



A Quality Assessment of medical care among Patients with Type 2 Diabetes and/or Hypertension at hospitals under Ministry of Public Health and Bangkok Metropolitan Administration in Thailand in 2011

Subject ID number

Hospital ID number

Type of clinic

- ☐ 1. Diabetic Clinic
- ☐ 2. Hypertension Clinic
- ☐ 3. Diabetic and Hypertension Clinic
- ☐ 4. General Medicine Clinic (Gen. Med.)
- ☐ 5. General Practice Clinic/ Family Medical Clinic/Social security clinic
- ☐ 6. Other Clinic, please specify

Part 1 General information (Item 1 - 9)

- 1 Gender ☐ 1. Male ☐ 2. Female
- 2 Age years (birth year) (20-99 years)
- 3 Occupational (present)
- | | |
|---|--|
| <input type="checkbox"/> 1. Farmer or farm worker | <input type="checkbox"/> 2. Government employee |
| <input type="checkbox"/> 3. Trader or Merchant | <input type="checkbox"/> 4. State Enterprise Employee |
| <input type="checkbox"/> 5. Private corporation officer | <input type="checkbox"/> 6. Labor (include day labors) |
| <input type="checkbox"/> 7. Student | <input type="checkbox"/> 8. Housekeeper or unemployed person |
| <input type="checkbox"/> 9. Self-Employed/Own Business | <input type="checkbox"/> 10. Monk/nun/priest |
| <input type="checkbox"/> 11. Retired Government employee | <input type="checkbox"/> 12. Other, please specify..... |
| <input type="checkbox"/> 13. Data not available in the medical record | |
- 4 Religion
- | | | |
|---|-----------------------------------|--|
| <input type="checkbox"/> 1. Buddhism | <input type="checkbox"/> 2. Islam | <input type="checkbox"/> 3. Christianity |
| <input type="checkbox"/> 4. Other please specified <input type="checkbox"/> 5. Data not available in the medical record | | |
- 5 Health care financing
- | | |
|--|--|
| <input type="checkbox"/> 1. Universal coverage scheme | |
| <input type="checkbox"/> 2. Government or state enterprise officer | |
| <input type="checkbox"/> 3. Social security scheme | <input type="checkbox"/> 4. State enterprise officer |
| <input type="checkbox"/> 5. Out of pocket | <input type="checkbox"/> 6. Disabled, veteran, elderly, leader community |
| <input type="checkbox"/> 7. Social security (local administrative) | <input type="checkbox"/> 8. Other please specify |
- 6 Present diagnosis (choose only one answer)
- ☐ 1. Only diabetes Mellitus (go to part 2 of questionnaires)
- ☐ 2. Only hypertension (go to part 3 of questionnaires)
- ☐ 3. Both diabetes mellitus and hypertension (go to part 2 and part 3 of questionnaires)
- 7 Recent weight Kg ☐ Data not available in the medical record
- 8 Recent height Cm ☐ Data not available in the medical record

Part 2 Diabetes mellitus indicators (questions 9-35)

Duration of treatment in this hospital

☐ 1. ≥ 12 months ☐ 2. < 12 months (excluded from the study no further data collection)

Date diagnosis of DM was made in 25 ☐ Data not available in the medical record

Type of patient ☐ 1. Routine follow up treat at this hospital ☐ 2. Referral from PCU

Last follow up visit date (dd/mm/yyyy) //255

9. Fasting plasma glucose test ;FPG (Not DTx) during the last 12-month follow up period

1) Last test: .mg/dL result test date //255

2) Test before the last test .mg/dL result test date //255

☐ 1. No test before last test ☐ 2. No, test was not done

10. Fasting capillary blood glucose test (DTx) during the last 12-month follow up period

mg/dL date //255 ☐ No, test was not done

11. Hemoglobin A1C test during the last 12 month follow up period

. % date //255 ☐ No, test was not done

12. Serum creatinine during the last 12-month follow up period

. mg/dL date //255 ☐ No, test was not done

13. Serum BUN during the last 12-month follow up period

. mg/dL date //255 ☐ No, test was not done

14. Serum potassium (K) during the last 12 month follow up period

. mmol/L date //255 ☐ No, test was not done

15. Serum uric acid during the last 12-month follow up period

. mmol/L date //255 ☐ No, test was not done

16. Glomerular Filtration Rate (GFR) during the last 12-month follow up period

☐ 1. No, test was not done

☐ 2. Yes, mL/minute/1.73 m³ date /255

GFR calculation formula (if yes Calculated-GFR in item 16) (choose only one answer)

☐ 1. Cockcroft-Gault ☐ 2. MDRD ☐ 3. CKD-EPI 2009 ☐ 4. Not known

17. Serum lipid profile test during the last 12-month follow up period

Total cholesterol mg/dL date /255 ☐ No, test was not done

Triglyceride mg/dL date /255 ☐ No, test was not done

HDL-cholesterol mg/dL date /255 ☐ No, test was not done

LDL-cholesterol mg/dL date /255 ☐ No, test was not done

Type of LDL-Cholesterol ☐ Result cannot be calculate due to high level of serum Triglyceride (TG ≥ 400)

☐ 1. Direct measurement (measured-LDL or Direct-LDL)

☐ 2. Calculated-LDL

☐ 3. Not known

18. Blood pressure during the last 12-month follow up period

18.1) last measurement result mmHg date /255

18.2) measurement before the last measurement result mmHg

date /255

19. Anticoagulant medication during the last 12-month follow up period

☐ 1. No medication; reason

☐ 1.1 GI bleeding ☐ 1.2 Bleeding in other organ, please specified

☐ 1.3 Other, please specified..... ☐ 1.4 Data not available in the medical record

☐ 2. Yes, last prescribed date (dd/mm/yyyy) /255

Drug name (choose only one answer) was

☐ 2.1 only aspirin ☐ 2.2 only clopidogrel (Plavix®, Pidogen®, Apolets®)

☐ 2.3 both aspirin and clopidogrel

20. Acute complication of diabetes mellitus during the last 12-month follow up period

- ☐ 1. Yes, acute complication (s) was/were (*can be more than one complications*)
- ☐ 1.1 Hypoglycemia
- ☐ 1.2 Hyperglycemia, not specified
- ☐ 1.3 Hyperglycemia ,diabetic ketoacidosis; DKA
- ☐ 1.4 Hyperglycemia ,hyperosmolar non-ketotic hyperglycemic syndrome; HNHS
- ☐ 2. No acute complication of diabetes mellitus (skip to question 22)

21. Hospitalization due to acute DM complication during the last 12-month follow up period

- ☐ 1. Yes, Admit in hospital
- ☐ 1.1 Admitted in this hospital
- ☐ 1.2 Admitted in other hospital; please specified
- ☐ 1.3 Referred to other hospital; please specified
- ☐ 2. No hospitalization.

22. Urin Albumin or protein test during the last 12-month follow up period

- ☐ 1. No, test was not done or data not available in the medical record
- ☐ 2. No, test was not done; the patient has been diagnosed, diabetic nephropathy; DN
- ☐ 3. Yes, (depend on local laboratory) , last test date /255

If yes, please specified (check it all apply)

Case I Urine dipstick/UA: result ☐ 1. Negative ☐ 2. positive (Macroproteinuria)

Case II Microalbuminuria dipstick: result ☐ 1. Negative ☐ 2. positive (≥ 20 mg/L)

Case III Morning urine for Alb/Cr Ratio: result ☐ 1. < 30 mg/g ☐ 2. 30 - 299 mg/g ☐ 3. ≥ 300 mg/g

Case IV Urine Albumin . mg/L (mg%)

. to . g/L

. to . mg/24 hrs

23. Has the patient diagnosed Diabetic Nephropathy (DN) during the last 12-month follow up period

- ☐ 1. No ☐ 2. Yes ☐ 3. Data not available in the medical record

24. ACEI or ARB medication during the last 12-month follow up period

- ☐ 1. No; reason (check all that apply)
- ☐ 1.1 Creatinine > 3 mg/dL ☐ 1.2 Hyperkalemia (K > 5.0 mmol/L)
- ☐ 1.3 Creatinine rising ☐ 1.4 Other please specify.....
- ☐ 1.5 Data not available in the medical record
- ☐ 2. Yes, last prescribed date (dd/mm/yyyy) /255

25. Full ophthalmoscopy during the last 12-month follow up period

- ☐ 1. Data not available in the medical record
- ☐ 2. Not done
- ☐ 3. Yes, last examination date (dd/mm/yyyy) /255
- If yes;
- 1) What was examination method
- ☐ 1. Ophthalmoscopy by ophthalmologist (by to question 26)
- ☐ 2. Fundus photography by well trained health care personal (Nurse / specialist) confirmation)
- 2) If checkup via fundus camera
- ☐ 1. No/Not known/No report ☐ 2. Not sent to ophthalmologist for review

26. Has the patients been diagnosed diabetic retinopathy;DR by physician during the last 12-month follow up period

- ☐ 1. No, (include normal fundus photograph performed by a well trained health care personal)
- ☐ 2. Yes, (diagnosis must be confirmed by a physician only)
- ☐ 2.1 Non-proliferative diabetic retinopathy (NPDR)
- ☐ 2.2 Proliferative diabetic retinopathy (PDR)
- ☐ 2.3 Diabetic macular edema
- ☐ 2.4 not know or do not specify
- ☐ 3. Data not available in the medical record

27. Oral examination by dentist or well trained health care personal during the last 12-month follow up period

- ☐ 1. Data not available in the medical record
- ☐ 2. Not done
- ☐ 3. Yes, last examination date (dd/mm/yyyy) /255

28. Foot examination during the last 12-month follow up period

1) foot skin examination	<input type="checkbox"/> 1. No	<input type="checkbox"/> 2. Yes; examination date <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / 255 <input type="text"/>
<i>foot ulcer</i>	<input type="checkbox"/> 1. Normal, no ulcer	<input type="checkbox"/> 2. Abnormal (inflammation/ swelling/ dry gangrene)
2) foot deformities	<input type="checkbox"/> 1. No	<input type="checkbox"/> 2. Yes; examination date <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / 255 <input type="text"/>
<i>result</i>	<input type="checkbox"/> 1. Normal	<input type="checkbox"/> 2. Any Foot deformities
3) foot sensory testing	<input type="checkbox"/> 1. No	<input type="checkbox"/> 2. Yes; examination date <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / 255 <input type="text"/>
<i>result</i>	<input type="checkbox"/> 1. Normal	<input type="checkbox"/> 2. Any neuropathy
4) Peripheral vascular examination	<input type="checkbox"/> 1. No	<input type="checkbox"/> 2. Yes; examination date <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / 255 <input type="text"/>
<i>result</i>	<input type="checkbox"/> 1. Normal	<input type="checkbox"/> 2. Abnormal, no pulse at least one peripheral artery

29. Self-foot care education for patient / family during the last 12-month follow up period

☐ 1. No ☐ 2. Yes, education date / / 255

30. Toe/foot/leg amputation during the last 12-month follow up period

☐ 1. No (go to question 32) ☐ 2. Yes

31. If yes, site of Amputation (check all that apply)

☐ 1. Toe ☐ 2. Foot ☐ 3. Leg

Level of leg amputation → ☐ 3.1 Above Knee (AKA)

→ ☐ 3.2 Below Knee (BKA)

32. Smoking, during the last 12-month follow up period

☐ 1. Never smoke (go to question 34) ☐ 2. Continuous smoking
☐ 3. Quit smoking (go to question 34) ☐ 4. No data available (go to question 34)

33. Smoking counseling or smoking cessation program during the last 12-month follow up period

☐ 1. No / No data available
☐ 2. Yes, counseling program start date (day/month/year) / / 255

34. Anti-diabetic medication during the last 12-month follow up period

☐ 1. Only oral hypoglycemic agents
☐ 2. Only insulin sensitizer
☐ 3. Both of oral hypoglycemic agent and insulin sensitizer
☐ 4. No medication (diet, reducing body weight, exercise)
☐ 5. Other; please specify.....

35. Chronic complication of diabetes mellitus during the last 12-month follow up period

Chronic complication of diabetes mellitus	<u>Yes, Within</u> <u>12 months</u>	<u>Yes,</u> <u>> 12</u> <u>months</u>	NO	No data available in medical record
1. Cerebrovascular accident; <i>CVA</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Cerebral infarction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Ischemic <i>stroke</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Hemorrhagic <i>stroke</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Stroke, not specified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Cerebral hemorrhage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Transient ischemic attack; <i>TIA</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Angina pectoris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Congestive heart failure; <i>CHF</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Myocardial infarction; <i>MI</i> included ischemic heart Disease; <i>IHD</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Coronary revascularization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Peripheral arterial Disease, PAD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Diabetic retinopathy; DR (from question 26)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Diabetic nephropathy, DN (from question 22-23)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Renal insufficiency (ARF, CRI, CKD, ESRD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Peripheral neuropathy (including; painfule neuropathy, autonomic neuropathy, neurogenic bladder)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part 3 Hypertension indicators (question 36 - 41)

Duration of treatment in this hospital

☐ 1. ≥ 12 months ☐ 2. < 12 months (excluded from the study no further data collection)

Date diagnosis of HT was made in 25 ☐ Data not available in the medical record

Type of patient ☐ 1. Routine follow up treat at this hospital ☐ 2. Referral from PCU

Last follow up visit date (dd/mm/yyyy) //255

36. Blood pressure during the last 12 month follow up period

36.1) last measurement result / mmHg date //255

36.2) measurement before the last measurement result / mmHg
date //255

37. Smoking within 12 months

☐ 1. Never smoke (go to question 39) ☐ 2. Continuous smoking
☐ 3. Quit smoking (go to question 39) ☐ 4. No data available (go to question 39)

38. Smoking, during the last 12-month follow up period

☐ 1. No / No data available
☐ 2. Yes, counseling program start date (day/month/year) //255

39. Last fasting plasma glucose test ; FPG (no DTx) during the last 12-month follow up period

☐ 1. Not done
☐ 2. Yes, result mg/dL result test date date //255

40. Laboratory test during the last 12-month follow up period

Lab test	Not done	Yes	Result	Test date (day/month/year)
1) Serum creatinine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> . <input type="text"/> mg/dL	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>
2) Serum potassium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> . <input type="text"/> mmol/L	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>
3) Serum uric acid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> . <input type="text"/> mg/dL	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>

40. Laboratory examination within 12 months (lasted) continued

Lab test	Not done	Yes	Result	Test date (day/month/year)
4) Total Cholesterol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg/dL	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>
5) Triglyceride	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg/dL	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>
6) HDL Cholesterol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg/dL	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>
7) LDL- Cholesterol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mg/dL	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>

Type of LDL-Cholesterol ☐ Result cannot be calculate due to high level of serum Triglyceride ($TG \geq 400$)

☐ 1. Direct measurement (measured-LDL or Direct-LDL)

☐ 2. Calculated-LDL ☐ 3. Not known

8) Estimated GFR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> mL/minute/1.73	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>
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GFR calculation formula (choose only one answer)

☐ 1. Cockcroft-Gault ☐ 2. MDRD ☐ 3. CKD-EPI 2009 ☐ 4. Not known

9) Hemoglobin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> . <input type="text"/> g/dL	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>
10) Hematocrit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> %	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>
11) Urine Analysis (UA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>	

UA result from item (check it all apply)

- ☐ 1. Not known (to to question 12) ☐ 2. Normal (to to question 12)
- ☐ 3. RBC > 5 HPF ☐ 4. WBC > 5 HPF
- ☐ 5. Cast specified type → ☐ 5.1 Granular cast ☐ 5.2 Hyaline cast
- ☐ 6. Proteinuria → ☐ Trace ☐ 1+ ☐ 2+ ☐ 3+ ☐ 4+

12) Electrocardiogram (ECG)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> /255 <input type="text"/>
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ECG result from question 12) ☐ 1. Not known ECG (skip to item 45) ☐ 2. Normal ECG (skip to item 48)

☐ 3. Abnormal ECG (check it all apply)

☐ 3.1 Left ventricular hypertrophy : LVH ☐ 3.2 Left atrial enlargement : LAE

☐ 3.3 Atrial fibrillation : AF ☐ 3.4 other specified..... ☐ 3.5 Data available

41. Complication of hypertension during the last 12-month follow up period

Complications of Hypertension	<u>Yes,</u> <u>within 12</u> <u>months</u>	<u>Yes</u> <u>> 12</u> <u>months</u>	Not disease	Unkno wn
1. Cerebrovascular accident; <i>CVA</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Cerebral infarction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Ischemic <i>stroke</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Hemorrhagic <i>stroke</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Stroke , not specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Cerebral hemorrhage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Transient ischemic attack (<i>TIA</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Angina pectoris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Myocardial infarction; <i>MI</i> included ischemic heart disease; <i>IHD</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Congestive heart failure; <i>CHF</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Coronary revascularization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Atrial fibrillation; <i>AF</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Peripheral arterial disease; <i>PAD</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Diabetic nephropathy; <i>DN</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Renal insufficiency ; sample <i>CRI, CRE, CKD, ESRD</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Albuminuria > 300 mg ³ /day or proteinuria > 500 mg ³ /day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Other complication, please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Recorder..... date record / /255

Verifier..... date record / /255