

State of Israel
Ministry of Health

Israel National Institute
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Health Council

National Program for Quality Indicators in Community Healthcare in Israel

2010-2012



התכנית הלאומית למדדי איכות לרפואת הקהילה בישראל
NATIONAL PROGRAM FOR QUALITY INDICATORS IN COMMUNITY HEALTHCARE
المشروع الوطني لمؤشرات الجودة الطبية للصحة الجماهيرية في إسرائيل

National Program for Quality Indicators in Community Healthcare in Israel Report 2010-2012 Executive Summary

Supported by:

Ministry of Health, State of Israel

The Israel National Institute for Health Policy Research

Health Council

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ACKNOWLEDGEMENTS

The National Program for Quality Indicators in Community Healthcare in Israel and this report reflect the vision and cooperation of various institutions working toward the common goal of improving community healthcare services. These include:

Israel's four health plans (*kupot holim*): Clalit Health Services, Maccabi Healthcare Services, Meuhedet Health Services, and Leumit Health Fund

Israel National Institute for Health Policy Research

Ministry of Health

Health Councils

Israel Medical Association and the National Association of Nurses in Israel and their councils

Academic experts, National Council experts, Brookdale Institute, Gertner Institute, and the National Insurance Institute of Israel

Israel Society for Quality in Health Care

With gratitude for your significant contribution,

Directorate of the National Program for Quality Indicators in
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FOREWORD

“Efforts to improve quality require efforts to measure it.”¹

The *National Program for Quality Indicators in Community Healthcare in Israel Report* is produced in coordination with the four health plans in Israel (*kupot cholim*). The purpose of this report is to evaluate the quality of community-based medical care in Israel, including improvements and modifications to the healthcare system introduced over time, and variations in quality of care between subgroups.

The first report by the program was published in 2004 for data from 2001–2003. Annual reports were published thereafter for data through 2010.²⁻⁵ The current full report presents results of indicators for the measurement years 2010–2012.

Quality indicators in this report are derived from data provided by the four health plans in Israel. The national quality indicators focus on health and wellness and disease management with seven major clinical fields: health promotion, cancer screening, child and adolescent health, health in older adults, asthma, cardiovascular health, and diabetes. All data presented in the report underwent internal review as well as external auditing by an accredited professional.

We hope the information in this report will benefit the general public, healthcare providers, and policy makers.

Electronic copies of this report are available at our website: <http://healthindicators.ekmd.huji.ac.il>

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MAIN FINDINGS

The report presents quality measures in the community healthcare system in Israel for various areas of care, longitudinally and by sub-group. The data in this report, alongside existing data regarding financial performance and patient satisfaction, provide policymakers with a more complete understanding of the current state of healthcare and the challenges it faces in order to make informed decisions and policy for the future of the public's health.

The *National Program for Quality Indicators in Community Healthcare Report, 2010–2012* shows continuing improvements in healthcare in Israel, with increasing rates of quality over time and maintenance of the existing high levels of quality for the majority of healthcare indicators. These results are largely due to the concentrated efforts of Israel's health plans and their active role in community medicine.

Noteworthy are the increased rates of early colon cancer screening. An improvement was observed in rates of height and weight documentation (for the assessment of body mass index, BMI) among children (7 years) and adolescents. These findings are of particular significance considering the increasing prevalence of obesity in all of these age groups. Since documentation is a crucial initial stage in disease prevention and management, higher rates of documentation for height and weight allow for a more thorough evaluation of the existing problem of obesity, and enhance methods for prevention and directed treatment. Rates of documentation of blood pressure measurement and cholesterol testing among younger adults improved throughout the measurement period.

Despite these findings, gaps in quality of community healthcare remain. Disparities remain for several indicators between those exempt from medical copayments (herein "exempt") – corresponding to the weaker socio-economic stratum of the population – and those non-exempt from medical copayments, the general population. Additionally, a number of measures failed to show real improvement in the measurement year. These include the rate of influenza vaccination in adults, which remains at 60%.

The report includes, for the first time, information regarding documentation of smoking status in medical records. Similar to previous reports, this report includes updated information on a number of measures and adaption of measures according to international guidelines.

Main Findings by Topic

Health and Wellness

Health Promotion

Body mass index (BMI) documentation

- Documentation of BMI (height and weight) for adults continued to increase over the measurement period. In 2010, the documentation rate of BMI components for adults 20–64 years old was 79% and in 2012 was 87%. For those aged 65–74 years, documentation rates increased from 76% in 2008 to 81% in 2012.
- Among individuals aged 20–64 years, documentation rates were higher for women compared to men and among the exempt population compared to the general population. Similar rates were observed in ages 65–74 years, with smaller differences between men and women.

Smoking documentation

- Among individuals aged 16–70 years, documentation rates for smoking were 80% in 2012, without significant change throughout the measurement period.
- Documentation rates were higher for women compared to men and among the exempt population compared to the general population.

Cancer Screening

Breast cancer screening – mammography

- Mammography rates for women 51–74 years in 2012 were 68%. This rate remained stable throughout the measurement period.
- Mammography rates were substantially lower among the exempt than the general population. The absolute difference in mammography rates between these groups was 4% in 2012.

Colon cancer screening

- In 2012, the colon cancer screening rate (fecal occult blood test (FOBT) during the past year or colonoscopy (investigative or diagnostic) during the previous six years) was 54%. This rate reflects a 6% absolute increase from 2010.

Child and Adolescent Health

Anemia screening for infants

- The anemia screening (hemoglobin testing) rate for infants was 80% in 2012, representing a 3% improvement over the three-year observation period.
- Anemia screening rates for infants did not differ according to the sex of the infant or the parents' exemption status.

Height and weight documentation for children

- Height and weight documentation rates for children 7–years-of-age increased over the measurement period – from 64% in 2010 to 70% in 2012.
- Rates were similar for boys and girls. Higher rates of documentation were observed among children belonging to the exempt compared with the general population.

Body mass index (BMI) documentation for adolescents

- No significant change was observed in the documentation of BMI among adolescents in the observation period. Height and weight documentation rates for adolescents were 73% in 2012.
- No differences in BMI documentation were observed according to sex. Documentation rates for BMI were higher among the exempt population compared to the general population.

Immunizations for Older Adults

Influenza vaccination

- In 2012, influenza vaccination rates among adults aged 65+ years was 60%, an absolute increase of 3% over the measurement period.

- Influenza vaccination rates were higher for adults aged 74+ years than those aged 65–73 years and among men compared to women.

Pneumococcal vaccination

- Pneumococcal vaccination rates decreased from 75% in 2010 to 72% in 2012.
- Pneumococcal vaccination rates were higher among men compared to women, and higher in the exempt compares with the non-exempt population.

Chronic Conditions

Asthma

- Rates of persistent asthma remained stable throughout the measurement period. The prevalence of this disease was 0.7% among individuals aged 5–44 years.
- In 2012, as in previous years, substantial differences in rates of persistent asthma were observed between the exempt (lower socio-economic status) and general (middle and higher socio-economic status) population. Among the exempt population the prevalence or asthma was 2.2 times higher than the non-exempt population.
- The percentage of people using asthma control medication remained high over the measurement period, reaching 79% in 2012. No significant differences were observed between men and women. Rates were slightly lower for the exempt than for the general population.
- The rate of influenza vaccination for individuals with persistent asthma increased from 36% in 2010 to 40% in 2012.
- Differences were noted in influenza vaccination rates between the exempt and the general population, with an absolute disparity of 1%. Rates were 2% higher for women compared to men.

Cardiovascular Health

Primary prevention – cholesterol assessment

- Over 77% of the population had documented cholesterol levels in their medical records. Rates improved over time for middle-aged adults (35–54 years) and remained stable for older adults (55–74 years).
- Cholesterol documentation rates were higher for women than men and for the exempt population compared with the general population.
- In 2012, over 91% of the population achieved adequate LDL control levels.
- Differences in adequate LDL control were observed according to sex and age. Women aged 35–54 years showed slightly higher rates of LDL control than men of the same age group, whereas among those aged 55–74 years, men had higher LDL control rates than women. No differences were observed between the exempt and general population.

Primary prevention – blood pressure assessment

- Documentation of blood pressure in adults aged 20-54 years improved from 88% in 2010 to 91% in 2012. Documentation rates for 2012 among adults aged 55-74 years were 81% and were slightly lower than those of previous years.
- Blood pressure documentation rates were higher among women than men and in the exempt population than in the general population.

Secondary prevention – cholesterol management after a cardiac procedure

- In 2012, 84% of patients who underwent bypass surgery or interventional cardiac catheterization in the past five years purchased medication for lowering cholesterol levels. This rate is lower than the previous measurement period (85% in 2010). The rate gradually increased with age.
- The purchase rate of LDL-lowering medication (e.g., statins) was lower among women than men, particularly for younger adults. Rates did not differ relative to exemption status.
- In 2012, 72% of patients who underwent bypass surgery or interventional cardiac catheterization in the past five years achieved LDL control (LDL less than 100 mg/dL). This was a slight improvement compared with previous years (an increase of 0.55% per year). Adequate LDL control rates improved gradually with age.

- Adequate LDL control among patients who underwent bypass surgery or interventional cardiac catheterization in the past five years was 9% higher among men than women. Rates were lower in the exempt compared to the general population.

Diabetes

- In 2012, the rate of diabetes mellitus for all ages was 6.5%. During the measurement period there this rate increased annually by 0.3%.
- The prevalence of diabetes mellitus did not differ by sex. The rate of diabetes mellitus among the exempt population was 4.5 times higher than that found in the general population.

Disease management

- The rate of documentation of glycosylated hemoglobin (HbA1c) testing at least once during the measurement year among patients with diabetes mellitus was 89% in 2012. This rate is slightly lower than rates from previous years (e.g., 90% in 2010). Documentation rates of HbA1c increased gradually with age, reaching 92% in ages 65-74 years. Documentation rates were higher in women compared to men, and in the exempt compared to the non-exempt population.
- Improved glycemic control (HbA1c $\leq 7\%$ or $\leq 8\%$ according to age and disease duration) for patients with diabetes mellitus was 63% in 2012. Control was 5% higher in women compared to men. No difference in control was observed between the exempt and the non-exempt population.
- In 2012, the proportion of individuals with diabetes mellitus with inadequate glycemic control (HbA1c $> 9\%$) was 13%, with no substantial change during the measurement period. The rate of individuals with inadequate glycemic control gradually decreases with age and was slightly higher among men and the exempt population.

Monitoring complications for patients with diabetes mellitus

- The percentage of individuals with diabetes mellitus who had an eye examination in 2012 was 77%. The rate was slightly higher in women compared to men. The examination rate in the exempt population was similar to the general population.
- In 2012, the percent of patients with diabetes mellitus who underwent a urinary protein test was 75%. This rate remained stable during the measurement period. The rate was

higher in men compared to women and similar between the exempt and general population.

- In 2012, 90% of individuals with diabetes mellitus had blood pressure documentation. Blood pressure levels within the target value of less than or equal to 140/90 mm Hg were achieved in 83% of patients with diabetes mellitus, representing a small improvement during the measurement period (an absolute improvement of 1%).
- In 2012, LDL documentation among individuals with diabetes mellitus was 90% and remained stable throughout the measurement period. The rate was slightly higher in women and in the exempt population.
- Rates of adequate LDL control showed a slight improvement throughout the measurement period for individuals with diabetes mellitus (absolute change of 1%) and reached 64% in 2012. Rates for LDL control were 7% higher in men compared to women and 3% higher in the exempt compared with the general population.
- BMI documentation in individuals with diabetes mellitus increased over the measurement period, reaching 87% in 2012 (an absolute improvement of 2%). Documentation rates were similar in men and women, and slightly higher in the exempt compared with the general population.

Vaccinations

- The rate of influenza immunization among patients with diabetes mellitus gradually improved throughout the measurement period (an absolute improvement of 2% per year), reaching 57% in 2012. The rate was 7% higher in the exempt population compared with the general population.
- The rate of pneumococcal immunization among older patients with diabetes mellitus (65–72 years) was 80% in 2012. Similar rates were observed throughout the three-year observation period. The rate was slightly higher in men compared to women and in the exempt compared with the general population.

INTRODUCTION

The healthcare system in Israel places great importance on quality. Healthcare quality can be defined as a measure of the extent to which healthcare providers improve the probability of desired health outcomes in accordance with current professional literature.⁷

Healthcare quality comprises various elements, including:

- Effectiveness – improving health as a result of treatment,
- Safety – preventing harm to patients as a result of faulty treatment,
- Timing – beginning treatment at the right time and for the right length of time,
- Suitability – consideration of preferences, needs, and patient values,
- Efficacy – efficiently using available resources to ensure high quality treatment, and
- Equality – guaranteeing an equal quality of treatment, unaffected by personal variables such as sex, ethnicity, and socio-economic status.

In 1995, Israel implemented the National Health Insurance (NHI) law providing a standardized basket of medical services to all residents by the four health plans. The need for quality medical care is apparent from the core tenets of the NHI law of "justice, equality, and mutual assistance", in which "healthcare services included in the basket of medical services will be offered based on medical considerations, with *reasonable quality*, in a reasonable timeframe, and at a reasonable distance from the place of residence of the insured person". The Ministry of Health supervises the implementation of the law and external organizations were established for the purpose of "accompaniment and evaluation of the effect of the National Health Insurance law on health services in Israel, as well as their quality, efficiency, and expenditure" (The Health Council and The Israel National Institute for Health Policy and Health Services Research).

The model upon which the law is based is that of "controlled competition" between the health plans. Since the basket of services is uniform across all four health plans and the insured do not pay direct dues to the health plan (apart from copayment for the use of certain services), competition between health plans is therefore based on the quality of medical care and the nature of service. Notwithstanding the shortcomings of this market model, as well as issues related to the availability of data, there are regulatory, administrative, and financial barriers

that may affect and impede the provisions for high quality medical care. Indeed, studies show that reductions in quality of medical care are a common reaction to budgetary distress.

In light of the above, the need for the assessment of the quality of medical care in Israel became clear. In March 2004 the Ministry of Health inaugurated the National Program for Quality Indicators in Community Healthcare in Israel, headed by Avi Porat and Gadi Rabinowitz and with the assistance of Anat Raskin-Segal. The program developed out of a research initiative at Ben-Gurion University in conjunction with Israel's four health plans. The cooperation of the health plans with each other and with the program in setting quality indicators, assessing the indicators on a regular basis, and publishing them are noteworthy and are one of the cornerstones of the program's success.

The program aspires to provide the public and policymakers with information regarding the quality of healthcare services supplied by the health plans to strengthen and improve medical care offered to Israeli residents. In order to achieve this goal, the program publishes the results of a national set of quality indicators for community healthcare (herein "indicators"). This assessment enables an evaluation of the development of quality medical care over time and identification of areas that require intervention and improvement – ranging from data collection to care. In addition, the national dataset is used to compare Israel's achievements with those of other countries.

The program has set a high standard for measuring quality. Indicators are carefully chosen by a consensus of representatives from each of Israel's four health plans and are based on national and international guidelines. All processes undergo strict internal and external auditing.

Measuring the quality of care is a complex matter and is a current topic of debate both in academia and in practice. Over the last decade indicators have been developed to assess the quality of community health care in both the developed and developing world.⁸ Quality indicators were implemented in the United States,⁹ Sweden,¹⁰ England,¹¹ Australia,¹² and the Organization for Economic Cooperation and Development (OECD).¹³

Measures included in the Israeli program relate to the quality of clinical care as drafted by professional authorities nationally and worldwide, and rooted in similar established measures from the countries mentioned above. A comparison between the findings in this report and the findings in the United States for 2011 for several indicators is presented in the Results section.

Indicators were selected based on three criteria:

1. Significance – the indicators reflect the quality of treatment (preventive or active) of common illnesses, in which medical treatment has proven to be effective and contributes to decreasing morbidity.
2. Validity – the indicators reflect the quality of treatment in clinical fields in which both health status and changes in health status are properly and reliably quantifiable.
3. Feasibility – the indicators reflect the quality of treatment in fields with available and reliable data.

The set of indicators include two indicator categories:

- Prevalence (e.g. the rate of asthma patients in general population)
- Quality of medical care
 - Prevention and health promotion (e.g., breast cancer screening rates – mammography)
 - Treatment (e.g., appropriate treatment rates for asthma patients)
 - Outcome (e.g., rates of diabetics whose HbA1c levels are lower than 7%).

All indicators are presented as rates – the number of people in a defined group who satisfy specified criteria (e.g., the number of people who received the influenza vaccination among individuals aged 65+ years). The indicators are stratified according to gender and age (determined by a team of experts), as well as socio-economic status (determined by the entitlement to an exemption from medical copayments).

METHODS

Data Sources

The data presented in the report are based on information from Israel's four health plans. As part of their active and voluntary participation in the program, the health plans provided data for quality indicators for the years 2010–2012 that were then aggregated into the national set. Data provided by the health plans were anonymous and did not include any personal identifiers, ensuring confidentiality.

Population

The report is based on information for the insured population in the health plans. All information originated in the computer databases of each of the health plans. Data were missing for a small percentage of the population (0.7%) who are not included in this report. Additionally, members with incomplete membership in a given health plan during the study period are not included in the report. This group includes those who switched health plans within a measurement year. In 2012, approximately 73,000 people (0.9% of insured persons in 2012) switched health plans.^{14,15} Soldiers are not included in the report demographic; however, this only affects rates for the age group 18–24 years. Aside from these exceptions, the report includes the entirety of Israel's population, approximately 7.41 million people. It is important to note that many indicators assess the quality of care provided by the general practitioner and data are therefore limited to those with clinic visits. A recent study by Clalit Health Services has shown, however, that the majority of insured individuals visit their family doctor regularly, with over 90% of insured patients having at least one annual visit and 97% with at least one visit within a five-year period.¹⁶

Collecting and reporting data for the entire insured population in Israel enables the assessment and monitoring of the quality of healthcare for smaller sub-groups, identified by age, gender, and socio-economic status.

Characteristics

Indicators are presented as rates for the overall population over the three-year measurement period, as well as categorized into relevant sub-groups such as sex, age, and socio-economic status. Socio-economic status is the basis for entitlement to exemption or reduction in the payment of deductibles or copayment for health services. Data provided by the health plans for 2012 indicates that the exempt population includes approximately 11.2% of the entire insured population. This rate has been stable over the course of the three years presented in this report. Exemption privileges are determined in paragraph 8 of the NHI law and these criteria are updated periodically. Throughout the measurement period a full or partial exemption is based on a number of criteria, including National Insurance (*Bituah Leumi*) stipend privileges, such as the pension stipend and dependent's pension, large family stipend, and so forth. For the purpose of this report, exempt or partially exempt individuals are referred to as the "exempt" population.

Work Plan

The preparation of this report included the following stages:

1. Indicators included in the report and indicator specifications

This report includes most indicators presented in the 2008–2010 report.³ However, definitions for calculating the numerator and denominator of a number of indicators were updated in order to increase the validity and reliability of the indicators. Two indicators were added and two others were removed, as specified below. A comprehensive change was made in diabetes mellitus indicators.

Updated indicators: The required documentation of height for all BMI was changed to one measurement after age 18 years. Indicators relating to documentation of cholesterol rates were updated to include the measurement of non-HDL cholesterol when reliable cholesterol documentation was unavailable. The classification of all indicators relating to diabetes mellitus was changed to include a definition based on laboratory testing in addition to the purchase of medication. The indicator relating to glycemic control is presented as a single indicator for the first time in this report; however, the indicator lists specific target control levels for different groups based on age and duration of diabetes. The quality indicator for eye examination for individuals with diabetes mellitus was stratified based on the duration of

the diabetes. The target for blood pressure control in individuals with diabetes mellitus was also updated.

Addition/omission of indicators: Two indicators relating to secondary prevention of cardiovascular disease were omitted from this report: indicators examining treatment with angiotensin converting enzyme inhibitor or angiotensin-receptor blockers (ARB/ACEI) medications and beta-blockers. The indicators were removed because the use of these medications is not recommended for all individuals with cardiovascular disease, but only for individuals with congestive heart failure, a diagnosis that cannot be derived based on the currently available computerized medical records. The report also includes a number of new indicators. In the area of health promotion, a quality indicator of smoking status is now reported and for diabetes mellitus, a measure of the assessment of urinary protein in individuals was reinstated.

2. Indicator specification updating

Identification of the denominator population, i.e., those with a disease or disorder, is based on the purchase of medications, or laboratory testing, or the billing of a procedure. (This specification is a result of issues related to data and diagnostic uniformity between health plans that rely, among other things, on the quality and availability of information passed from hospitals.) A comprehensive database that includes all relevant medications and procedures is utilized and continuously updated for the relevant measurement period.

3. Data auditing

Data from each health plan are examined at three levels: an internal data audit is conducted within each health plan, a data audit is performed by the program's directorate, and the health plans and program directorate undergo an external process audit by a certified external auditor. The objective of the audits is to ensure a high level of consistency between health plans' data. The administrative evaluation includes logic checks, subgroup analyses, and an evaluation of trends over time. The external evaluation focuses on the production process and indicator construction within each health plan, as well as processes for creating indicators for the entire population. Throughout the auditing process, methodologies, control processes, documentation, and lessons learned were examined. This approach enables continuous improvement in indicator reporting. Subjects that are emphasized in this report include examining a variety of sources of information in each health plan (laboratories, medical record, pharmacies) and an in-depth study of medication-based measures using the classification of the Anatomical Therapeutic Chemical (ATC).

4. Validation of Findings

Health surveys, such as those from the Central Bureau of Statistics, and consultations with experts are used to validate the results.

5. Creating a Database for Findings

The full report is prepared in two formats: a written report and an online report (<http://healthindicators.ekmd.huji.ac.il>). The written report presents information for 34 indicators in seven areas for 2010–2012. Measure specifications, including rationale and numerator and denominator specifications are reported. Indicator rates are presented graphically illustrating time trends and comparisons by age, sex, and exemption status. Results are also presented in tabular form for: (1) age group and years, (2) age group and gender (2012 data only), and (3) age group and exemption status (2012 data only).

Data Quality

This report is based on data from the entire population, not a representative sample. Thus the data presented here are not susceptible to sampling error. However, other sources of error are possible.¹⁷ The method created for data collection includes an extensive evaluation program intended to minimize the chance of various errors, including differences between health plans in documentation and coding of their insured population's characteristics, and is based on recommendations noted in the US Agency for Healthcare Research and Quality report entitled, *Methodological Considerations in Generating Provider Performance Scores for Use in Public Reporting*.⁸ This method has certainly led to fewer errors, but is unable to eliminate them entirely. Therefore, small changes in data among a given group (age or gender) over various years should be considered with caution.

Results

Quality Indicators in Community Healthcare in Israel, 2012

Measure	Rate
Health Promotion	
Body mass index (BMI) documentation for adults (ages 20-64 years)	86.5%
Body mass index (BMI) documentation for adults (ages 65-74 years)	81.2%
Smoking status documentation (ages 16-70 years)	79.8%
Cancer screening	
Breast cancer screening – mammography (women, ages 51-74 years)	68.4%
Colon cancer screening (ages 50-74 years)	54.1%
Child and adolescent health	
Anemia screening for infants	79.9%
Documentation of body mass index (BMI) for children (age 7 years)	70.0%
Documentation of body mass index (BMI) for adolescents (ages 14-18 years)	72.5%
Immunizations for older adults	
Influenza vaccination for older adults (ages 65+ years, seasonal)	60.1%
Pneumococcal vaccination for older adults (ages 65-72 years)	71.6%
Asthma	
Prevalence of persistent asthma (ages 5-44 years)	0.71%
Use of appropriate asthma control medication for individuals with persistent asthma (ages 5-44 years)	79.4%
Influenza vaccination for individuals with persistent asthma (ages 5-44 years)	39.6%
Cardiovascular health	
Documentation of cholesterol levels (ages 35-54 years)	86.7%
Documentation of cholesterol levels (ages 55-74 years)	77.5%
Assessment of cholesterol levels (ages 35-54 years)	91.7%
Assessment of cholesterol levels (ages 55-74 years)	92.3%
Documentation of blood pressure measurement (ages 20-54 years)	91.3%

Documentation of blood pressure measurement (ages 55-74 years)	80.6%
Statin use after coronary artery bypass surgery and/or interventional cardiac catheterization (ages 35-74 years)	83.7%
Assessment of cholesterol levels after coronary artery bypass surgery and/or interventional cardiac catheterization (ages 35-74 years)	72.2%

Diabetes

Prevalence of diabetes mellitus	6.5%
Documentation of hemoglobin A1c levels for individuals with diabetes mellitus	88.9%
Assessment of adequate control of hemoglobin A1c for individuals with diabetes mellitus (ages 0-84 years)	63.1%
Assessment of inadequate control of hemoglobin A1c for individuals with diabetes mellitus	12.5%
Documentation of eye care for individuals with diabetes mellitus	76.7%
Documentation of urinary protein for individuals with diabetes mellitus (ages 18+ years)	75.4%
Documentation of blood pressure measurement for individuals with diabetes mellitus (ages 18+ years)	89.6%
Assessment of blood pressure measurement for individuals with diabetes mellitus (ages 18+ years)	83.4%
Documentation of cholesterol levels for individuals with diabetes mellitus	90.4%
Assessment of cholesterol levels for individuals with diabetes mellitus	63.8%
Documentation of body mass index (BMI) for individuals with diabetes mellitus (ages 18+ years)	86.6%
Influenza vaccination for individuals with diabetes mellitus (ages 5+ years)	57.3%
Pneumococcal vaccination for individuals with diabetes mellitus (ages 65-72 years)	80.0%

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