Original Article

Nationwide Epidemiological Study of Knowledge, Attitudes, and Practices Study of Greek General Practitioners Related to Screening

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Abstract

Background: We aimed to assess general practitioners' (GPs) knowledge, attitudes, and practices (KAPs) toward screening recommendation guidelines of the United States Preventive Services Task Force (USPSTF). **Methods:** The survey was conducted during a 6-month period in a stratified random sample of GPs, drawn from a national database of GPs in Greece. Participants were queried about their knowledge, attitudes, and self-reported practice patterns regarding screening in a primary care setting. Sociodemographic characteristics associated with vague screening practicing were identified using multivariable logistic regression models. **Results:** A total of 299 participants agreed and underwent telephonic survey (response rate: 78.2%). GPs agreed on the key role of population-based screening in improving patient care, and nine out of ten reported that their performance would be improved with the adoption of computer-based support systems in clinical practice. GPs, older than 50 years of age, those who those practicing for more than 15 years and GPs working in private sector, were less likely to comply with screening recommendations. Latent class analysis revealed that male physicians and those working in public sector were more likely to comply with USPSTF recommendations. **Conclusions:** Our findings highlight the need of educational intervention programs for GPs in order to promote the implementation of national evidence-based screening recommendation statements in clinical practice.

Keywords: *Evidence-based medicine, general practitioners, Greece, public health, screening*

Introduction

Evidence-based medicine (EBM) constitutes a tool of major importance and provides uniformity and continuity in the delivery of high-quality health care. According to the most commonly used definition, EBM is "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients."[1]

EBM aims to confront the persistent issue of inappropriate variation in clinical practice emphasizing on the improvement of clinical experience with better clinical evidence.

Evidence-based public health (EBPH) developed as a practice framework which aims at whole communities and is based on EBM approach. Increased emphasis on EBPH has several benefits, which converge to the concept of health promotion and disease prevention.[2,3] EBPH can be defined as the process of integrating science-based interventions with community preferences to improve the health of populations.[4] Screening as a key component in the setting of EBPH should incorporate evidence-based practices into a population-centered model of preventive health care to improve and maintain population health. Despite advances made in the field of public health in the past few years,[5] there is evidence of noncompliance with the recommendations offered by the National Advisory Groups such as the United States Preventive Services Task Force (USPSTF).[6-10] To achieve health goals for improved population health, more widespread and uniform implementation of evidence-based strategies has been recommended.[11,12]

In Greece, primary health care was established by law in 1983 when the National Health System was formed with the objective to provide primary health care and improve the quality of health-care services across the country.[13] Notably, almost 200 national health-care centers are established in Greece, and most of them are operating in rural and semi-urban areas. Health centers are mainly staffed by general practitioners (GPs) who have

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a key role in public health activities.[14] In addition, general practice and family medicine (GP/FM) was established in 1986 as an independent medical specialty aiming to deliver all required primary and preventive health services for the country's rural, and recently urban, population.[15] Since screening is an efficient and cost-effective method to identify and treat potential health problems in an early stage, it is inferred that physicians' noncompliance with guidelines represent a considerable public health deficit. Specifically, the role of the primary care physicians in health-care supply is particularly relevant as they are in a first-line position to promote screening. Since the screening recommendations and skill profile of GPs in Greece is more or less unknown, and considering the absence of national screening guidelines in Greece, our survey aimed to evaluate knowledge, attitudes, and practices (KAP) of GPs in regard to screening and current recommendations in primary care setting. Moreover, given the scarcity of information on GPs' KAPs toward screening for several diseases that are common in clinical practice, the present study aims to fill a considerable gap in the literature.

Materials and Methods

Study design and settings

The survey was conducted during a 6-month period in a stratified random sample of 299 GPs, drawn from a national database of GPs practicing in all geographic areas of Greece. The GPs were selected using geographically stratified random sampling methodology. It was estimated that the inclusion of approximately 10% of Greek GPs (approximately 300 general/family doctors) would be satisfactory. In each prefecture, 12% of the total number of registered GPs was randomly selected. In total, 382 were randomly selected to participate. Descriptive statistics of physician characteristics are presented in Table 1.

Data were collected through telephonic interviews. All interviews were conducted by one particular expert (medical doctor to minimize bias and ensure objectivity).

The questionnaire was pretested among 10 GPs through phone contacts, to fully assimilate survey conditions and to ensure accuracy and consistency of the questions. Initially, the drafts of the questionnaire included 38 questions, but after the pretesting, four more questions were added to the final questionnaire [Table 2; Supplementary Material]. The questionnaire included questions based on international experience on the methodology of KAP studies and was adapted to the Greek language and culture.

The questionnaire was structured into three main sections: (a) The characteristics of GPs including personal information (age, sex, country and university of primary medical qualification, hospitals at which they were trained during specialization, and postgraduate studies) and professional background (number of examined patients per week, years of practice, and work in private or public sector), (b) knowledge and practice patterns toward screening recommendations, and (c) GPs' opinion regarding the importance of implementation of EBM, their opinion toward the applicability and availability of EBM in a primary care setting and their point of view in regard to the usefulness of implementing clinical decision support systems. Responses were compared with the recommendations of USPSTF at the time of the survey. The USPSTF systematically reviews and publishes evidence-based recommendations according to strength of the available evidence.[16] Despite the fact that these recommendations are developed for application in the United States, could be very useful as guidance tools for other health-care systems.

Table 1: Descriptive statistics of general practitioners characteristics

Demographic characteristics	GPs (*n*=299)
Female (%)	35.6 (106)
Male (%)	64.4 (192)
Mean age (year)	48.5
Graduation from Greek medical schools (%)	61.7 (184)
Graduates of foreign medical schools (%)	38.3 (114)
Training in the specialty general medicine in university hospitals %)	34.9 (104)
Training in the specialty of internal medicine in nonuniversity hospitals (%)	65.1 (194)
Years in practice (years)	12.2 (SD=10.1)
Postgraduate studies (%)	44.1 (127)
Private practice (%)	154 (51.5)
Number of patients per week	132.5 (SD=100.8)

SD=Standard deviation, GP=General practitioner

The protocol of the study has been approved by the General Assembly of the Medical Faculty, School of Sciences, University of Thessaly, Greece.

Statistical analysis

Univariate and logistic regression analysis

The data entered into a database, created by the Epi info software (Centers for Diseases Control and Prevention); R statistical package 9.2 (R Core Team), were used to analyze data from the questionnaire. Chi-square test was used for univariate data analysis. Relative risks and their 95% confidence intervals (95% CI) were also calculated. Variables found to be statistically significant in the univariate analysis were included in a backward logistic regression model. Odds ratios (ORs) and 95% CI were calculated. The internal consistency of the questionnaire (questions 9–38) was assessed by calculating Cronbach's α.

Latent class analysis

Latent class analysis was performed with R-statistical software version 9.2. Latent class analysis was chosen to identify unobserved response patterns or attitudes that are

Table 2: Descriptive analysis of general practitioners' recommendations which are not in line with the United States Preventive Services Task Force guidelines[56]

Questions	USPSTF guidelines	Percentage of GPs whose recommendations are not consistent with that of the USPSTF guidelines
Q-9: Would you recommend in a patient aged 42 years that she should be screened for breast cancer?	The USPSTF recommends biennial screening mammography for women aged 50-74 years	85.8
Q-11: Subquestion d) How often would you suggest screening for cervical cancer in a 22-year-old woman in case of negative results?	'The USPSTF found no direct evidence that annual screening achieves better outcomes than screening every 3 years	92.3
Q-12: Subquestion d) How often would you recommend screening for cervical cancer in a 21-year-old patient who has been sexually active in the last 3 years?	The USPSTF found no direct evidence that annual screening achieves better outcomes than screening every 3 years	91.5
Q-13: Subquestion d) How often would you suggest screening for cervical cancer in a 67-year-old woman who has never been checked in case of negative results?	The USPSTF found no direct evidence that annual screening achieves better outcomes than screening every 3 years	77.4
Q-14: Would you recommend routine screening for cervical cancer in a 69-year-old patient who underwent adequate screening recently?	The USPSTF recommends against routinely screening women older than age 65 if they have had adequate recent screening and are not at high risk for cervical cancer	54.1
Q-18: Would you recommend routine screening for prostate cancer in a 45-year-old patient?	According to USPSTF the current evidence is insufficient to assess the balance of benefits and harms of prostate cancer in men younger than age 75 year	60.1
Q-26: Would you recommend routine screening for depression in a 25-year-old woman in the presence of family history suggestive of depression?	The USPSTF recommends screening adults for depression when staff-assisted depression care supports are in place to assure accurate diagnosis, effective treatment, and follow-up	50.2
Q-28: Would you recommend routine screening for IDA in a 24-year-old woman?	The USPSTF recommends routine screening for iron deficiency anemia in asymptomatic pregnant women	70.5
Q-29: Would you recommend routine screening for thyroid disease in a 24-year-old woman?	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for thyroid disease adults	53
Q-30: Would you recommend routine screening for type 2 diabetes in a 45-year-old woman in the absence of risk factors?	According to USPSTF, the current evidence is insufficient to recommend for or against routine screening in asymptomatic adults with blood pressure of 135/80 mmHg or lower	98

Contd...

Table 2: Contd...

Questions	USPSTF guidelines	Percentage of GPs whose recommendations are not consistent with that of the USPSTF guidelines
Q-33: Would you recommend routine screening osteoporosis in a 57-year-old woman?	The USPSTF makes no recommendation for or against routine osteoporosis screening in postmenopausal women who are younger than 60 or in women aged 60-64 who are not at increased risk for osteoporotic fractures	97
Q-34: Would you recommend routine screening for AAA in a 67-year-old man with smoking history?	The USPSTF recommends one-time screening for AAA with ultrasonography in men ages 65-75 years who have ever smoked	58
Q-37: Would you recommend routine screening for CAS to an obese hypertensive 53-year-old man?	The USPSTF recommends against screening in the asymptomatic general adult population	63.2

AAA=Abdominal aortic aneurysm, CAS=Carotid artery stenosis, IDA=Iron deficiency anemia

similar between individuals. The responses of GPs to a total of 14 questions [Table 2; Supplementary Material] that were in line (correct answers) or not (wrong answers) with the USPSTF guidelines were used as manifest variables in a latent class analysis and in a backward latent class logistic regression analysis with covariates. Latent class regression analysis was performed to evaluate which of the characteristics best predict the probability of an individual to belong to a certain latent class. The responses were divided into the following groups:

a. Responses to questions concerning when to recommend routine screening
b. Responses to questions related to screening intervals
c. Evaluation of participants' attitude toward screening.

The final latent class model was chosen based on the Akaike information criterion value and Bayesian information criterion value as well as on the fine interpretation of the latent class memberships. Only covariates found statistically significant in a backward elimination, remained in the model. *P* values were considered statistically significant if $P < 0.05$.

Results

A relatively high internal validity of the questionnaire was identified with a Cronbach for questions 9–38 calculated at 0.8.

Attitudes and practices of general practitioner's toward screening recommendations (questions 39–42)

All GPs agreed on the key role of population-based screening in improving patient care (Q-39), and 88.2% of them reported that their performance would be improved with the adoption of computer-based decision support systems in clinical practice (Q-42). Furthermore, the majority of GPs (62%) claimed access to explicit and widely disseminated among health professionals screening guidelines (Q-41). In addition, 67% of the respondents reported that they follow screening recommendations in their clinical practice (Q-40).

In regard to the evaluation of GPs attitude toward screening, older GPs are more likely to belong to class 1 which was labeled "negative attitude carriers compared to younger GPs. In this class, responders neither advice nor perceive that available screening guidelines are clear and widespread; however, they are favorable toward a computer-based decision system." Younger GPs are more likely to belong to class 2 which was labeled "positive attitude carriers."

Practices of general practitioner's regarding screening recommendations for specific clinical entities

GPs' screening recommendations are in stark contrast with the USPSTF guidelines in many clinical entities [Table 2]. As illustrated in Table 2, the most common divergence reported by participants was to incorrectly recommend screening for type 2 diabetes in women of 45 years old in the absence of risk factors (98%). Failure to screen for depression in women of 25 years old in the presence of family history suggestive of depression was the least common missed approach observed in our study (50.2%). In terms of cervical cancer, it is interesting that 92% of the participants adopted screening practices which was in contrast to the USPSTF. The corresponding percentages were 86% and 60% for breast and prostate cancer, respectively. Furthermore, 58% of the GPs did not offer screening for abdominal aortic aneurysm (AAA) in men aged 65 years, with a positive smoking history.

Logistic regression analysis of general practitioner's practices toward screening recommendations for various clinical entities (questions 8–38)

Logistic regression analysis [Table 3] of participants' wrong answers (>12 wrong answers vs. ≤12 wrong answers) on practices toward screening for various clinical entities indicated that participants working in private sector recorded a 5-fold likelihood (OR = 4.95; 95% CI = 2.89-8.71) of giving wrong answers in comparison to their colleagues of the public sector. In addition, age group >50 years (OR = 2.46; 95% CI = 1.42–4.29) and >15 years of practice (OR = 1.89; 95% CI = 1.1–3.26) were also found to be independently associated with participant's higher likelihood of giving incorrect answers.

Latent class analysis of the questions related to general practitioner's practices on screening (questions 8–38)

In regard to respondent's knowledge toward screening recommendations (questions Q8–Q38), a three latent class model was chosen and results. In Class 1 (45.6%) labeled "poor knowledge carriers," most of the practitioners gave the wrong answers, in contrast with Class 2 (28.6%), which was labeled "excellent knowledge carriers," where most of the responders were consistent with the guidelines. In Class 3 (25.9%) labeled "uncertainty," responders had a mixed profile.

There was a 3-fold increase in the odds ratio (OR: 3.02; 95% CI: 1.36–6.72) of male practitioners to recommend screening according to the USPSTF guidelines than female practitioners. In addition, the majority of practitioners, who work in the private sector [Table 4], are less likely to give correct recommendations compared to those who work in the public sector (OR: 5.93;95% CI: 2.66–13.2). Concerning screening intervals, the only statistically significant predictor of latent class membership was the years of practicing. In particular, the majority of GPs gave wrong answers and only an 8.6% had the tendency to respond in line with the guidelines. It seems that those who are more experienced (>15 years of practice) were more likely (OR: 2.56, CI: 1.04–7.83) to give answers in line with the guidelines.

Discussion

Male practitioners and GPs working in the public sector were found to have a better knowledge toward current recommendations on screening. Surprisingly, GPs stating that consult screening guidelines despite the lack of national guidelines adopted are also less likely to provide recommendations based on USPSTF guidelines. Guideline adherence was also inversely related to age years in practice.

Important knowledge gaps and inappropriate practices in specific domains were identified in GPs practicing in Greece which aligns with results from previous studies carried out in Greece.[17-19]

With regard to attitudes toward screening recommendations by the USPSTF, our study showed that GPs agreed on the importance of screening and appeared convinced that it improves patient care. In addition, a major proportion of GPs demonstrated a favorable attitude toward clinical practice guidelines (76.4%), which are similar to that of British, German, and Australian GPs.[20-23]

Interestingly, most GPs have a positive attitude toward online evidence retrieval system in routine practice. This attitude is in line with the perception that clinicians have many unanswered questions during clinical encounters which may affect the outcome of the decisions made and consequently the quality of health services.[24,25]

Our study revealed that younger and less experienced GPs gave correct answers to the majority of questions and showed to have a more favorable attitude toward screening guidelines compared to older and more experienced GPs, respectively. However, regarding optimum screening intervals, more experienced GPs are more likely adhere to guidelines compared to less experienced GPs. Younger GPs might be more familiar with incorporating clinical guidelines in their everyday clinical practice, perhaps due to a greater familiarity with online resources and summaries of evidence. This finding is congruent with the results of a recent study that showed that knowledge and attitude of young physicians were more based on EBM compared to older physicians.[26]

In addition, compliance with EBM was inversely associated with the years of clinical practice. This is in agreement with other studies, suggesting that the time elapsed between graduation and survey time is inversely correlated with adherence to EBM.[27,28] Nevertheless, a recent study showed that more physicians' years in practice were related with increased risk of poor patient's outcomes.[29] Older and more experienced GPs may find it more difficult to overcome previous practice inertia, thus they tend to base their medical decision more on their acquired experience than the external research evidence.[30,31] In addition, physicians with more years in practice may perceive clinical practice guidelines as a potential threat to their professional clinical autonomy and flexibility. This consequently affects negatively individual clinical approaches.[32]

GPs practicing in private health-care services are more likely to be vague or ambivalent toward screening guidelines. The explanation of this is complex. Patients who "buy" private health services may put more "pressure" to access screening tests without meeting criteria of eligibility. The fear of litigation may explain defensive practices that commonly occur among physicians in settings that focus on prevention.[33,34] Notably, another study showed that the practice of defensive medicine was more common among private sector physicians than among public sector physicians.[35] For private services,

the reason appears obvious. The relationships between physicians and patients in private sector may be strongly affected by the presence of aggressive marketing rules that could lead to poor adherence to evidence-based recommendations.[36] In Greece, the perception that insurance care is linked with years of work contribution to both economy and society may explain patients' expectations, their "pressure" for more access and doctors' "flexibility" to practice "on demand." Our study also did not confirm that the number of patients reviewed per week was identified as a major determinant of GPs' approach toward screening. Previous studies have shown that the large number of patients attending each clinic represents a barrier to the implementation of guidelines in clinical practice. The increased number of patients viewed per day, results in less consultation time, less accurate data, and difficulty in identifying the individual risk profile that inevitably will lead to reduced efficiency in screening practices.[37-40] Our study indicated that female practitioners have a "cloudy" attitude toward the recommended guidelines which is in contrast with other studies where female physicians are more likely to provide preventive counseling and screening than male physicians.[41,42]

Table 3: Variables associated with participants' poor knowledge and practice toward screening. (logistic regression analysis of the questions (8-38) related to specific clinical entities)

Variables	Total wrong answers >12	
	OR (95% CI)	*P*
Age (years)		
29-50	1.00 (reference)	0.001
>50	2.46 (1.42-4.29)	
Years of practice		
1-15	1.00 (reference)	0.021
>15	1.89, (1.1-3.26)	
Private sector		
Ye	4.95 (2.89-8.71)	<0.001
No	1.00 (reference)	

OR=Odds ratio, CI=Confidence interval

Previous studies showed that physicians' perceptions and preferences of screening guidelines vary, suggesting that guideline multiplicity is an important problem in clinical decision-making process.[43] The tendency to over diagnose and over treat can be frequently observed in everyday clinical practice.[44-45] For example, in the present study, we found that the GPs overestimated the risk for cervical cancer in younger women and also in women of 69 years who have had recent screening with Pap smear. Data available for cervical cancer demonstrate that the median age for cervical cancer is 49 years and most women are diagnosed before the age of 50.[46] Other studies disclosed the presence of knowledge deficit among members of the American Academy of Family Physicians[47] and the tendency to over screen for cervical cancer with optimal interval 1 year.[48,49] Lack of agreement with guideline recommendation and lack of self-efficacy have also been recognized as main barriers in applying screening guidelines in clinical practice.[50] Most GPs, contrary to the guidelines of the USPSTF, do not offer screening for AAA in men aged 65 years with a positive smoking history which is in accordance with another study, where only 40% of physicians were acquainted with AAA screening guidelines.[51] Since smoking rate among adults in Greece is one of the highest (38%) across the European Union,[52] a screening program based only on the history of smoking could contribute to the earlier detection of AAAs. On the other hand, it was found that GPs who are in favor of screening for AAA, especially female practitioners, erroneously recommend for periodic control instead of one-time screening. A plausible hypothesis could be the lack of knowledge concerning the natural history of AAA. Indeed, it is well known not only that a minority of AAAs will expand but also that expansion is a process that occurs very slowly (0.2 cm/year).[53-55] Latent class analysis revealed that male gender and work in public sector were more likely to comply with USPSTF screening recommendations. Taking this into account, educational initiatives should be smartly tailored to specific groups and behaviors.

Table 4: Characteristics associated with the responder's practice toward routine screening from latent class analysis

Demographic characteristics	Excellent knowledge/poor knowledge		Uncertainty/poor knowledge	
	OR (95% CI)	*P* (β estimate)	OR (95% CI)	*P* (β estimate)
Gender				
Female	3.02 (1.36-6.72)	<0.006	1.31 (0.55-3.15)	0.54
Male				
Private sector				
Yes	5.93 (2.66-13.2)	<0.001	3.36 (1.29-8.74)	0.01
No				
Consult screening guidelines (Q-41)				
Yes	2.45 (1.06-5.68)	0.040	1.02 (0.3-3.43)	0.97
No				

OR=Odds ratio, CI=Confidence interval

Limitations

Despite the efforts that have been made, the study design is not free of the risk of information bias because it was based on self-reports. There is a risk of social desirability bias and a potential for selection bias given that mixing responses among GPs who work in extremely different geographical or infrastructural conditions makes study results hardly generalizable despite the satisfactory response rate in our study. The major perceived barrier to respond in the questionnaire was the lack of free personal time. Other limiting factors included the long duration of the study. Nevertheless, our study has some advantages. A first advantage is the national representative sample of GPs. A second advantage is related to the data collection method. The questionnaires were delivered through telephonic interview, and this survey method reduces the response time increases the response rate, offers anonymity and confidentiality, and avoids face-to-face interactions. However, it should be noted that our questionnaire was pretested and also demonstrated a good internal consistency and validity (Cronbach's $\alpha = 0.8$).

Conclusions

Our study for the first time provides valuable information on the KAPs of GP's toward a wide spectrum of diseases, which are important for clinical practice.

It seems that although the vast majority of GPs agreed on the crucial importance of screening in the primary care setting, our study disclosed that there is an attitudinal–behavioral discordance toward screening guidelines, especially among those working in the private and those in the social insurance facilities. Our study suggests a broad range of barriers that affected adherence to guidelines. The lack of compliance with the guidelines underscores the need of educational intervention programs. In addition, the implementation of an electronic record/reminder support system represents an interesting approach that should be considered for further investigation. The implementation of evidence-based screening recommendation in clinical practice could be facilitated by the development of national screening recommendation statements. The adoption of national screening guidelines may represent a key factor in the efforts to ensure high-quality services and care equity to all.

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Conflicts of interest

There are no conflicts of interest.

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Supplementary Material

Questions

Q1: a) Sex
Female □
Male □
b) Age in years:

Q2: University of graduation:
Graduation from Greek medical schools □
Graduation from foreign medical schools □

Q3: Training in the specialty of general medicine:
In university hospitals □
In non-university hospitals □

Q4: How many years have you been employed since your graduation?

Q5: Postgraduates studies
Yes □
No □

Q6: Are you employed in a private sector?
Yes □
No □

Q7: How many patients do you review in a week on average?

Q8: Would you recommend screening for bladder cancer in a 40-year-old man?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q9: Would you recommend screening for breast cancer in a 42-year-old patient?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q10: Would you recommend screening for breast cancer in a 35-year-old patient?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q11: Would you recommend routine screening for cervical cancer in a 22-year-old woman?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q12: Would you recommend routine screening for cervical cancer in a 17-year-old young women sexually active in the last three years?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q13: Would you recommend routine screening for cervical cancer in a 67-year-old woman who has never been tested?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q14: Would you recommend routine screening for cervical cancer in a 69-year-old patient who underwent screening recently?
What test would you recommend?

Would you repeat screening in case of negative results?
How often would you suggest screening for cervical cancer in a 17-year-old woman in case of negative results?

Q15: Would you suggest screening for colorectal cancer in a 55-year-old man?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q16: Would you suggest screening for colorectal cancer in a 35-year-old man?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q17: Would you suggest screening for colorectal cancer in a 35-year-old man who suffers from ulcerative colitis?

Q18: Would you recommend routine screening for prostate cancer in a 45-year-old patient?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q19: Would you recommend routine screening for asymptomatic bacteriuria in a 45-year-old woman?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q20: Would you recommend routine screening for asymptomatic bacteriuria in a 45-year-old man?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q21: Would you suggest screening for HCV in a 38-year-old man?

Q22: Would you suggest screening for HBV in a 26-year-old woman?

Q23: Would you suggest screening for HIV in a 28-year-old man without any risk factors for HIV infection?

Q24: Would you suggest screening for HIV in a 26-year-old woman having a history of being treated for sexually transmitted disease?

Q25: Would you recommend routine screening for alcohol misuse in a 34-year-old man?

Q26: Would you recommend routine screening for depression in a 25-year-old woman in the presence of family history suggestive of depression?

Q27: Would you recommend routine screening for iron deficiency anemia in a 35-year-old man?

Q28: Would you recommend routine screening for iron deficiency anemia in a 24-year-old woman?

Q29: Would you recommend routine screening for thyroid disease in a 24-year-old woman?

Q30: Would you recommend routine screening for type 2 diabetes in a 45-year-old woman in the absence of risk factors?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q31: Would you recommend screening for diabetes in a 45-year-old asymptomatic hypertensive man?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q32: Would you recommend routine screening osteoporosis in a 66-year-old woman?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q33: Would you recommend routine screening osteoporosis in a 57-year-old woman?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q34: Would you recommend routine screening for abdominal aortic aneurysm in a 67-year-old man with smoking history?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q35: Would you recommend routine screening for abdominal aortic aneurysm in a 67-year-old man without smoking history?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q36: Would you recommend routine screening for abdominal aortic aneurysm in a 70-year-old woman?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q37: Would you recommend routine screening for carotid stenosis to a 53-year-old obese hypertensive man?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q38: Would you recommend routine screening for carotid stenosis in a 53-year-old man?
What test would you recommend?
Would you repeat screening in case of negative results?
How often would you repeat screening?

Q39: In your opinion, do you think that there is necessity of population-based screening?

Q40: Do you follow screening guidelines in your daily clinical practice?

Q41: Do you think that there are explicit and disseminated screening guidelines among health professionals practicing in primary care setting?

Q42: Do you think that the implementation of computer-based decision support systems in clinical practice would be helpful to improve the quality of care?