial | 0.29           | 0.20                       | 0.26                      | 0.63                    | 0.13                        |
| A60   | Results of test/procedures | 0.29           | 0.13                       | 0.32                      | 0.63                    | 0.13                        |
| D61   | Results of examination/procedures from other providers | 0.29           | 0.40                       | 0.06                      | 0.50                    | 0.26                        |
| A62   | Administrative procedure | 0.27           | 0.40                       | 0.32                      | 0.13                    | 0.26                        |
| L50   | Medication/prescription/injection | 0.27           | 0.53                       | 0.00                      | 0.32                    | 0.26                        |
| D63   | Follow-up visit unspecified | 0.25           | 0.13                       | 0.32                      | 0.19                    | 0.32                        |
| Sum   | 54.29           | 51.56          | 54.92                      | 57.54                     | 54.01                   |

Notes: *Relative frequency is always related to all RFV (procedural and nonprocedural) as indicated by the absolute number (n) given for each age group in the head of the table. *Codes used in this column are ICPC codes.

Abbreviations: RFV, reasons for visit; ICPC, International Classification of Primary Care.

the frequency of shoulder complaints increases with age. Shoulder complaints were found in a comparable frequency (1.3% of all reasons for visit and 2.0% of all elderly who consulted) as has been reported by others (0.7%, 1.7%, and 2.4%6)), as previously reported, data from the SESAM 2 study and the Dutch Transition Project suggest that dyspnea occurs more frequently among the elderly as a recurrent symptom of chronic diseases.17

It is not surprising that the reasons for visit of elderly patients differ from those of younger people and from those of the total number of patients visiting a daily general practice setting.3,5,6,12,18 Procedural reasons for visit were at a rate of twice the frequency of nonprocedural reasons for visit in elderly patients. The most common reason was the monitoring of cardiovascular or endocrine disorders (Table 3). The frequency of procedural reasons for visit reflects the long-term care that GPs provide for their elderly patients. This is in accordance with the results of others who reported that the frequency of patients who visit for symptoms or complaints decreases with age.2,3

The average number of reasons for visit per patient did not differ significantly between children,13 adults (data not published), or the elderly (Table 1) in the SESAM 2 study. However, this finding should be interpreted with care since the reasons for visit were documented by the GPs according to what the patients said and patients were not explicitly asked for all their reasons for visit. Furthermore, the estimation of reasons for visit can be different among GPs, that is, dependent on the sex of the general practitioner.19 It was reported from a Croatian group that most patients visit for one reason.20 In diabetic patients, a mean of 2.1 reasons for visit per consultation was reported.4

In the current investigation, the sample size was relatively small. This limits the information regarding the frequency of...
rare reasons for visit as well as the information with respect to the spectrum of reasons for visit. Regarding the spectrum of different reasons for visit, it should also be taken into account that home visits were not taken into consideration. Since it is likely that it is the more mobile or healthier elderly who visit the general practitioner’s office, the estimated patient sample is not representative for the whole practice population of elderly patients and does not reflect the complete spectrum of health care needs in that context.

Strengths of the recent investigation
The total morbidity was assessed from randomized patients in a daily general practice setting during a 1-year period. This avoided attention bias toward specific reasons for visit. In contrast to comparable general practice studies, a high absolute number of GPs participated in this study. This makes the data resistant toward, for example, practice-to-practice variations of the underlying patient population (eg, sociodemography, morbidity) and the physicians’ behavior (eg, therapeutic approaches, coding), which is a relevant difference to other studies that assessed reasons for visit in different countries.

Weaknesses of the recent investigation
It has to be critically mentioned regarding the underlying patient sample that there is hardly any information documented with regard to the sociodemographic background. However, with regard to other investigations in a similar setting, it should be considered that the age distribution of patients is similar and that the SESAM 2 study is based on a comparatively large number of GPs. Another limitation is that a total estimation of all consulting patients was not possible; therefore, sequence effects in the structure of the consultation hour could have influenced the results. The data were not estimated by specific investigators (eg, by extracting the information from video-taped consultations) but by the instructed GPs.

The representativeness of this study might be limited to some extent by the relatively low rate of participating GPs. Although participation was at a usual rate in the field of general practice research, it is likely that the relatively high demands of the study (reporting cases during 1 year, giving no incentives for participation) were deterrent for many potential participants. Unfortunately, there is no data basis that would allow comparison of the participating GPs in detail with respect to representativeness to all GPs in Saxony. However, it should be considered that there is no necessary link between a low response rate and a response bias.

The SESAM 2 study was based on single consultations and not on episodes of care. As a result, there are no follow-up data. Since every patient was recorded only once, the burden of recurring or chronic health problems in the consultation hour may have been underestimated. Moreover, the results reported here may underestimate the current workload for the care of elderly patients since the data were estimated years ago and the mean age of the Saxon population increased from 42.6 years in 1999 to 46.6 years in 2013 during that time.

Conclusion
The current work indicates that people aged 65 years and older consult the GP more frequently for procedural than for nonprocedural reasons. It highlights the importance of the GP in the treatment of common cardiovascular or endocrine disorders in the elderly. The top 30 procedural and nonprocedural reasons for visit cover ~75% of all reasons for visit in these patients.

As a practical implication, the present results may be used to determine and prioritize important educational contents concerning the education and training of GPs and general practice residencies. All physicians working in general practice settings should be familiar with the common reasons for visit among the elderly patients and its management. Furthermore, there are several implications for future research. Since the reported data were estimated some time ago, future studies should investigate possible changes regarding the frequencies of the common reasons for visit among the elderly patients in a general practice setting. Also comparisons to data from other populations would broaden the perspective regarding this topic. Future research should also describe the related episodes of care more deeply (eg, by reporting procedures, results of visits, follow-up data) to provide a comprehensive view on the care of elderly patients in the consultation hour of GPs.

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The authors report no conflicts of interest in this work and that there are no familial relationships between authors.
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