

The Annual Visit: What's the Evidence?

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The Annual Visit: What's the Evidence?

- Definitions
- Background
- Evidence on components of the annual visit
 - History
 - Examination
 - Tests ordered at visit
- Evidence on the annual visit itself
- The future of the annual visit

What Is An “Annual Visit”?

- A yearly comprehensive history and physical examination (the traditional definition)?
- A periodic review of screening, counseling, and focused physical based on age, sex, and risk factors?

What Is An “Annual Visit”?

- A “well adult visit”?
- Some “annual” exams are not annual
- NOT the evaluation and treatment of signs, symptoms, or known conditions

History of the Annual Visit

- 1861 – Horace Dobell (UK) advocates screening exams
- 1900 – George M. Gould speech to American Medical Association
- Early to mid 1900s – life insurance company physicians promote periodic examination; pre-employment exams

History of the Annual Visit

Original Articles.

A SYSTEM OF PERSONAL BIOLOGIC EXAMINATIONS THE CONDITION OF ADEQUATE MEDICAL AND SCIENTIFIC CONDUCT OF LIFE.*

BY GEORGE M. GOULD, M.D.

PHILADELPHIA.

The ranchman has his annual round-up; the merchant his yearly account of stock and balancing of books; the machinist gives his engine a thorough going-over at regular intervals; every military organization has its reviews and inspections, every government its budgets—indeed, every financial hair of the commercial head is noted, and not a sparrow of the hunter, Success, falls to the ground unnumbered; those that do not fall

*Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

History of the Annual Visit

- 1923 – AMA endorses periodic health examination
- Post-WW II – Executive health screening, cancer screening
- 1970s – Customizing the periodic exam (Breslow and Somers, Frame and Carlson, Canadian Task Force)

Comprehensive vs. Individualized

Present data are not adequate evidence justifying annual complete examination of the asymptomatic patient at low medical risk. The American College of Physicians recommends that each internist develop individualized plans for patient examination.

ACP Medical Practice Committee, December 1981

Annals of Internal Medicine. 1981;95:729-732.

Annual Visit Statistics

- 44 million US adults per year (2002-2004)
- Combined with preventive gynecologic visit, accounts for 1 in 12 adult ambulatory visits
- More than visits per year for acute respiratory illnesses or hypertension

Annual Visit Statistics

- \$5.2 billion (US) per year
- Does not account for additional visits/costs generated by annual visit
- ↑ rates in older patients, insured patients

Content of the Annual Visit

Table 3. Content of PHEs and PGEs

Component of Visit	PHE Data		PGE Data	
	Applicable, Million	% With This Service ^a	Applicable, Million	% With This Service ^a
Examination feature				
Blood pressure measurement ^b	44.4	82.9 (78.2-87.6)	19.4	85.7 (80.5-90.8)
Full physical examination	44.4	81.3 (77.8-84.8)	19.4	71.2 (66.0-76.5)
Routine test ^c				
Complete blood cell count	44.1	32.6 (28.7-36.5)	19.3	9.4 (6.9-11.9)
Urinalysis	44.0	24.9 (21.1-28.8)	19.2	25.1 (18.4-31.7)
Serum electrolyte level ^d	44.1	15.4 (11.4-19.4)	19.4	2.6 (1.2-4.0)
Electrocardiogram	40.3	11.0 (8.1-13.8)	19.2	0.1 (0.0-1.0)
Preventive test ^{b,c}				
Papanicolaou smear	16.0	26.6 (22.2-30.9)	16.9	79.3 (75.8-82.8)
Prostate-specific antigen level ^e	8.8	36.5 (30.6-42.4)	NA	NA
Mammogram	14.1	20.9 (16.0-25.8)	10.5	54.6 (48.1-61.1)
Lipid/cholesterol level	34.5	33.6 (28.8-38.4)	8.5	10.5 (6.9-14.1)
Counseling service ^b				
Weight reduction counseling	13.7	43.7 (31.1-56.4)	0.3	20.6 (7.2-34.1)
Tobacco use counseling	5.7	32.5 (25.8-39.2)	2.2	31.4 (21.0-41.8)
Diet/nutrition counseling	9.7	36.5 (30.9-42.1)	0.8	44.3 (27.8-60.7)
Exercise counseling	9.7	25.6 (20.1-31.0)	0.8	38.2 (24.6-51.8)
Any preventive test or counseling service ^f	44.4	52.9 (48.8-57.0)	19.4	83.5 (80.7-86.3)

Abbreviations: See Table 1.

^a Data are given as rate (95% confidence interval).

^b Applicable PHEs and PGEs are defined by the target population in the US Preventive Services Task Force. These are listed in eFigure 1 (available at: <http://www.archinternmed.com>).

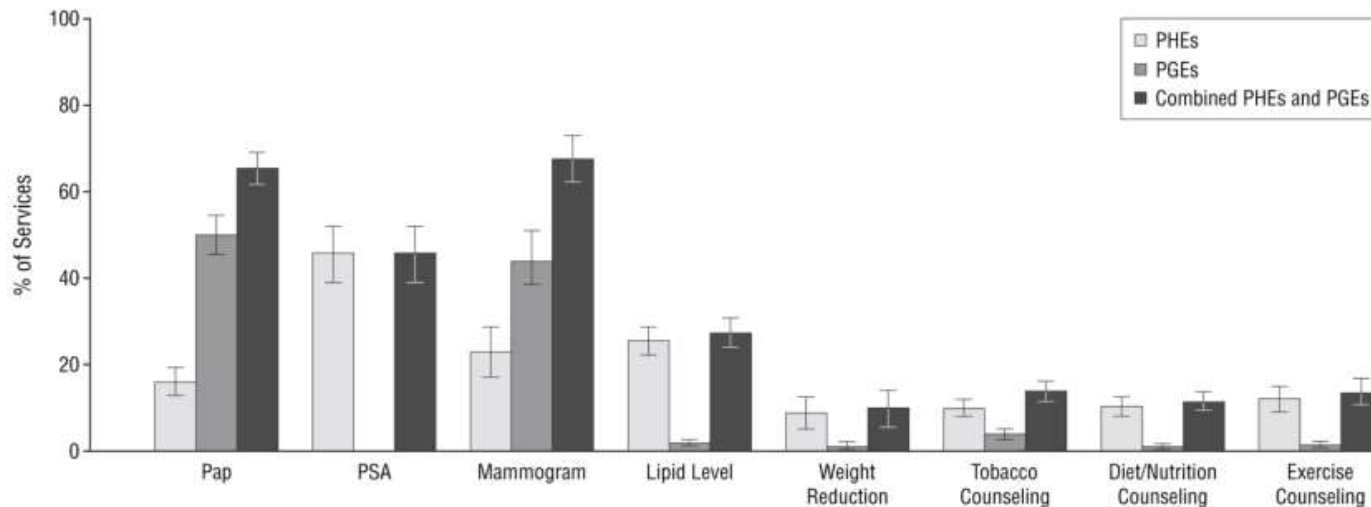
^c Visits in which a diagnosis code or reason for the visit would make the test clinically indicated were removed from the numerator and denominator. Criteria are listed in eFigure 1.

^d Data are limited to 2003 and 2004.

^e The US Preventive Services Task Force states evidence for routine prostate-specific antigen screening in men is mixed. If beneficial, it would be in men aged 50 to 70 years.

^f Includes Papanicolaou smear, prostate-specific antigen, mammogram, cholesterol screening, weight reduction counseling, tobacco use counseling, diet/nutrition counseling, and exercise counseling.

Preventive Care Delivered at Annual Visits



Proportions of preventive care services ordered or delivered at preventive health examinations (PHEs) and preventive gynecological examinations (PGEs). The vertical lines represent 95% confidence intervals around percentage estimates.

Mehrotra A et al . Arch Intern Med. 2007;167(17):1876-1883. doi:10.1001/archinte.167.17.1876

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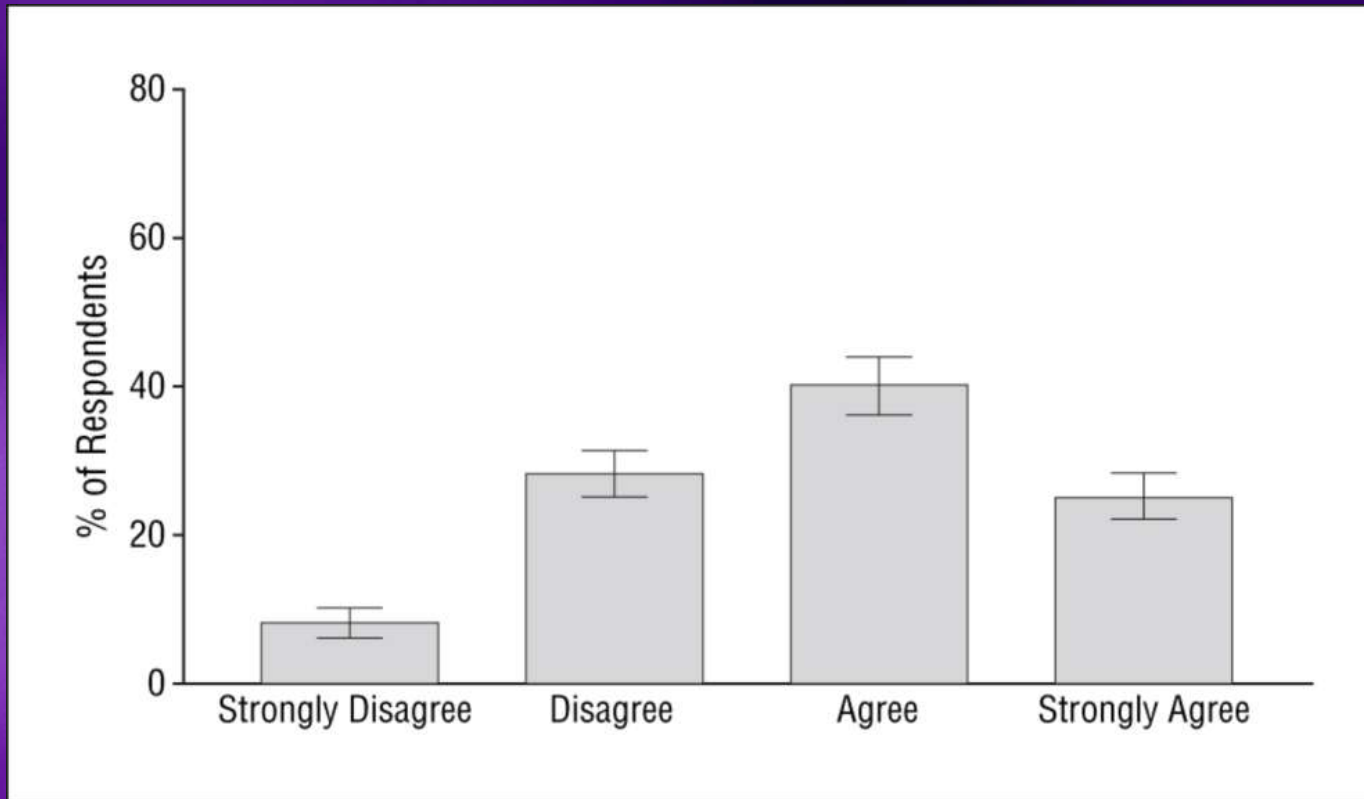
Why An Annual Visit?

- Risk assessment
- Screening
- Delivering preventive services
- Freedom from distraction by other issues

Why An Annual Visit?

- The importance of periodicity
- Patient expectations
- Financial incentives
- Strengthening of the patient-physician relationship

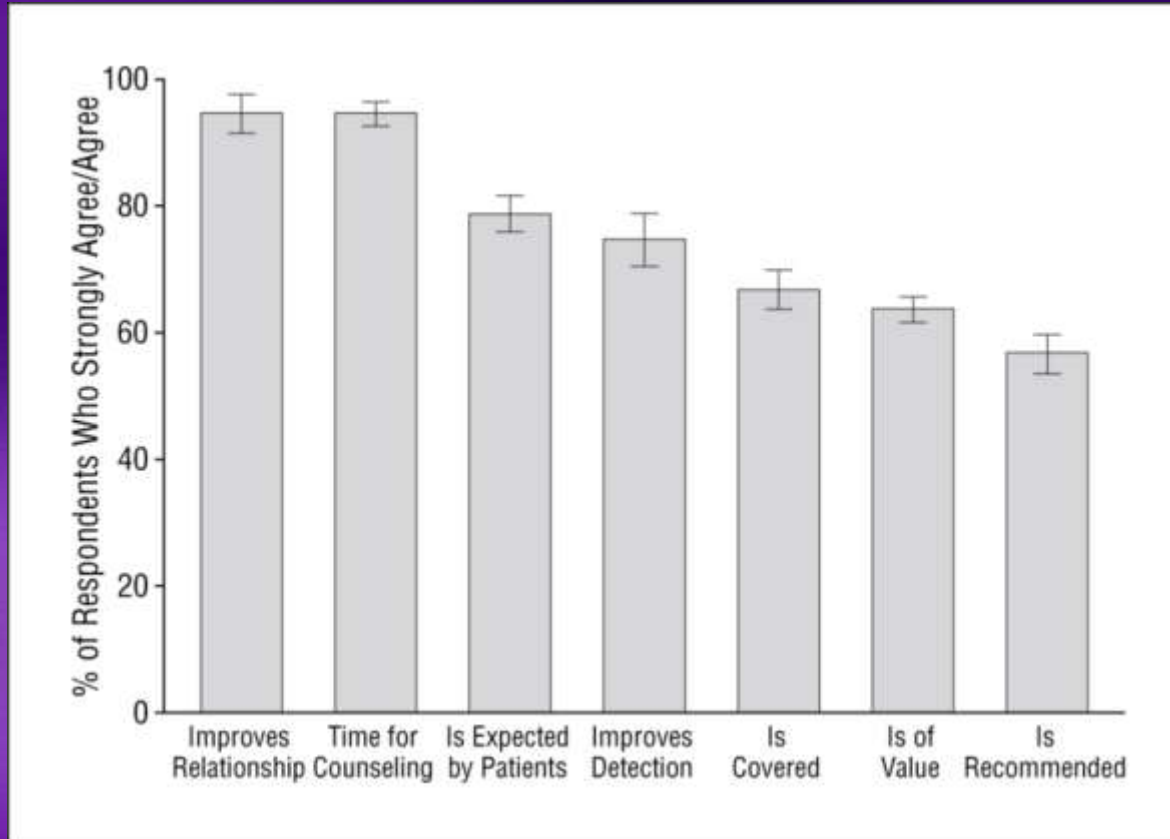
Physicians Attitudes on the Annual Visit



Likert scale responses to the question whether an annual physical examination is necessary for asymptomatic adults.

Prochazka AV et al. Arch Intern Med. 2005;165(12):1347-1352. doi:10.1001/archinte.165.12.1347

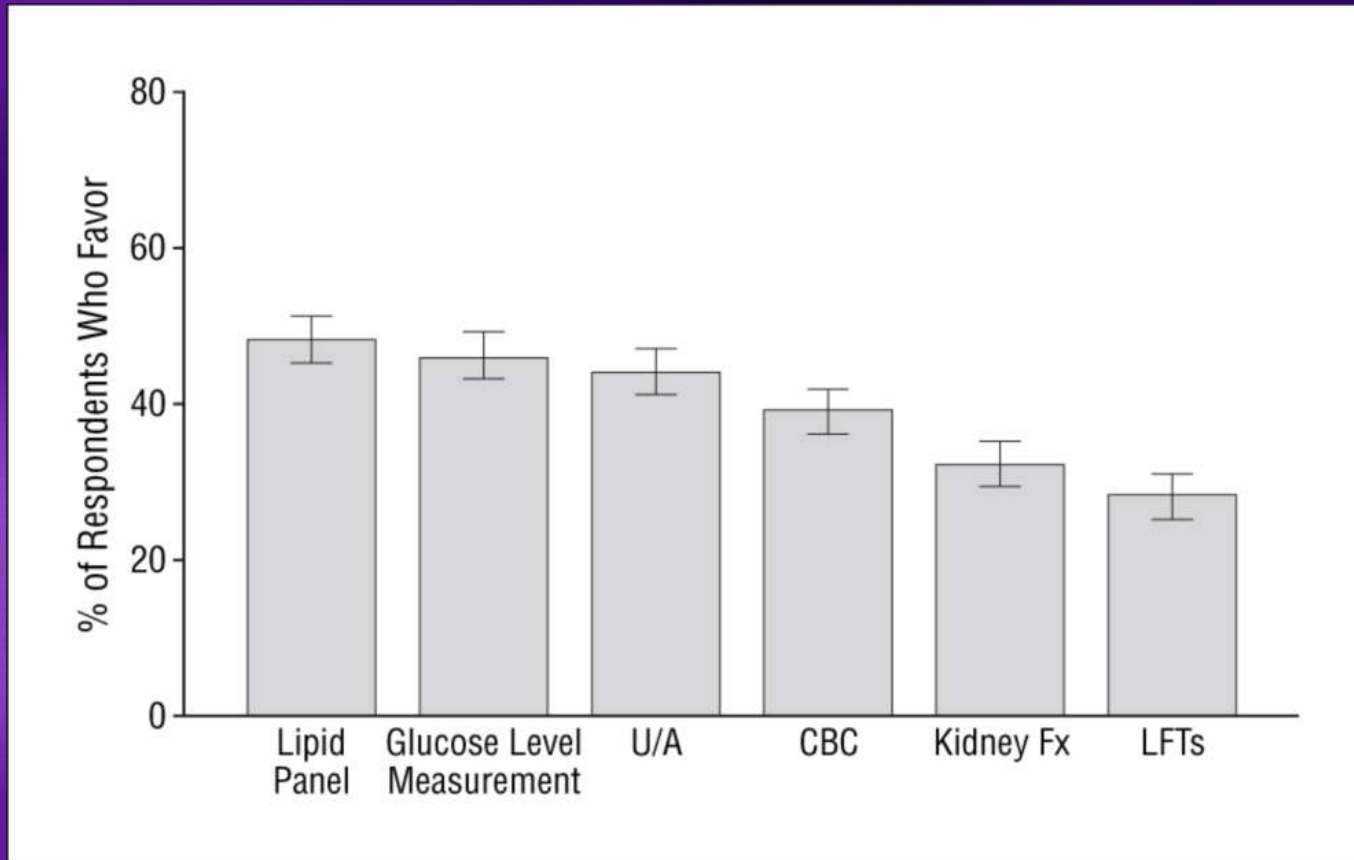
Physicians Attitudes on the Annual Visit



Percentage of primary care physicians who strongly agree or agree with the following views on the annual physical examination: improves physician-patient relationship; provides time for counseling; is expected by patients; improves detection of subclinical illnesses; is covered by most insurance plans; is of no proven value; and is not recommended by national organizations. For the last 2 items, the responses represent the percentage of respondents who strongly disagreed or disagreed with the statement.

Prochazka AV et al. Arch Intern Med. 2005;165(12):1347-1352. doi:10.1001/archinte.165.12.1347

Physicians Attitudes on the Annual Visit



Percentage of primary care physicians who favor performing laboratory testing for all patients during an annual physical examination.

Prochazka AV et al. Arch Intern Med. 2005;165(12):1347-1352. doi:10.1001/archinte.165.12.1347

Questions About the Annual Visit

- Does it improve patient outcomes?
- Is a dedicated visit for prevention more effective than screening at other visits?
- Where's the value – the components of the annual visit or the annual visit itself?
- Does the annual visit contribute to overdiagnosis and overtreatment?
- Is the annual visit an effective use of resources?

The US Preventive Services Task Force (USPSTF) Recommendation Grades

Based on evidence on the harms and benefits of service

Grade	Definition
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial. OFFER
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial. OFFER
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small. OFFER IF THERE ARE OTHER CONSIDERATIONS
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits. DISCOURAGE
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined. CASE-BY-CASE, DISCUSS UNCERTAINTY

USPSTF Grade A and B Recommendations - History

- Alcohol use screening and counseling – men and women
- Depression screening – men and women
- HIV screening – ages 15-65, plus increased risk
- Intimate partner violence – women of childbearing age
- Tobacco use screening – men and women

USPSTF Grade A and B Recommendations - Examination

- Hypertension screening
- Obesity screening (BMI measurement)

USPSTF Grade A and B Recommendations - Testing

- AAA – men 65-75 who have smoked (one time)
- Type 2 diabetes screening – men and women with BP > 135/80
- Hepatitis C screening (high-risk and 1945-1965)
- Lipid disorder screening – men ≥ 35 (20-35 with risk), women \geq at risk
- Osteoporosis screening – women ≥ 65 (< 65 with 10 yr FRAX risk \geq that of 65 year old)

USPSTF Grade A and B Recommendations - Testing

- Sexually transmitted infection screening and counseling
 - Chlamydia screening – women ≤ 24 or ≥ 25 at risk
 - Gonorrhea screening – women at increased risk
 - Counseling – sexually active adolescents, adults at increased risk
 - Syphilis infection screening – adults at increased risk

USPSTF Grade I Recommendations

- Insufficient evidence for:
 - Screening for abuse of elderly and vulnerable adults
 - Screening for illicit drug use
 - Counseling on sexually transmitted infections (average risk)
 - Chlamydia screening in men
 - Coronary risk assessment with nontraditional risk factors

USPSTF Grade I Recommendations

- Insufficient evidence for:
 - Diabetes screening if BP \leq 135/80
 - Screening for cognitive impairment
 - Peripheral arterial disease using ABI
 - Glaucoma screening
 - Gonorrhea screening in men

USPSTF Grade I Recommendations

- Insufficient evidence for:
 - Vision screening in adults ≥ 65
 - Osteoporosis screening in average risk men
 - Thyroid disease screening
 - Hearing loss screening in adults ≥ 65
 - Screening for chronic kidney disease

USPSTF Grade D Recommendations

- Do NOT screen for (because harms outweigh benefits)
 - Abdominal aortic aneurysm (women 65-75)
 - Asymptomatic bacteruria
 - Carotid artery stenosis
 - Coronary artery disease (resting or exercise ECG) (low risk)

USPSTF Grade D Recommendations

- Do NOT screen for (because harms outweigh benefits)
 - COPD using spirometry
 - Genital herpes
 - Hemochromatosis
 - Hepatitis B

HSR&D

**Evidence Brief:
Role of the Annual Comprehensive
Physical Examination
in the Asymptomatic Adult**

October 2011

Bloomfield HE, Wilt TJ. Evidence Brief: Role of the Annual Comprehensive Physical Examination in the Asymptomatic Adult, VA-ESP Project #09-009; 2011.

Additional Screening Recommendations: VA Report

- Heart auscultation to detect valvular disease (Oboler and LaForce, 1989)
 - First adult exam and again at age 60
 - Based on prevalence of rheumatic heart disease
- Pulse to detect atrial fibrillation (Fitzmaurice 2007) – adults over 65

Oboler S and LaForce F. *Annals of Internal Medicine*. 1989; 110:214-226

Fitzmaurice DA et al. *BMJ*. 2007 Aug 25;335(7616):383.



INSTITUTE FOR CLINICAL SYSTEMS IMPROVEMENT

Health Care Guideline
Preventive Services for Adults

Wilkinson J et al. Institute for Clinical Systems Improvement. Preventive Services for Adults.
<http://bit.ly.PrevServAdults0912>. Updated September 2012.

Additional Screening Recommendations: ICSI Guideline

- Level I – “Must” assess need for and recommend
 - Same as USPSTF
- Level II – “Should” assess need for and recommend
 - Hearing loss in elderly – frequency of testing ?
 - Vision screening in ≥ 65

Additional Screening Recommendations: ICSI Guideline

- Level III – “Could” recommend, considering costs/benefits
 - Advance directive counseling
 - Dementia screening
 - Drug abuse screening
 - Injury prevention screening

Additional Screening Recommendations: ICSI Guideline

- Level IV – Not supported by evidence, not recommended
 - Coronary disease screening
 - Diabetes screening
 - Routine lab testing (chemistry panels, urinalysis, hemoglobin)

Does Doing It All At an Annual Visit Add Value?

- Evidence base is limited
 - More studies on components of the visit than on the visit as a whole
 - Which outcomes are measured, which ones matter?
 - Adherence with screening?
 - Surrogate outcomes? (BP, lipid levels)
 - Morbidity, mortality, quality of life?
 - Very limited data on harms
- Boulware et al. (2007)
- Cochrane review (2013)

Systematic Review: The Value of the Periodic Health Evaluation

L. Ebony Boulware, MD, MPH; Spyridon Marinopoulos, MD, MBA; Karran A. Phillips, MD, MSc; Constance W. Hwang, MD; Kenric Maynor, MD; Dan Merenstein, MD; Renee F. Wilson, MSc; George J. Barnes, BA; Eric B. Bass, MD, MPH; Neil R. Powe, MD, MPH, MBA; and Gail L. Daumit, MD, MHS

Background: The periodic health evaluation (PHE) has been a fundamental part of medical practice for decades despite a lack of consensus on its value.

Purpose: To synthesize the evidence on benefits and harms of the PHE.

Data Sources: Electronic searches of such databases as MEDLINE and the Cochrane Library, review of reference lists, and hand-searching of journals through September 2006.

Study Selection: Studies (English-language only) assessing the delivery of preventive services, clinical outcomes, and costs among patients receiving the PHE versus those receiving usual care.

Data Extraction: Study design and settings, descriptions of the PHE, and clinical outcomes associated with the PHE.

Data Synthesis: The best available evidence assessing benefits or harms of the PHE consisted of 21 studies published from 1973 to

2004. The PHE had a consistently beneficial association with patient receipt of gynecologic examinations and Papanicolaou smears, cholesterol screening, and fecal occult blood testing. The PHE also had a beneficial effect on patient "worry" in 1 randomized, controlled trial but had mixed effects on other clinical outcomes and costs.

Limitations: Descriptions of the PHE and outcomes were heterogeneous. Some trials were performed before U.S. Preventive Services Task Force guidelines were disseminated, limiting their applicability to modern practice.

Conclusions: Evidence suggests that the PHE improves delivery of some recommended preventive services and may lessen patient worry. Although additional research is needed to clarify the long-term benefits, harms, and costs of receiving the PHE, evidence of benefits in this study justifies implementation of the PHE in clinical practice.

Ann Intern Med. 2007;146:289-300.

For author affiliations, see end of text.

www.annals.org

Boulware LE et al. *Annals of Internal Medicine*. 2007;146:289-300.

Boulware et al – Value of the Periodic Health Evaluation (2007)

- Systematic review for US Agency for Healthcare Research and Quality
- Preventive health evaluation vs. “usual care”
- 50 articles – 33 studies (10 RCTs), 23 observational
- Heterogeneity in definitions, design, and setting

Boulware et al – Value of the Periodic Health Evaluation (2007)

- PHE → improved delivery of some preventive services
- PHE → reduced worry or concern
- Long-term benefits, harms, costs - ??????

General health checks in adults for reducing morbidity and mortality from disease (Review)

Krogsbøll LT, Jørgensen KJ, Grønhoj Larsen C, Gøtzsche PC



**THE COCHRANE
COLLABORATION®**

Krogsbøll LT et al. Cochrane Database of Systematic Reviews 2012, Issue 10.
Art. No.: CD009009. DOI:10.1002/14651858.CD009009.pub2.

Cochrane Review of General Health Checks (2013)

- Systematic review to quantify benefits and harms of general health checks, focus on morbidity and mortality
- Data from 14 randomized trials comparing health checks vs. no health checks (182,880 patients)

Cochrane Review of General Health Checks (2013)

- Health checks did not reduce morbidity or mortality (overall, cardiovascular, or cancer related)
- Health checks increased number of new diagnoses
- Health checks unlikely to be beneficial
- Harmful outcomes not studied/reported – no conclusions

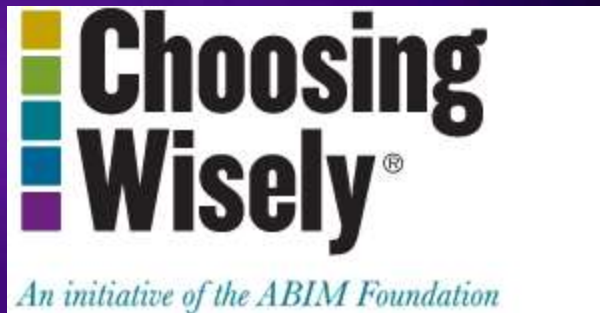
VA Report Conclusions

- Comprehensive routine physical examinations not recommended for asymptomatic adults, although many patients and physicians continue to endorse the practice.
- Components of the physical examination recommended for asymptomatic adult include:
 - blood pressure screening every 1-2 years
 - periodic measurement of body mass index

Bloomfield HE, Wilt TJ. Evidence Brief: Role of the Annual Comprehensive Physical Examination in the Asymptomatic Adult, VA-ESP Project #09-009; 2011.

VA Report Conclusions

- Some evidence that a specific visit for the provision of preventive services may increase the likelihood that patients will receive
 - PAP smears
 - Cholesterol screening
 - Fecal occult blood testing.



*Don't perform routine general health checks
for asymptomatic adults.*

The Annual Visit: What's the Evidence?

- Components of the visit – some are supported by evidence, some not, some ???
- The “annual visit” – improves delivery of some preventive services, decreases patient worry, but does not reduce morbidity and mortality

The Annual Visit: What's the Evidence?

- Long-term benefits/harms not known
- Annual visit valued by physicians, despite the evidence
- Limitations – much of evidence is old, also from pre-USPSTF, pre-EHR, pre-Internet era

The Future of the Annual Visit

- Proactive patient-centered care
 - Reaching out to patients
 - Less reliance on office visits
 - Evidence-based care

The Future of the Annual Visit

- Use of health information technology to deliver preventive services without a dedicated visit.
 - Physician reminders at visits for other reasons
 - Online patient reminders
 - Measurement of physician performance

The Future of the Annual Visit

- Might decreasing use of the annual visit improve access?
- Will changes in payment decrease the incentive to offer the annual visit?
- How do we reeducate physicians?
- How do we (re)educate patients?

HEALTH

The proper role of the complete physical exam

By DR. KEITH ROACH
NORTH AMERICA SYNDICATE

Dear Dr. Roach,

In your response to "R.J." in your column "In exams, doctors seem to have lost their touch," you missed an opportunity to educate the writer on the role of the physical examination. There still is a role for the physical exam, but the evidence supporting a "complete" physical in asymptomatic people is lacking. Time that is spent looking in ears, feeling for swollen glands, etc., in people who have no symptoms or problems that warrant checking those areas can better be used to focus on examining parts that are relevant to the patient's medical problems, or on discussing recommended screening tests or health behaviors (such as smoking cessation).

While it may be true that in some cases, the physical examination is a victim of time constraints, in others it is a matter of using the same amount of time more effectively. This is no different from how we should approach other types of “tests,” such as blood or imaging studies. Don’t do lots of things for the sake of doing lots of things and being “thorough”; do what you need to do to meet the needs of the patient, based on her or his individual risk factors, history and symptoms.

— Yul D. Ejnes, M.D., MACP,
chair emeritus, Board of Regents,
American College of Physicians

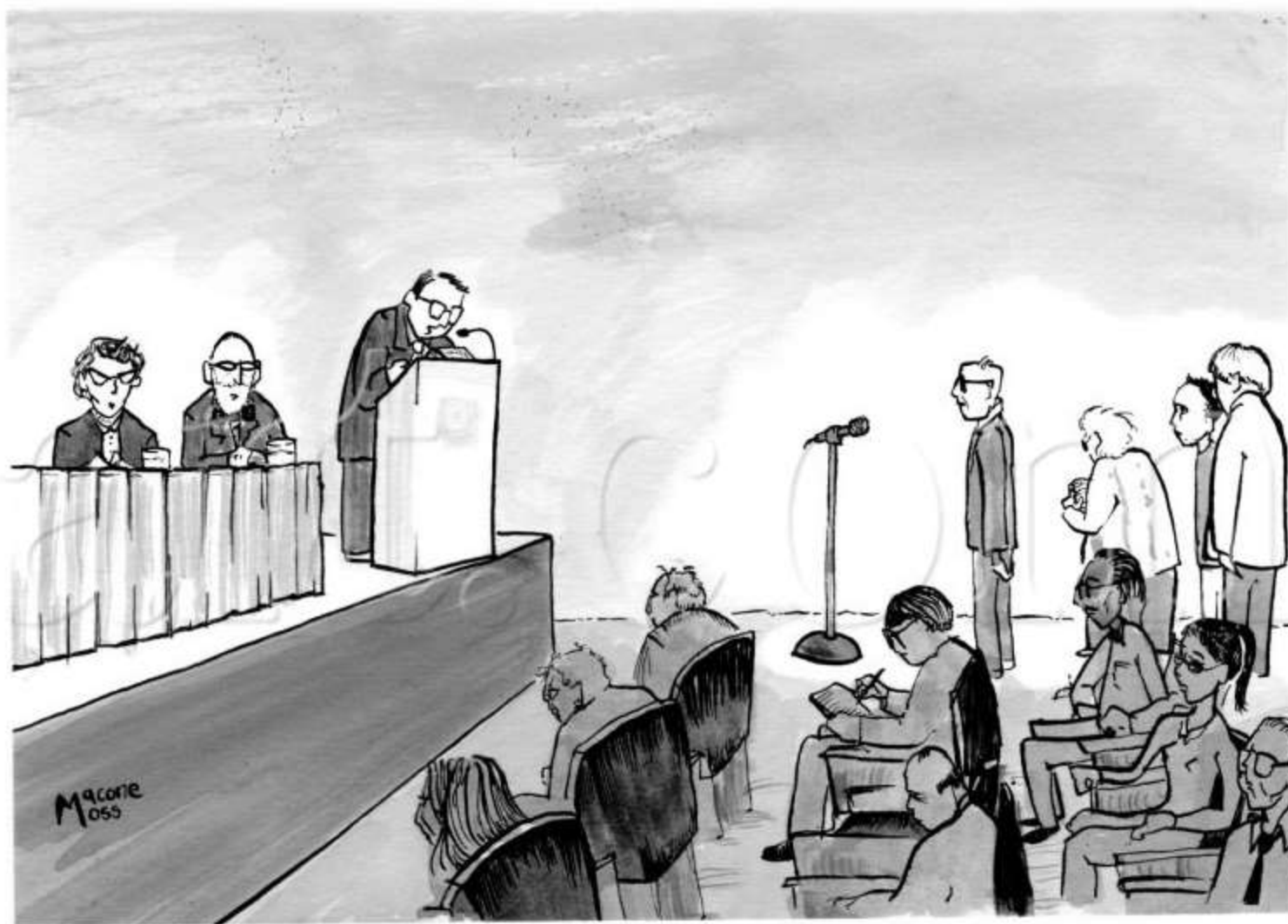
Thank you, Dr. Ejnes, for taking the time to write a thoughtful response. The physical exam is an important part of the doctor visit, and it has variable necessity, depending on the reason for which the patient is there. A reasonably complete physical exam probably makes sense on the first visit and then on an as-needed basis.



*The whole is greater
than the sum of its
parts - Aristotle*

*... but perhaps not for
the annual visit - Ejnes*





"We'd now like to open the floor to shorter speeches disguised as questions."