APPENDIX

Appendix 1: Initial Checklist

Appendix 2: Revised Checklist

Appendix 2: Diabetes Guidelines

Appendix 1: Initial Checklist

خدمات الرعاية الصحية المنزلية
Home Healthcare Services

Patient HC No.
Patient name:
D.O.B. /Age:
Gender:
Nationality:

Check List For Monitoring Of Diabetic Patients In Home Healthcare Services

	Tests	Date	Result	Due Date	Date	Result	Due Date	Date	Result	Due Date	Date	Result	Due Date	Date	Result	Due Date
ONCE A YEAR	LDL*															
	Urine Microalbumin/protein															
	Creatinine															
	Eye examination															
	Foot examination															
	Weight															
ONCE IN 6 MONTH	HBA1C*															
COUNSELED FOR SMOKING CESSATION	Smoker Yes ☐ No ☐	If smoker, counseled for smoking Yes ☐ No ☐			If smoker, counseled for smoking Yes ☐ No ☐			If smoker, counseled for smoking Yes ☐ No ☐			If smoker, counseled for smoking Yes ☐ No ☐			If smoker, counseled for smoking Yes ☐ No ☐		
SIGNATURE		Nurse:			Nurse:			Nurse:			Nurse:			Nurse:		
		Physician:			Physician:			Physician:			Physician:			Physician:		

*Once in 3-4 months if not controlled

Appendix 2: Revised Checklist

خدمات الرعاية الصحية المنزلية
Home Healthcare Services

Patient HC No.
Patient Name:
D.O.B. / Age:
Gender:
Nationality:

Check List For Monitoring Of Diabetic Patients In Home Healthcare Services

History of Atherosclerotic Cardiovascular Disease (ASCVD)		☐ Yes Coronary artery disease (CAD) /Stroke/ Peripheral Vascular Disease(PVD)									☐ No		
On Anti-platelet/Anti-coagulant		☐ Yes(Aspirin/Clopidogrel/Warfarin)									☐ No		
Test		Date	Result	Due Date	Date	Result	Due Date	Date	Result	Due Date	Date	Result	Due Date
Once a year	Low-density lipoprotein(LDL)*1												
	Urine Microalbumin/$_{Protein}$ 2												
	Creatinine *												
	Eye Examination 3												
	Foot Examination												
Once in 6 months	HBA1C												
Counselling for smoking cessation	Smoker Yes ☐ No ☐	If Smoker, counseled for smoking Yes ☐ No ☐			If Smoker, counseled for smoking Yes ☐ No ☐			If Smoker, counseled for smoking Yes ☐ No ☐			If Smoker, counseled for smoking Yes ☐ No ☐		
Signature		Nurse:			Nurse:			Nurse:			Nurse:		
		Physician:			Physician:			Physician:			Physician:		

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1 Low risk lipid profile (LDL<2.58 mmol/L) shall be checked every 2 years

2 Not applicable for older adults with limited life expectancy or those on ACE/ARBS

3 Not applicable for older adults with limited life expectancy, poor quality of life or who are blind

HBA1C Monitoring:

1. Every 12 months shall be done for older adults who are stable over 2years
2. Every 6 months and as needed shall be done for adults whose targets are not being met

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1.0 PURPOSE (AIM):

1.1 To coordinate and provide standardized multidisciplinary care for HHCS patients with diabetes mellitus.

1.2 To provide clinicians with the evidence based components of diabetes care and management, general treatment ways and goals to evaluate the quality of care.

2.0 DEFINITIONS:

2.1 Criteria for the Diagnosis of Diabetes:

2.1.1 Hemoglobin A1C (HbA1C) ≥ 6.5%

2.1.2 Or fasting plasma glucose ≥ 126 mg/dl (7.0 mmol/L) after 8 hours fasting.

2.1.3 Or patient with classic symptoms of hyperglycemia and with a random plasma glucose ≥ 200 mg/dl (11.1 mmol/L).

2.1.4 Hyperglycemia crisis(Diabetic ketoacidosis (DKA) and the hyperosmolar hyperglycemic state (HHS)).

3.0 APPLIES TO:

3.1 All Physicians, nurses, diabetic educators, dietitian, clinical pharmacists and podiatrist.

4.0 PATIENT GROUP:

4.1 Adult patients with Diabetes mellitus type 1 and type 2

5.0 EXCEPTIONS:

5.1 Short term admission (for one (1) month) i.e: Low Segment Cesarean Section (LSCS) and IV therapy

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6.0 Principles for care of adults with DM:

6.1 Physicians shall establish target outcomes as well as periodic monitoring of diabetic patients in collaboration with other health care providers, patients, families or care givers and document in the patient file.

6.1.1 If the documented goals are not being met, the patient shall be re-evaluated.

6.2 Treatment Goals:

6.2.1 Treatment goals for Healthy diabetic patients(conscious-oriented-having good functional status and quality of life and life expectancy ≥ 5 years):

6.2.1.1	HBA1c	:	7% - 7.5%
6.2.1.2	Fasting pre-prandial glucose	:	5.0 to 7.2mmol/L
6.2.1.3	Bedtime glucose	:	5.0 to 8.33mmol/L
6.2.1.4	Blood pressure (B.P)	:	‹ 140/80mmHg

6.2.2 Treatment goals for Complex or Intermediate patient group (Older adults with few comorbidities)

6.2.2.1	HBA1c	:	7.5% - 8.0%
6.2.2.2	Fasting pre-prandial glucose	:	5.0 to 8.33mmol/L
6.2.2.3	Bedtime glucose	:	5.5 to 10 mmol/L
6.2.2.4	Blood pressure	:	‹ 140/90mmHg

6.2.3 Treatment goals for very complex/poor health patients(Multiple comorbidities poor health –bed ridden and limited life expectancy)

6.2.3.1	HBA1c	:	8% - 9%
6.2.3.2	Fasting pre-prandial glucose	:	5.5 to 10 mmol/L
6.2.3.3	Bedtime glucose	:	6.1 to 11.11 mmol/L
6.2.3.4	Blood pressure	:	‹ 150/90mmHg

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7.0 Evidence –based Components of Care:

7.1 Anti-platelet use

7.1.1 Adult who has DM and known Atherosclerotic Cardiovascular Disease (ASCVD), daily aspirin therapy 81 to 325 mg/day is recommended unless contraindicated or the patient is taking other anti-coagulants.

7.1.2 For adults aged 80 years and older, aspirin shall be used with caution.

7.2 Smoking

7.2.1 Adults with DM who smoke shall be assessed for readiness to quit and shall be offered counseling and referred to smoking cessation clinic.

7.3 Hypertension

7.3.1 Target B.P shall be less than 140/90 mmHg if it is tolerated, all efforts shall be done to keep diabetic patient's B.P on target to prevent macrovascular complications. .

7.3.2 Every effort shall be made to maintain patient on active Angiotensin-Converting Enzyme Inhibitor (ACEI) or Angiotensin-Receptor Blockers (ARBs)-unless contraindicated -due to their effectiveness in reducing cardiovascular morbidity and mortality as well as their renal benefit.

7.3.3 Adults with DM who are on active ACEIs, ARBs or diuretics shall have their serum electrolytes and kidney functions monitored after 1 to 2 weeks of initiation of therapy, with each dosage increase, and at least yearly.

7.4 Nephropathy screening

7.4.1 Initial screening for albuminuria shall be performed for diagnosis of type 2 DM and then annually.

7.4.2 There is no need for screening for micro albuminuria in older adults with limited life expectancy and patients who are on ACEIs or ARBs.

7.5 HbA1c Monitoring

7.5.1 For adults with stable HbA1c over two (2) years, monitoring every 12 months shall be done.

7.5.2 Adults with DM whose individual targets are not being met shall have their HbA1c levels measured at least every 6months and more frequently if needed.

7.6 Lipids

7.6.1 All diabetic patients with known history of ASCVD events shall be on statin therapy for secondary prevention-unless contraindicated-or the patient has limited life expectancy.

7.6.1.1 All patients aged 75 or younger – High intensity statin recommended,

7.6.1.2 Older than 75 - Moderate intensity statin recommended.

7.6.2 Non-pharmacological therapy; medical nutrition therapy and increased physical activity unless contraindicated shall be offered for all adults with DM for primary prevention of ASCVD events for patients younger than 75 years old Pharmacological therapy with statin for prevention of Atherosclerotic cardiovascular disease.

7.6.3 High intensity statin recommended for primary elevation of Low Density Lipoprotein-C (LDL-C) greater than 4.9 mmol/L regardless of age.

7.6.4 In most persons with DM, measurement of a fasting lipid profile is recommended at least annually and more frequently if targets are not being met.

7.6.5 Patients with low risk lipid value (LDL< 2.58 mmol/L; High Density Lipoprotein (HDL)>1.29 mmol/L; Triglyceride (TG)<1.69 mmol/L) shall have lipid checked every 2 years.

7.6.6 Older adults with DM who are newly prescribed a statin shall have liver function tests measured before treatment with the new medications begins and if needed thereafter.

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7.7 Eye Care

7.7.1 Newly diagnosed patients with DM shall be referred to eye care specialist for fundoscopy initially and then annually for high risk patients with cataracts, glaucoma or eye disease.

7.7.2 Not applicable for patients who are blind or those with limited life expectancy (Bed ridden and multiple comorbidities).

7.8 Foot care

7.8.1 All patients with DM shall have regular foot examination on each home visit and shall be referred to podiatrist if needed.

7.8.2 Refer to HHCS Diabetes Foot Care Pathway.

7.9 Depression

7.9.1 Adults with DM shall be screened for depression by HHCS physician if there is any unexplained decline in clinical status.

7.10 Medication Review

7.10.1 Epidemiological evidence shows that medications may contribute to or exacerbate falls, depression, urinary incontinence or cognitive impairment alone or through drug-drug or drug-disease interactions.

7.10.2 HHCS staff shall update the medication list by doing appropriate medication reconciliation during each home visit and file review to be done by clinical pharmacist as per medication management policy of HHCS.

7.10.3 Family shall be advised to take the updated medication list with them during hospital visits or travelling abroad.

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7.11 Cognitive Impairment

7.11.1 Physicians shall assess older adults with DM for cognitive impairment during home visits using Mini-Cog scale if there is no documented evidence of dementia or depression

7.11.2 Lab investigation as vitamin B12, folic acid, TFT level shall be done before Mini-Cog scale to exclude reversible causes of Cognitive Impairment

7.12 Urinary incontinence

7.12.1 Older adults with DM shall be evaluated for symptoms of urinary incontinence during home visit. Further evaluation shall be done by physician if necessary.

7.13 Falls

7.13.1 Adults with DM shall be assessed for risk of falls by the use of HHCS fall risk assessment tool as per Fall Prevention and Management Guidelines.

7.14 Pain assessment

7.14.1 Adults with DM shall be assessed during the initial assessment and during each home visit as per HHCS Pain Management Policy

7.15 Hypoglycemia assessment

7.15.1 Adult with DM shall be assessed for hypoglycemia symptoms with newly started or adjustment of Diabetic medication (refer to HHCS Assessment and Reassessment Policy).

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7.16 Treatment

7.16.1 Life style modifications:

7.16.1.1 Diet control: Dietician referral if needed according to referral criteria for dietician in HHCs

7.16.1.2 Medical nutrition therapy: by low carbohydrate, low fat, and high fiber diet and regular evaluation for adherence.

7.16.1.3 Exercise -Older adults with DM and normal cognitive and functional status shall perform at least 150 minutes per week of moderate intensity aerobic physical activities if tolerated and unless contraindicated.

7.16.1.1 Diabetes self-management education and support (DSME/S): Persons with DM, families and care givers shall receive DM self-management education and support with reassessment and reinforcement periodically as needed.

7.16.2 Pharmacological treatment

Patients with newly prescribed medications, patient/families/caregivers shall receive education about the indication of drug, administration, possible ADRs and side effects.

7.16.2.1 Anti-Diabetic Medications:

7.16.2.1.1 Metformin-in combination with life style therapy-is the preferred first-line antidiabetic agent. unless contraindicated in patients with an e-GFR of less than 30 ml/min per 1.73m², frequent kidney functions monitoring shall be considered for individuals with an e-GFR between 30 and 60 ml/min per 1.73m².

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7.16.2.1.2 Sulphonylureas (Gliclazide, Glimperide, Glipizide) have been associated with greater risk of hypoglycemia, Glibenclamide (Glyburide) shall generally not be prescribed to older adults with type 2 DM because of the high risk of hypoglycemia.

7.16.2.1.3 Dipeptidyl peptidase-4 inhibitors (Sitagliptin , vidagliptin ,Saxagliptin): Well tolerated with lower risk of hypoglycemia and more targeting post prandial blood glucose.

7.16.2.1.4 Meglitinides (Repaglinide): Lower risk of hypoglycemia and more targeting post prandial blood glucose

7.16.2.1.5 Alpha Glucosidase inhibitors (Acarbose): Lower risk of hypoglycemia and more targeting post prandial blood glucose

7.16.2.1.6 Thiazolidinediones (pioglitazone): Primarily targets FBG with modest decrease in postprandial glucose.

7.16.2.1.7 Insulins (Basal –Bolus-Mixed insulin) Can be used to achieve glycemic goals in selected older adults with type 2 DM with similar efficacy and hypoglycemic risk as in younger patients.

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8.0 EVIDENCE-BASED REFERENCES:

8.1 Guidelines for Improving the Care of Older Adults with DM 2013; The American Geriatric Society

8.2 Management of type 2 DM in the elderly aged ›56 years; Rumailah Hospital, Enaya Specialized Care Centre.

8.3 HHCS Diabetic Foot Care Pathway.

8.4 2013 ACC/AHA Guidelines for treatment of blood cholesterol to reduce ASCVD in adults RCTs.

9.0 ATTACHMENTS:

9.1 Addendum A – Checklist for Monitoring of Diabetic Patients in Home Healthcare Services

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Home Healthcare Services

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Patient Name:
D.O.B. / Age:
Gender:
Nationality:

Check List For Monitoring Of Diabetic Patients In Home Healthcare Services

History of Atherosclerotic Cardiovascular Disease (ASCVD) ☐ Yes Coronary artery disease (CAD) /Stroke/ Peripheral Vascular Disease(PVD) ☐ No													
On Anti-platelet/Anti-coagulant ☐ Yes(Aspirin/Clopidogrel/Warfarin) ☐ No													
Test		Date	Result	Due Date	Date	Result	Due Date	Date	Result	Due Date	Date	Result	Due Date
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	Foot Examination												
Once in 6 months	HBA1C												
Counselling for smoking cessation	Smoker Yes ☐ No ☐	If Smoker, counseled for smoking Yes ☐ No ☐			If Smoker, counseled for smoking Yes ☐ No ☐			If Smoker, counseled for smoking Yes ☐ No ☐			If Smoker, counseled for smoking Yes ☐ No ☐		
Signature		Nurse:			Nurse:			Nurse:			Nurse:		
		Physician:			Physician:			Physician:			Physician:		

*Once in 3-4 months if not controlled

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