

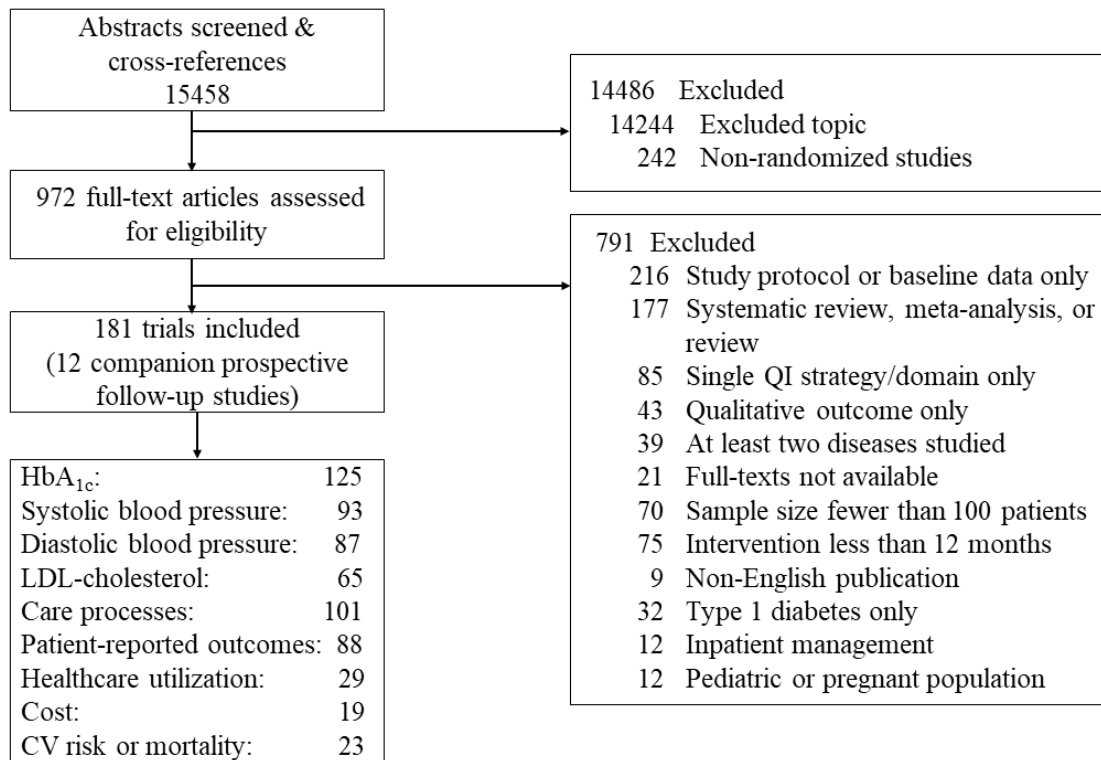
SUPPLEMENTARY DATA

**Aspects of multi-component integrated care promote sustained improvement in surrogate clinical outcomes: a systematic review and meta-analysis (Online-only supplementary materials)**

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**Supplementary Figure 1. PRISMA flow diagram of studies selection**



Footnotes: CV, cardiovascular; HbA<sub>1c</sub>, glycated hemoglobin; LDL-cholesterol, low-density lipoprotein cholesterol; QI, quality improvement.

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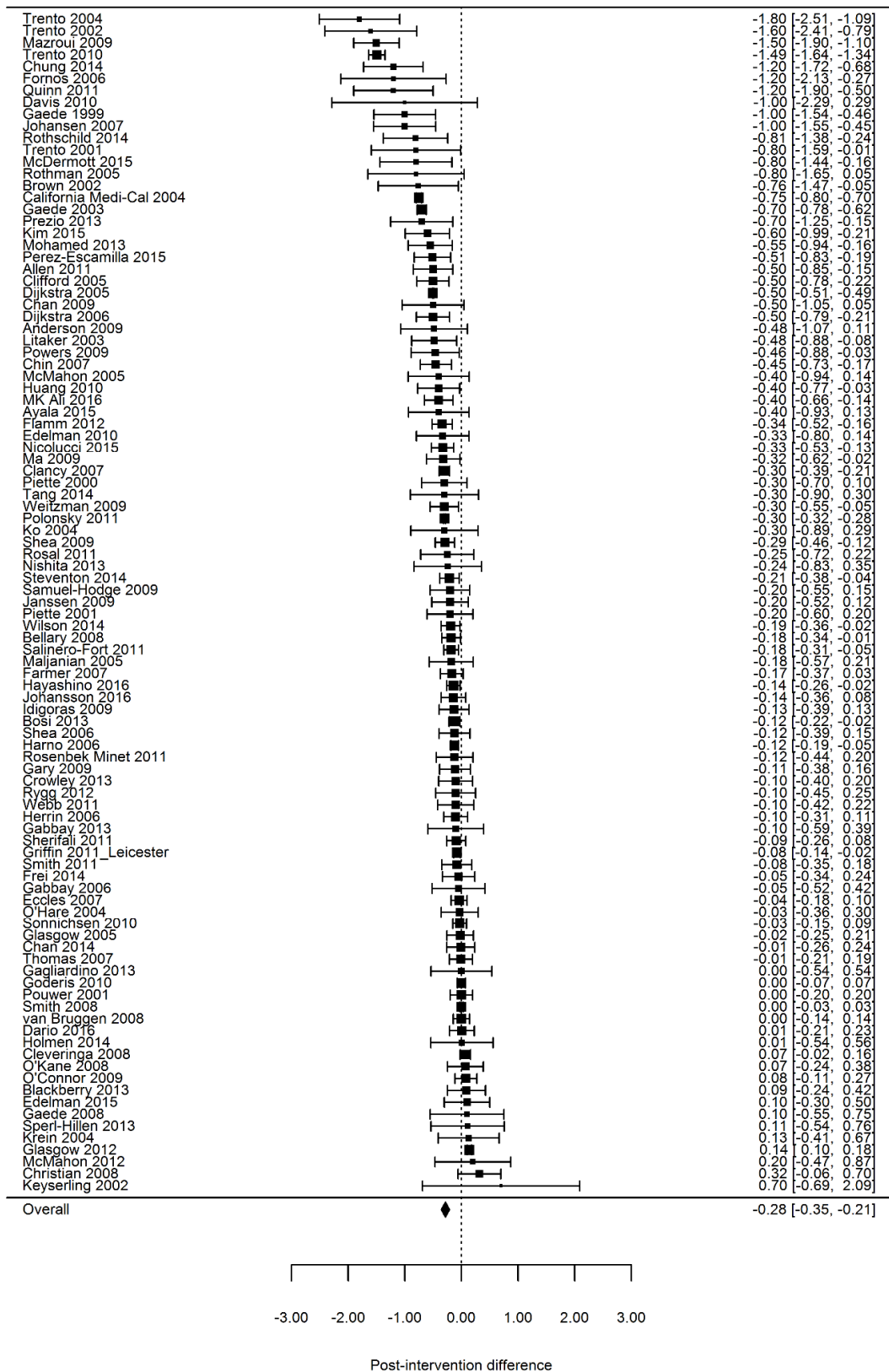
Supplementary Figure 2. Risk of bias assessment



Footnotes: Differences in risks of bias can help explain heterogeneity of trial results. Using the Cochrane Effective Practice and Organization of Care risk-of-bias tool, each trial was assessed based on seven categories of biases, which were selection bias (random sequence generation, allocation concealment, similar baseline outcome measures and characteristics), attrition bias (incomplete outcome data), performance bias (blinding of personnel and/or participants), detection bias (blinding of main and patient-reported outcomes assessments), contamination bias, reporting bias (selective outcome reporting), and other risk of bias. Each bias was classified into “high risk”, “low risk”, or “unclear risk”.

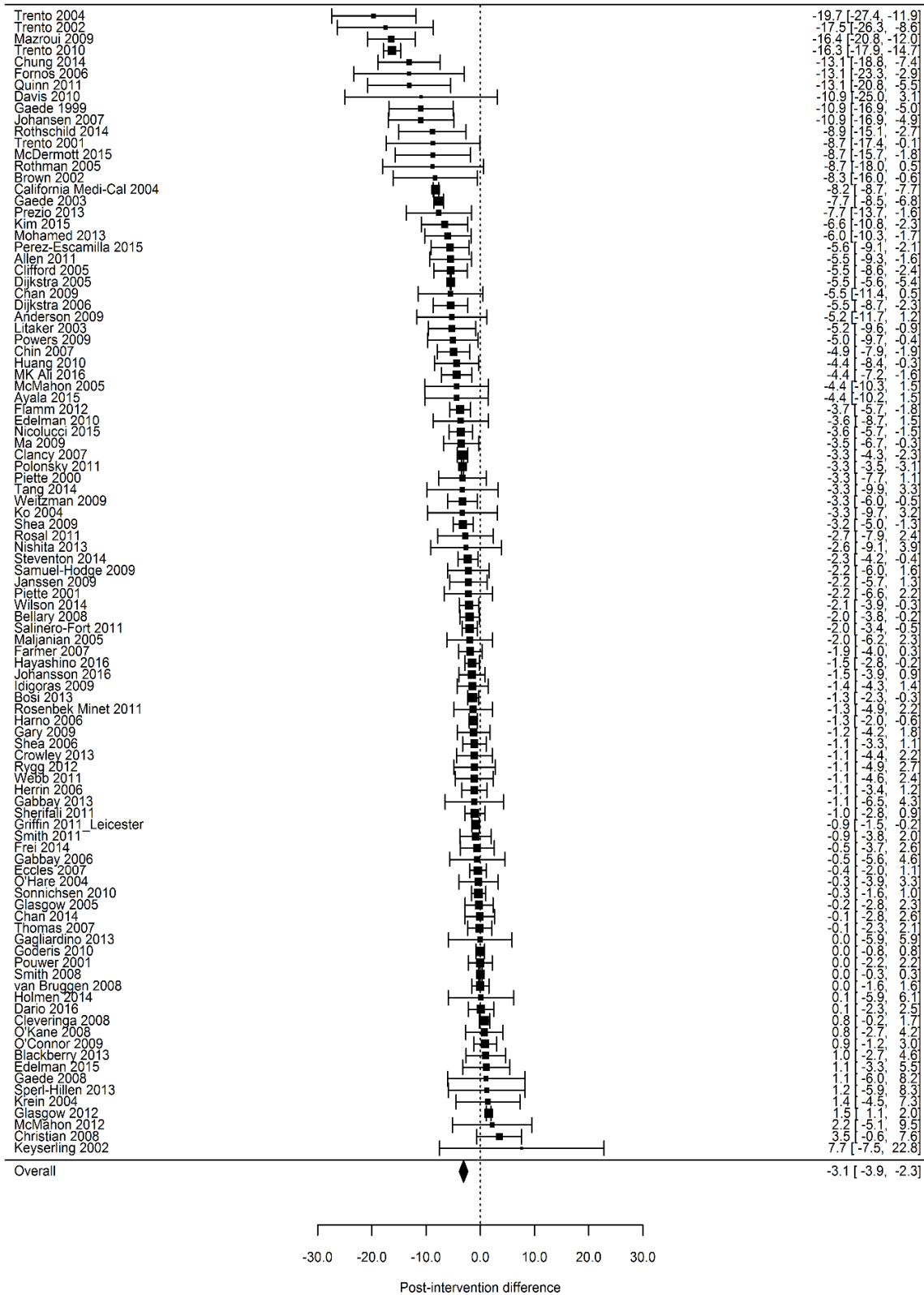
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Supplementary Figure 3. Meta-analysis results of HbA<sub>1c</sub> level of included trials (in %-unit)



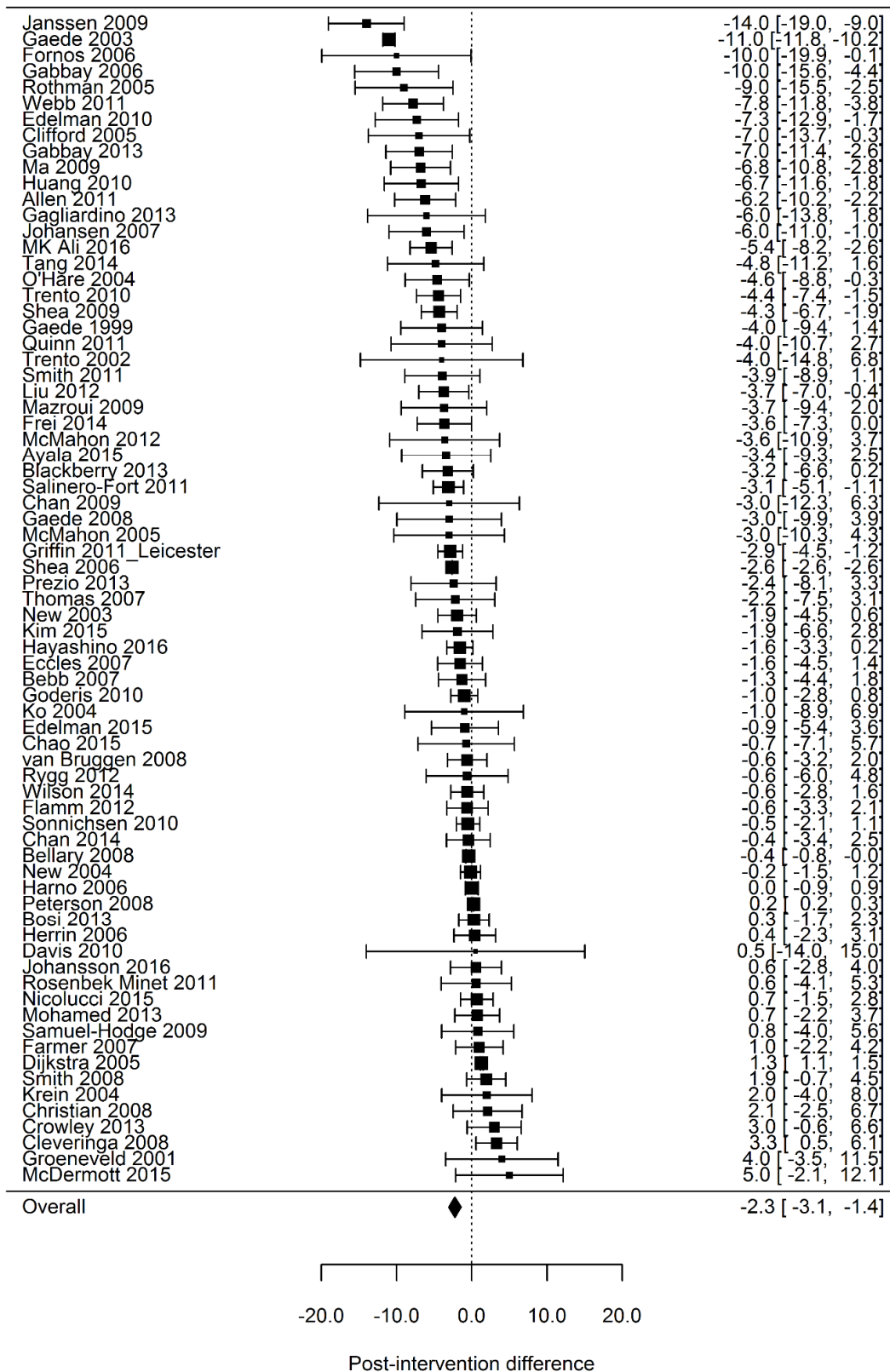
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Supplementary Figure 4. Meta-analysis results of HbA<sub>1c</sub> level of included trials (in mmol/mol-unit)



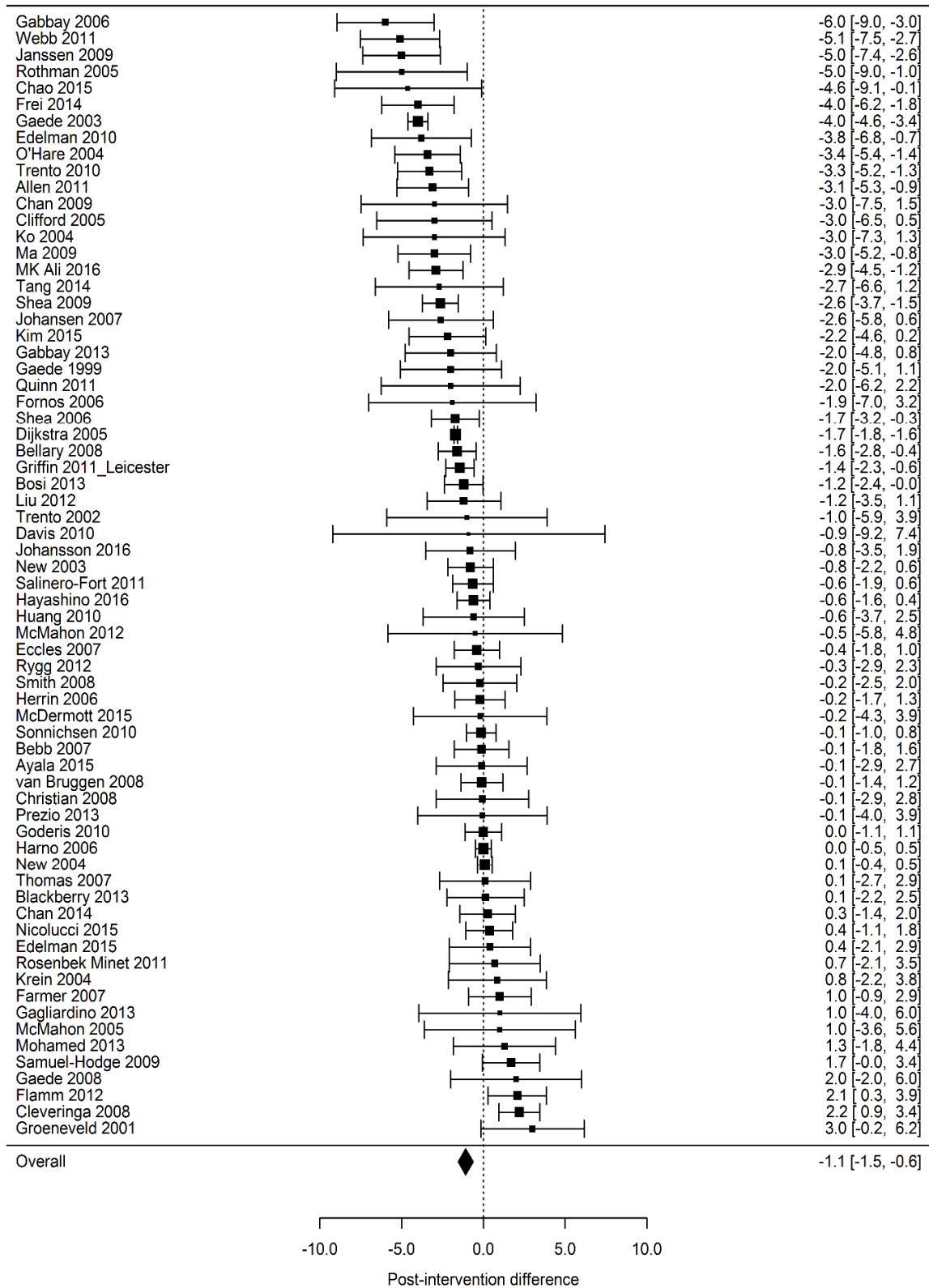
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Supplementary Figure 5. Meta-analysis results of systolic blood pressure level of included trials (in mmHg)



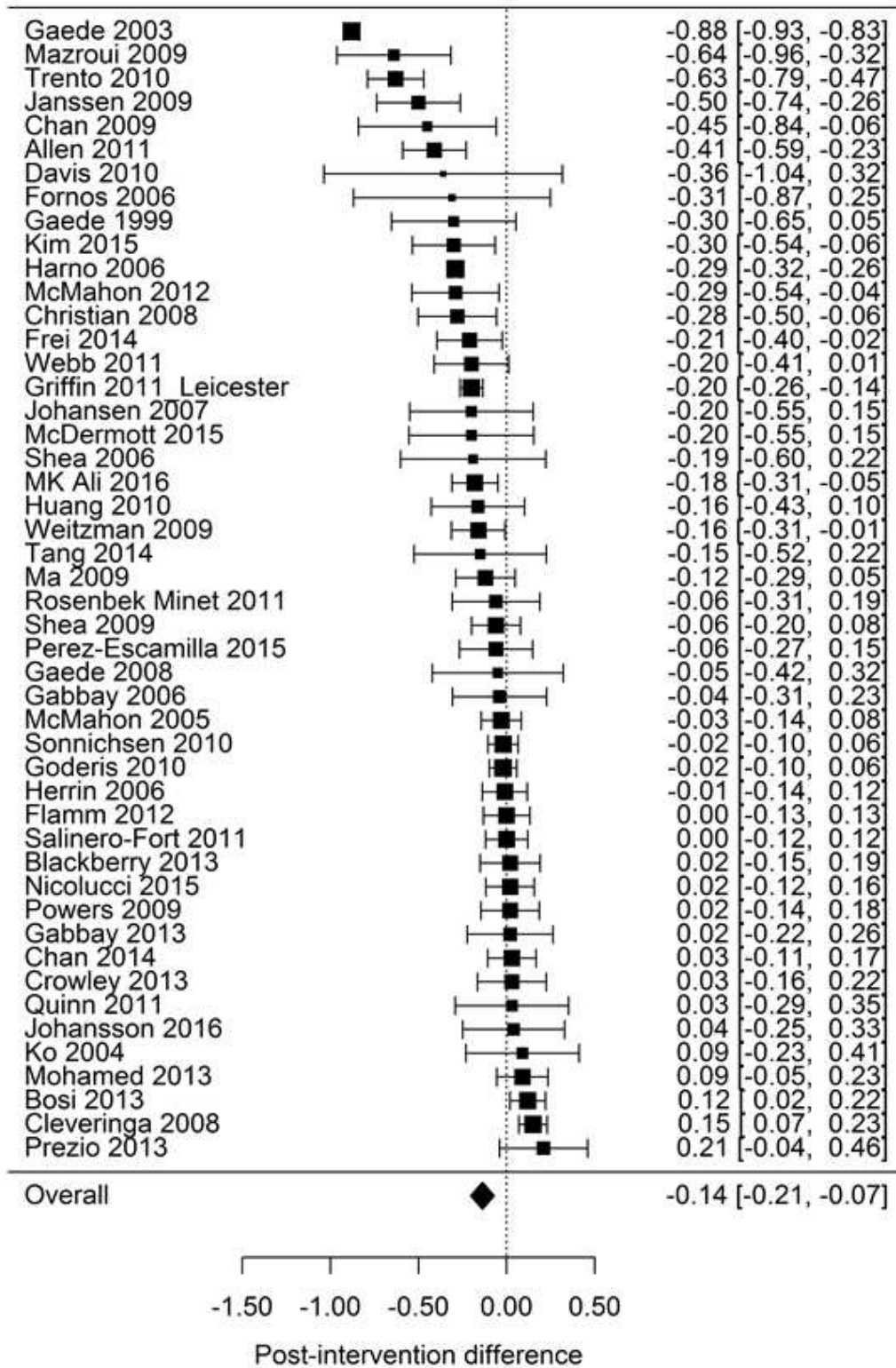
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Supplementary Figure 6. Meta-analysis results of diastolic blood pressure level of included trials (in mmHg)



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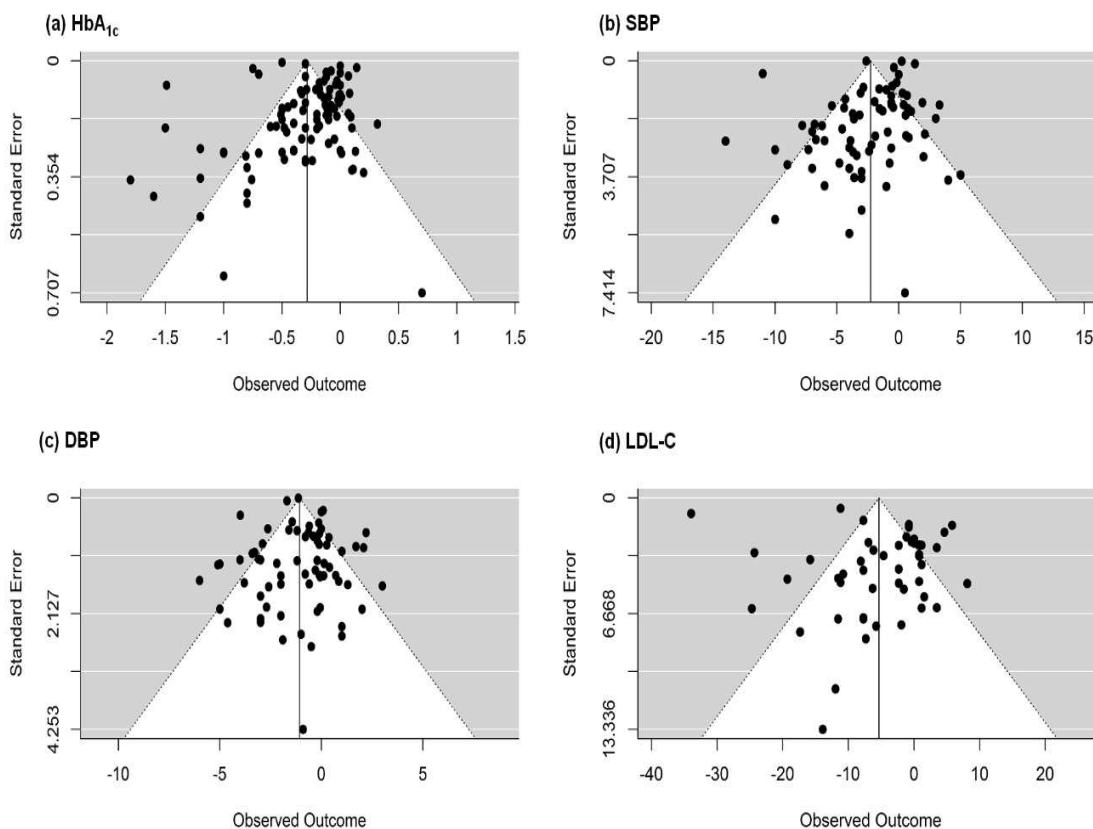
Supplementary Figure 7. Meta-analysis results of LDL-cholesterol level of included trials (in mmol/L)





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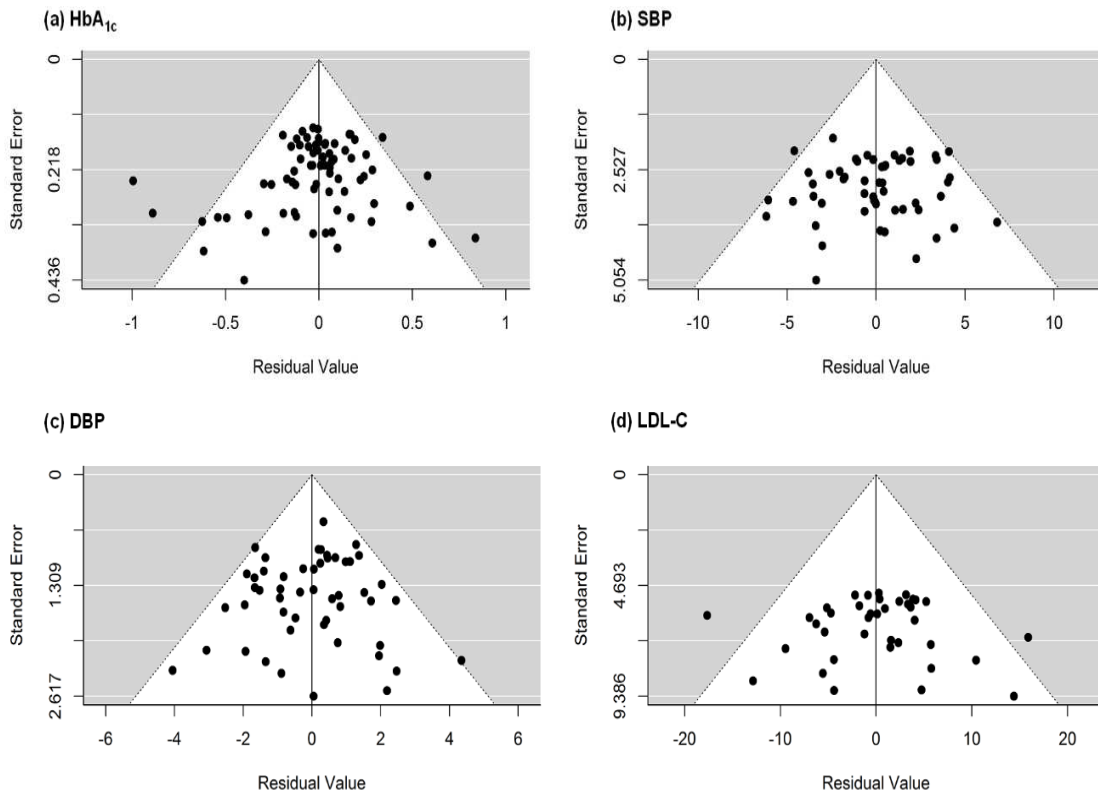
Supplementary Figure 8. Funnel plots (unadjusted)



Footnotes: DBP, diastolic blood pressure; HbA<sub>1c</sub>, glycated hemoglobin; LDL-C, low-density lipoprotein cholesterol; SBP, systolic blood pressure.

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**Supplementary Figure 9. Funnel plots (adjusted for age, sex, and baseline cardiometabolic risk factors)**



Footnotes: Additional adjustment for care settings did not further reduce the study heterogeneity (data not shown). DBP, diastolic blood pressure; HbA<sub>1c</sub>, glycated hemoglobin; LDL-C, low-density lipoprotein cholesterol; SBP, systolic blood pressure.

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**Supplementary Table 1. Search Strategy**

Item (#)	Search terms
1.	Type 2 diabetes OR Type 2 diabetes mellitus OR Diabetes OR Diabetes mellitus
2.	Quality improvement OR Quality AND Care
3.	Structured care OR Shared care OR Multidisciplinary care OR Multidisciplinary team OR Multicomponent care OR Multifaceted care OR Integrated care
4.	Peer OR Peer support OR Nurse OR Dietitian OR Pharmacist
5.	Education OR Self-management
6.	Telemedicine OR Telehealth OR Electronic health OR e-health
7.	Filters: a) Publication dates (custom date range): January 2000 till August 2016 b) Species: Humans
8.	Search #1 AND #2
9.	Search #1 AND #3
10.	Search #1 AND #4
11.	Search #1 AND #5
12.	Search #1 AND #6

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**Supplementary Table 2. Definitions of quality improvement strategies in type 2 diabetes**

<b>(A) Health system</b>	
<b>Subcategory</b>	<b>Definition(s)</b>
Case management	<ul style="list-style-type: none"> <li>○ Coordination of routine management of patients in collaboration with, or supplementary to the primary care practitioners by:               <ul style="list-style-type: none"> <li>i. a person: healthcare providers, trained peers or community health workers, social workers.</li> <li>ii. presence of a multidisciplinary team.</li> </ul> </li> </ul>
Team change	<ul style="list-style-type: none"> <li>○ Changes to the structure/organisation of the primary healthcare team, with the presence of any of the following:               <ul style="list-style-type: none"> <li>i. adding a team member or collaborative care/joint visits, e.g. routine visits from diabetes specialist nurses, pharmacists, nutritionists, podiatrists.</li> <li>ii. use of a multidisciplinary team, e.g. medicine, nursing, pharmacy, nutrition, psychology.</li> <li>iii. expansion or revision of professional roles, e.g. prescription autonomy to nurses or pharmacists.</li> </ul> </li> <li>○ Studies with “case management” could qualify as “team changes” if at least two of the above conditions were met.</li> </ul>
Electronic patient registry	<ul style="list-style-type: none"> <li>○ Design of a new electronic medical record or tracking system, or improvement in the pre-existing electronic system during the study period.</li> </ul>
Facilitated relay of patient’s information to clinicians	<ul style="list-style-type: none"> <li>○ Health information exchange between patients and healthcare providers by methods other than the traditional medical records, e.g. diabetes passports, personal reports, trained peers or community health workers, structured self-monitoring of blood glucose/dietary/exercise diaries, electronic transmission of self-care data, point-of-care HbA<sub>1c</sub> test.</li> <li>○ Included access to out-of-office consultation to primary care practitioners and patients, feedback meetings with trained peers or community health workers with subsequent changes in patient’s management plan and improved referral system.</li> <li>○ This information must get to someone with prescribing and ordering ability.</li> </ul>
Using electronic health (e-health) with diabetes team support	<ul style="list-style-type: none"> <li>○ Involved applying software or electronic applications to promote better diabetes care, e.g. telemedicine, mobile health (m-Health), e-Learning (smartphone apps, short messaging service, automated educational messages, multimedia use, emails, personal digital assistant).</li> <li>○ Included enhanced use of electronic databases, i.e. integration, analysis, interpretation and communication of the information to healthcare team and patients (e.g. electronic patient’s report card, risk assessment analysis).</li> </ul>
Continuous quality improvement	<ul style="list-style-type: none"> <li>○ An iterative process for testing the effects, assessing quality problems, providing solutions, and reassessing the need for further action (plan-do-study-act cycles, quality assurance).</li> <li>○ Checking on intervention fidelity or feedback on intervention delivery by trained peers or community health workers with solutions provided to enhance patient’s care.</li> </ul>
<b>(B) Healthcare providers</b>	
<b>Subcategory</b>	<b>Definition(s)</b>
Audit and feedback	<ul style="list-style-type: none"> <li>○ Benchmarking reports on the clinical performance of healthcare providers or practices on care processes.</li> </ul>
Clinician education	<ul style="list-style-type: none"> <li>○ Continuous provision of up-to-date diabetes care management and guidelines to all healthcare providers, e.g. conferences/workshops, distribution of educational materials (written, video etc.), and academic detailing.</li> <li>○ If the education was related to the workflow of diabetes care model implementation, it was not categorized as clinician education.</li> </ul>
Clinician reminders	<ul style="list-style-type: none"> <li>○ Paper-based or electronic system prompts to healthcare providers on patient-specific information (biomedical data or care processes), including ad-hoc clinician reminders.</li> <li>○ It is sub-classified as decision support with the provision of treatment algorithms and/or protocols to healthcare providers.</li> </ul>
Financial incentive (pay for performance)	<ul style="list-style-type: none"> <li>○ Could be positive or negative financial incentives related to healthcare performance that were provided to healthcare providers and patients.</li> </ul>

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	<ul style="list-style-type: none"> <li>○ Patients: changes in reimbursement as a token of achievement after participation in the program (e.g. capitation, prospective payment, or a shift from fee-for-service to salary pay structure), lower annual fee in case of treatment targets attainment.</li> <li>○ Excluded transport reimbursement, honorarium, gift cards, or stipend to patients, healthcare providers or trained peer/community health workers for any study procedures unless they contribute to treatment targets attainment.</li> </ul>
<b>(C) Patients</b>	
<b>Subcategory</b>	<b>Definition(s)</b>
Patient's education	<ul style="list-style-type: none"> <li>○ To promote better understanding of diabetes and related topics, as well as adoption of positive attitudes towards their active participation in care improvement of their disease, delivered by individual or group sessions with allied health personnel or trained peer/community health workers.</li> <li>○ Distribution of printed/electronic educational materials or patient's report card.</li> </ul>
Promotion of self-management	<ul style="list-style-type: none"> <li>○ Provision of patient's report card or equipment (e.g. glucometer, glucose test strips, sphygmomanometer, pedometer).</li> <li>○ Access to resources only after attending education programmes (e.g. online platform for transmission of self-care records to healthcare providers, facilitated adjustments of medication dose, on-site grocery shopping, personalized goal-setting and action plan).</li> <li>○ Involvement of trained peers or community health workers.</li> </ul>
Patient reminder system	<ul style="list-style-type: none"> <li>○ Any effort (e.g. in person, postal mail, live/automated phone calls, mobile texts, web/emails) to remind patients about appointments or important self-care aspects.</li> <li>○ If case management was included, patient's reminders needed to be explicit and an extra task to the normal case management.</li> </ul>

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**Supplementary Table 3. Definitions of outcomes of interest**

Outcomes	Definitions
Cardiometabolic	<ul style="list-style-type: none"> <li>a) HbA<sub>1c</sub>, fasting glucose or 2-hour postprandial glucose</li> <li>b) Systolic blood pressure, diastolic blood pressure or both</li> <li>c) Lipid levels: either a full profile or single test</li> <li>d) Body weight, body mass index or waist circumference</li> </ul>
Care process	<ul style="list-style-type: none"> <li>a) Proportion of patients achieved target HbA<sub>1c</sub>, blood pressure or lipid levels</li> <li>b) Proportion of patients achieved weight loss targets</li> <li>c) Proportion of patients with hypoglycemia or hyperglycemia symptoms</li> <li>d) Proportion of patients performed self-monitoring of blood glucose or home blood pressure monitoring</li> <li>e) Proportion of patients with HbA<sub>1c</sub>, blood pressure, lipid or lifestyle monitoring</li> <li>f) Proportion of patients on statin or lipid-lowering drugs</li> <li>g) Proportion of patients on angiotensinogen converting enzymes inhibitors or angiotensin receptor blockers or antihypertensive drugs</li> <li>h) Proportion of patients on aspirin or antiplatelet drugs</li> <li>i) Proportion of patients underwent diabetes complications screening               <ul style="list-style-type: none"> <li>o Nephropathy: urine microalbumin, plasma creatinine test</li> <li>o Retinopathy: dilated eye examination, fundus camera, funduscopy check, ophthalmology visit</li> <li>o Neuropathy: foot examination by patients or healthcare professionals (physicians, nurses, podiatrists etc)</li> </ul> </li> <li>j) Proportion of patients quit smoking or underwent smoking cessation advice</li> <li>k) Proportion of patients attended diabetes education classes or received lifestyle advice from dietitians, pharmacists or nurses</li> <li>l) Proportion of patients received flu or pneumococcal vaccines</li> </ul>
Patient-reported	Involved use of specific questionnaires to assess depression, emotional distress, quality of life, patient's satisfaction, treatment adherence, diabetes knowledge, self-efficacy etc.
Healthcare utilization	<ul style="list-style-type: none"> <li>a) Clinic visits: primary, secondary or tertiary care</li> <li>b) Emergency room visits</li> <li>c) Diabetes-related hospitalizations</li> </ul>
Economic	Diabetes-related healthcare cost
Cardiovascular risks	<ul style="list-style-type: none"> <li>a) Any diabetes-related end-points</li> <li>b) All-cause mortality</li> <li>c) Incident myocardial infarction, chronic kidney disease (or progression), stroke, amputation</li> <li>d) Cardiovascular risk scores</li> </ul>
<b>Qualifying criteria</b>	<ul style="list-style-type: none"> <li>a) At least 1 cardiometabolic <b>OR</b> care process outcome, <b>OR</b></li> <li>b) At least 1 cardiometabolic or care process outcome, <b>AND</b> patient-reported, healthcare utilization, economic or cardiovascular risks outcome (either reported simultaneously or as separate publication[s])</li> </ul>

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**Supplementary Table 4. Baseline characteristics of trials included in the meta-analysis**

	<b>All trials</b>
<b>Number of patients</b>	
Type 1 diabetes	665 (0.5%)
Type 2 diabetes	119,554 (88.5%)
Undefined	14,893 (11.0%)
Total	135,112 (100%)
<b>Age (years)</b>	59.6 (0.6)
<b>Women</b>	67,421 (49.9%)
<b>National income level</b>	
High	171 (94.5%)
Upper-middle	7 (3.9%)
Lower-middle	3 (1.7%)
<b>Duration of intervention (months)</b>	12 (12-24)
<b>HbA<sub>1c</sub> (%)</b>	8.2 (8.0-8.4)
<b>HbA<sub>1c</sub> (mmol/mol)</b>	66 (64-68)
<b>Systolic blood pressure (mmHg)</b>	139.6 (138.1-141.2)
<b>Diastolic blood pressure (mmHg)</b>	80.1 (79.1-81.1)
<b>LDL-cholesterol(mmol/L)*</b>	2.94 (2.85-3.03)
<b>Number of studies per quality improvement strategy</b>	
<b><i>Health system</i></b>	
Case management	96 (53.0%)
Team change	103 (56.9%)
Electronic patient registry	67 (37.0%)
Facilitated relay of patient's information to clinicians	94 (51.9%)
Electronic health	81 (44.8%)
Continuous quality improvement	39 (21.5%)
<b><i>Healthcare providers</i></b>	
Audit and feedback	61 (33.7%)
Clinician education	56 (30.9%)
Clinician reminder/decision support	126 (69.6%)
Financial incentives	2 (1.1%)
<b><i>Patient</i></b>	
Patient education	165 (91.2%)
Promotion of self-management	150 (82.9%)
Patient reminder system	95 (52.5%)
<b><i>Personnel involved</i></b>	
Diabetologists or endocrinologists	7 (3.9%)
Psychiatrists or psychologists	5 (2.8%)
Internists or other specialty doctors	41 (22.7%)
Primary care practitioners with more active role	48 (26.5%)
Certified diabetes educators	23 (12.7%)
Nurses (e.g. specialist nurses, registered nurses or practice nurses)	98 (54.1%)
Pharmacists	10 (5.5%)
Dietitians	50 (27.6%)
Physiotherapists or sports therapists	9 (5.0%)
Trained community health workers	18 (9.9%)
Trained peer leaders	16 (8.8%)
Multidisciplinary team (not specified)	9 (5.0%)
Others (e.g. care managers/coordinators, healthcare assistants/facilitators, social workers)	22 (12.2%)

Footnotes: Data are expressed in number (percentages) or mean (95% confidence intervals), except age in mean (standard error) and duration of intervention in median (interquartile range). HbA<sub>1c</sub>, glycated hemoglobin; LDL-C, low-density lipoprotein cholesterol.

\*To convert LDL-cholesterol to mg/dL, multiply by 38.67.

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**Supplementary Table 5. Effects of multi-component integrated care on care processes**

Care processes	Definitions used in available trials	Total number of available trials	Number of trials which reported significant improvement with multi-component integrated care	Number of trials which reported no between-group difference	Remarks
<b>Medication use</b>					
Use of antiplatelet or antithrombotic therapy	Aspirin only Aspirin or clopidogrel Aspirin or warfarin	14	7 (Ref 64, 65, 94, 125, 129, 130, 164)	7 (Ref 45, 74, 117, 148, 155, 156, 168) - Relatively high usage of this therapy at baseline: 41-90% (intervention group) versus 47-88% (control group)	Not applicable
Use of renin-angiotensin system inhibitors	ACE inhibitors only ARBs only ACE inhibitors or ARBs	17	10 (Ref 17, 64, 96, 124, 125, 129, 130, 136, 148, 164)	6 (Ref 15, 28, 45, 74, 95, 123) - Relatively high usage of this therapy at baseline: 37.0-88.7% (intervention group) versus 37.0-88.5% (control group)	1 trial showed improved prescription with intervention but no results reported for the control group (Ref 168).
Use of lipid lowering agents	Statin only Statin, fibrate or ezetimibe	22	8 (Ref 17, 64, 65, 74, 124, 129, 136, 164)	12 (Ref 15, 28, 94, 104, 120, 122, 123, 125, 148, 155, 156, 160) - 5 trials with relatively high usage of this therapy at baseline: 41-77% (intervention group) versus 38.0-81.3% (control group)	2 trials showed improved prescription with intervention but no results reported for the control group (Ref 168, 170).
<b>Complications screening</b>					
Nephropathy	Albuminuria only Albuminuria and/or serum creatinine	13	8 (Ref 46, 130, 135, 138, 143, 156, 168, 177)	5 (Ref 35, 45, 125, 127, 144) - 3 trials with relatively	Not applicable



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Care processes	Definitions used in available trials	Total number of available trials	Number of trials which reported significant improvement with multi-component integrated care	Number of trials which reported no between-group difference	Remarks
	<i>*Definition of screening intervals might differ.</i>			high screening rate at baseline: 41.2-79.9% (intervention group) versus 29.7-82.1% (control group)	
Retinopathy	Self-reported Fundoscopy check Dilated eye examination Eye referral Formal examination by ophthalmologist  <i>*Definition of screening intervals might differ.</i>	28	13 (Ref 35, 45, 46, 61, 87, 115, 122, 135, 143, 150, 156, 171) - 1 trial showed improved screening rate in the control group after cross-over (Ref 60, 61)	12 (Ref 125, 127, 130, 138, 144, 155, 167, 168, 169, 170, 177, 179) - 5 trials with relatively high screening rate at baseline: 60.6-87.8% (intervention group) versus 61.0-83.9% (control group)	1 trial did not report the <i>P</i> -value for between-group difference (Ref 14).  1 trial showed higher screening rate in the control versus intervention group (Ref 15).  1 trial reported lower screening rate in patients with low income versus high income (Ref 24).
Peripheral neuropathy	Self-inspection Monofilament test Formal examination by physicians or podiatrists  <i>*Definition of screening intervals might differ.</i>	29	20 (Ref 14, 35, 46, 61, 69, 87, 115, 125, 135, 143, 144, 150, 167, 168, 169, 171, 178, 179, 180) - 1 trial showed improved screening rate in the control group after cross-over (Ref 60, 61)	9 (Ref 15, 45, 82, 122, 127, 130, 138, 170, 177) - 3 trials with relatively high screening rate at baseline: 42.9-57.0% (intervention group) versus 40.5-65.5% (control group)	Not applicable

Footnotes: ACE, angiotensin converting enzyme; ARBs, angiotensin II receptor blockers. Only care process with at least five available trials was included.

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**Supplementary Table 6. Cardiometabolic effects of individual quality improvement strategy stratified by regions**

Quality improvement strategy	HbA <sub>1c</sub> (%)						HbA <sub>1c</sub> (mmol/mol)					
	North America		Europe		Asia		North America		Europe		Asia	
	N	MD (95% CI)	N	MD (95% CI)	N	MD (95% CI)	N	MD (95% CI)	N	MD (95% CI)	N	MD (95% CI)
<b>Health system</b>												
Case management	32	-0.30 (-0.41 to -0.19)	14	-0.10 (-0.17 to -0.03)	3	-0.28 (-0.50 to -0.05)	32	-3.3 (-4.5 to -2.1)	14	-1.1 (-1.9 to -0.3)	3	-3.1 (-5.5 to -0.5)
Team change	22	-0.23 (-0.37 to -0.10)	22	-0.40 (-0.62 to -0.19)	7	-0.62 (-1.00 to -0.25)	22	-2.5 (-4.0 to -1.1)	22	-4.4 (-6.8 to -2.1)	7	-6.8 (-10.9 to -2.7)
Electronic patient registry	3	-0.05 (-0.23 to 0.13)	3	-0.08 (-0.14 to -0.02)	NA	NA	3	-0.5 (-2.5 to -1.4)	3	-0.9 (-1.5 to -0.2)	NA	NA
Facilitated relay	27	-0.26 (-0.37 to -0.14)	16	-0.22 (-0.32 to -0.12)	3	-0.81 (-1.51 to -0.11)	27	-2.8 (-4.0 to -1.5)	16	-2.4 (-3.5 to -1.3)	3	-8.9 (-16.5 to -1.2)
Electronic health	20	-0.21 (-0.32 to -0.11)	10	-0.09 (-0.17 to -0.01)	4	-0.29 (-0.48 to -0.10)	20	-2.3 (-3.5 to -1.2)	10	-1.0 (-1.9 to -0.1)	4	-3.2 (-5.2 to -1.1)
Continuous quality improvement	9	-0.25 (-0.45 to -0.06)	3	-0.09 (-0.14 to -0.03)	3	-0.31 (-0.69 to 0.07)	9	-2.7 (-4.9 to -0.7)	3	-1.0 (-1.5 to -0.3)	3	-3.4 (-7.5 to -0.8)
<b>Healthcare providers</b>												
Audit and feedback	6	-0.15 (-0.32 to 0.03)	7	-0.18 (-0.36 to 0.00)	3	-0.28 (-0.50 to -0.05)	6	-1.6 (-3.5 to -0.3)	7	-2.0 (-3.9 to 0.0)	3	-3.1 (-5.5 to -0.5)
Clinician education	7	-0.30 (-0.32 to -0.28)	7	-0.26 (-0.42 to -0.10)	NA	NA	7	-3.3 (-3.5 to -3.1)	7	-2.8 (-4.6 to -1.1)	NA	NA
Clinician reminder	25	-0.19 (-0.31 to -0.08)	16	-0.21 (-0.34 to -0.07)	3	-0.36 (-0.53 to -0.19)	25	-2.1 (-3.4 to -0.9)	16	-2.3 (-3.7 to -0.8)	3	-3.9 (-5.8 to -2.1)
<b>Patients</b>												
Patient education	18	-0.35 (-0.46 to -0.24)	16	-0.25 (-0.39 to -0.11)	3	-0.24 (-0.45 to -0.04)	18	-3.8 (-5.0 to -2.6)	16	-2.7 (-4.3 to -1.2)	3	-2.6 (-4.9 to -0.4)
Promotion of self-management	32	-0.26 (-0.37 to -0.15)	24	-0.31 (-0.47 to -0.14)	5	-0.54 (-0.80 to -0.28)	32	-2.8 (-4.0 to -1.6)	24	-3.4 (-5.1 to -1.5)	5	-5.9 (-8.7 to -3.1)
Patient reminder system	31	-0.23 (-0.33 to -0.13)	16	-0.16 (-0.26 to -0.06)	8	-0.57 (-0.91 to -0.24)	31	-2.5 (-3.6 to -1.4)	16	-1.7 (-2.8 to -0.7)	8	-6.2 (-9.9 to -2.6)
Quality improvement strategy	Systolic blood pressure (mmHg)						Diastolic blood pressure (mmHg)					
	North America		Europe		Asia		North America		Europe		Asia	
	N	MD (95% CI)	N	MD (95% CI)	N	MD (95% CI)	N	MD (95% CI)	N	MD (95% CI)	N	MD (95% CI)
<b>Health system</b>												
Case management	19	-2.9 (-4.5 to -1.2)	13	-1.4 (-3.0 to 0.2)	5	-3.1 (-5.1 to -1.0)	17	-1.5 (-2.5 to -0.5)	12	-0.7 (-1.8 to 0.4)	5	-1.9 (-3.2 to -0.5)
Team change	15	-1.9	20	-3.5	7	-2.9	13	-1.2	20	-1.5	6	-1.2

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		(-3.4 to -0.3)		(-5.2 to -1.7)		(-5.0 to -0.9)		(-2.3 to -0.2)		(-2.4 to -0.5)		(-2.4 to 0.0)	
Electronic patient registry	4	-4.7 (-9.8 to 0.5)	3	-4.3 (-7.1 to -1.6)	2	-4.0 (-8.2 to 0.2)	3	-3.5 (-7.4 to 0.3)	3	-3.3 (-5.6 to -1.0)	2	-3.1 (-4.7 to -1.6)	
Facilitated relay	18	-2.4 (-4.1 to -0.7)	12	-3.0 (-5.6 to -0.4)	3	-5.1 (-8.5 to -1.6)	16	-1.4 (-2.4 to -0.4)	12	-1.6 (-2.8 to -0.4)	2	-1.4 (-3.9 to 1.2)	
Electronic health	15	-2.1 (-4.1 to -0.2)	6	-1.5 (-4.4 to 1.4)	5	-3.5 (-6.0 to -1.0)	13	-1.7 (-2.8 to -0.7)	6	-1.2 (-3.3 to 0.9)	5	-1.8 (-3.3 to -0.4)	
Continuous quality improvement	5	-4.0 (-6.7 to -1.3)	3	-3.1 (-7.8 to 1.6)	3	0.0 (-2.1 to 2.0)	5	-1.5 (-2.9 to 0.0)	3	-1.8 (-5.1 to 1.6)	3	0.1 (-1.3 to 1.6)	
<b>Healthcare providers</b>													
Audit and feedback	5	-2.4 (-4.1 to -0.8)	6	-3.2 (-8.0 to 1.7)	3	-3.3 (-6.4 to -0.1)	5	-1.3 (-2.3 to -0.2)	6	-1.7 (-3.9 to 0.5)	3	-1.8 (-3.7 to 0.0)	
Clinician education	4	-1.3 (-4.5 to 2.0)	7	-2.3 (-5.6 to 1.1)	NA	NA	3	-0.7 (-3.3 to 1.8)	7	-1.1 (-2.8 to 0.6)	NA	NA	
Clinician reminder	15	-2.6 (-4.7 to -0.6)	15	-1.9 (-3.8 to 0.0)	2	-5.2 (-7.9 to -2.5)	14	-1.3 (-2.4 to -0.2)	15	-0.6 (-1.6 to 0.4)	2	-2.9 (-4.5 to -1.4)	
<b>Patients</b>													
Patient education	8	-4.7 (-6.8 to -2.5)	18	-3.2 (-5.3 to -1.1)	4	-2.7 (-5.3 to -0.1)	7	-2.6 (-3.8 to -1.4)	18	-1.2 (-2.2 to -0.2)	4	-2.2 (-4.0 to -0.4)	
Promotion of self-management	17	-3.3 (-5.1 to -1.6)	20	-3.4 (-5.1 to -1.6)	6	-3.0 (-5.6 to -0.4)	15	-1.8 (-2.8 to -0.7)	20	-1.6 (-2.5 to -0.7)	6	-1.7 (-3.2 to -0.2)	
Patient reminder system	17	-2.4 (-4.0 to -0.8)	11	-2.1 (-4.6 to 0.5)	7	-3.6 (-5.4 to -1.7)	14	-1.2 (-2.3 to -0.1)	21	-1.2 (-2.5 to 0.2)	6	-1.5 (-2.7 to -0.4)	
<b>Quality improvement strategy</b>	<b>LDL-C (mmol/L)*</b>												
	<b>North America</b>		<b>Europe</b>			<b>Asia</b>							
	<b>N</b>	<b>MD (95% CI)</b>	<b>N</b>	<b>MD (95% CI)</b>	<b>N</b>	<b>MD (95% CI)</b>							
<b>Health system</b>													
Case management	16	-0.08 (-0.16 to 0.00)	8	-0.06 (-0.18 to 0.05)	2	-0.25 (-0.48 to -0.02)							
Team change	8	-0.17 (-0.30 to -0.05)	14	-0.24 (-0.39 to -0.09)	5	-0.15 (-0.39 to 0.09)							
Electronic patient registry	NA	NA	3	-0.20 (-0.26 to -0.14)	NA	NA							
Facilitated relay	15	-0.10 (-0.19 to -0.01)	10	-0.15 (-0.27 to -0.04)	3	-0.40 (-0.70 to -0.11)							
Electronic health	11	-0.06 (-0.12 to -0.01)	6	-0.12 (-0.26 to 0.02)	3	-0.20 (-0.31 to -0.09)							
Continuous quality	2	-0.14 (-0.46 to 0.17)	2	-0.20 (-0.26 to -0.14)	3	-0.05 (-0.32 to 0.21)							

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improvement												
<b>Healthcare providers</b>												
Audit and feedback	4	-0.04 (-0.12 to 0.05)	4	-0.17 (-0.43 to 0.09)	2	-0.25 (-0.48 to -0.02)						
Clinician education	NA	NA	4	-0.16 (-0.38 to 0.05)	NA	NA						
Clinician reminder	9	-0.11 (-0.23 to 0.01)	11	-0.14 (-0.32 to 0.04)	3	-0.19 (-0.28 to -0.09)						
<b>Patients</b>												
Patient education	7	-0.05 (-0.12 to 0.03)	10	-0.30 (-0.48 to -0.12)	2	-0.09 (-0.34 to 0.17)						
Promotion of self-management	12	-0.11 (-0.20 to -0.02)	16	-0.24 (-0.37 to -0.10)	4	-0.05 (-0.21 to 0.11)						
Patient reminder system	10	-0.10 (-0.21 to 0.01)	7	-0.09 (-0.24 to 0.05)	6	-0.23 (-0.40 to -0.06)						

Footnotes: HbA<sub>1c</sub>, glycated hemoglobin; LDL-C, low-density lipoprotein cholesterol; MD (95% CI), mean difference (95% confidence interval); N, number of trials with analysable data; NA, no available analysable data. \*To convert LDL-C to mg/dL, multiply by 38.67.

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**Supplementary Table 7. Meta-regression analysis of the cardiometabolic effects of individual quality improvement strategy**

Quality improvement strategy	HbA <sub>1c</sub> (%; 75 trials)			HbA <sub>1c</sub> (mmol/L; 75 trials)			Systolic blood pressure (mmHg; 54 trials)		
	N	MD (95% CI)	P-value	N	MD (95% CI)	P-value	N	MD (95% CI)	P-value
<b>Health system</b>									
Case management	47	-0.06 (-0.18 to 0.07)	0.398	47	-0.7 (-2.0 to -0.8)	0.398	33	0.4 (-2.0 to 2.9)	0.724
Team change	40	-0.12 (-0.25 to 0.02)	0.083	40	-1.3 (-2.7 to 0.2)	0.083	32	1.6 (-1.1 to 4.3)	0.243
Electronic patient registry	7	0.14 (-0.11 to 0.39)	0.263	7	1.5 (-1.2 to 4.3)	0.263	8	-4.4 (-8.0 to -0.8)	0.016
Facilitated relay	35	-0.14 (-0.28 to 0.01)	0.059	35	-1.5 (-3.1 to 0.1)	0.059	26	-2.3 (-4.6 to 0.1)	0.057
Electronic health	30	0.04 (-0.11 to 0.20)	0.585	30	0.4 (-1.2 to 2.2)	0.585	20	4.8 (1.5 to 8.1)	0.004
Continuous quality improvement	16	0.06 (-0.09 to 0.21)	0.446	16	0.7 (-1.0 to 2.3)	0.446	13	1.1 (-1.2 to 3.5)	0.346
<b>Healthcare providers</b>									
Audit and feedback	13	-0.01 (-0.18 to 0.16)	0.927	13	-0.1 (-2.0 to 1.7)	0.927	10	-2.3 (-5.7 to 1.1)	0.184
Clinician education	10	0.04 (-0.14 to 0.22)	0.657	10	0.4 (-1.5 to 2.4)	0.657	8	0.5 (-2.9 to 3.9)	0.763
Clinician reminder	37	0.01 (-0.11 to 0.14)	0.840	37	0.1 (-1.2 to 1.5)	0.840	26	0.3 (-1.9 to 2.6)	0.775
<b>Patients</b>									
Patient education	31	-0.15 (-0.28 to -0.02)	0.019	31	-1.6 (-3.1 to -0.2)	0.019	24	0.8 (-1.6 to 3.2)	0.516
Promotion of self-management	51	0.05 (-0.10 to 0.20)	0.474	51	0.5 (-1.1 to 2.2)	0.474	38	-4.7 (-7.8 to -1.6)	0.003
Patient reminder system	45	0.10 (-0.04 to 0.25)	0.170	45	1.1 (-0.4 to 2.7)	0.170	27	0.3 (-2.1 to 2.7)	0.809
Quality improvement strategy	Diastolic blood pressure (mmHg; 51 trials)			LDL-C (mmol/L; 38 trials)*					
	N	MD (95% CI)	P-value	N	MD (95% CI)	P-value			
<b>Health system</b>									
Case management	31	-0.3 (-1.5 to 0.8)	0.576	23	0.04 (-0.16 to 0.23)	0.717			
Team change	31	0.7 (-0.6 to 2.0)	0.292	24	-0.21 (-0.44 to 0.02)	0.070			
Electronic patient registry	8	-2.7 (-4.5 to -0.8)	0.004	5	0.21 (-0.11 to 0.53)	0.196			
Facilitated relay	24	-0.4 (-1.6 to 0.8)	0.469	23	-0.07 (-0.27 to 0.14)	0.526			
Electronic health	19	1.3 (-0.3 to 3.0)	0.118	17	-0.12 (-0.40 to 0.16)	0.394			
Continuous quality improvement	13	1.1 (-0.1 to 2.3)	0.073	8	-0.01 (-0.21 to 0.18)	0.906			
<b>Healthcare providers</b>									
Audit and feedback	10	-1.2 (-2.7 to 0.3)	0.125	9	-0.11 (-0.41 to 0.19)	0.472			
Clinician education	8	-0.9 (-2.5 to 0.7)	0.260	5	-0.18 (-0.47 to 0.11)	0.219			
Clinician reminder	26	1.0 (-0.1 to 2.1)	0.085	20	-0.05 (-0.21 to 0.11)	0.535			
<b>Patients</b>									
Patient education	24	-0.6 (-1.7 to 0.5)	0.269	16	-0.05 (-0.33 to 0.24)	0.754			
Promotion of self-management	37	-2.2 (-3.8 to -0.7)	0.004	27	0.06 (-0.25 to 0.37)	0.714			
Patient reminder system	25	0.5 (-0.8 to 1.7)	0.461	20	0.16 (-0.03 to 0.35)	0.104			

Footnotes: The meta-regression analyses were adjusted for age, sex, and the respective HbA<sub>1c</sub>, systolic blood pressure, diastolic blood pressure, or LDL-cholesterol at baseline. BP, blood pressure; HbA<sub>1c</sub>, glycated hemoglobin; LDL-C, low-density lipoprotein cholesterol; MD (95% CI), mean difference (95% confidence interval). \*To convert LDL-C to mg/dL, multiply by 38.67.

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**Supplementary Table 8. Comparison of two meta-analyses**

Characteristics	Tricco et al	Present meta-analysis
<b>Database search</b>	Medline, Cochrane EPOC, cross-references	PubMed, Ovid MEDLINE, cross-references
<b>Inclusion criteria</b>		
Type of study	Randomized controlled trials	Randomized controlled trials and their companion prospective follow-up studies (if available)
Year of literature search	July 2003 (last date of previous review) till July 2010	January 2000 till August 2016
Type of diabetes	T1D only, T2D only or combined T1D and T2D (a) Combined T1D and T2D: 34 (b) T1D only: 9 (c) Not reported: 19	T2D only (a) Combined T1D and T2D: 7 (b) T2D and other unspecified types of diabetes in the same trial: 10
Type of outcomes	(a) At least one care process measure (aspirin, statin or antihypertensive use, microvascular complications screening), <b>OR</b> (b) At least one intermediate outcome (HbA <sub>1c</sub> /BP/lipid levels, proportion of patients attaining target HbA <sub>1c</sub> /controlled hypertension or smoking cessation)	(a) At least one cardiometabolic or care process outcome, <b>OR</b> (b) At least one cardiometabolic or care process outcome <b>AND</b> patient-reported outcomes, healthcare utilization, economic, or cardiovascular risk (either reported simultaneously or in separate publication[s])
Duration of intervention	Not specified	At least 12 months
Number of intervention domains (health system, healthcare providers, patients)	Not specified	At least two domains
Number of participants per trial	Not specified	At least 100 adults
Language of publication	English only	English only
<b>Exclusion criteria</b>		
Type of diabetes	Not specified	T1D only, diabetes in pregnancy/adolescent/inpatients
Type of intervention domain excluded	Patient-level	Single domain
<b>Number of publications</b>		
Total included	142	181
Cluster randomized controlled trials	48	89 (5 companion prospective follow-up studies)
Patient randomized controlled trials	94	92 (7 companion prospective follow-up studies)
Inception till December 1999	23	Excluded
January 2000 till 2010	119	91 (one was in 1999 – first report of Steno-2 study)
2010 till August 2016	Excluded	90
Trials included in both meta-analyses	60	60
Trials fulfilled our criteria but not included	12	12

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(reasons)		(a) Unknown type of diabetes: 2 (b) Full text was not available: 1 (c) Year of publication: 1984 (1), 1993 (2), 1995 (1), 1996 (1), 1998 (2), 1999 (2)
Trials with at least two intervention arms	10	28
<b>Number of participants</b>	123,569	135,112
<b>Number of quality improvement strategies defined a priori</b>	12	13 (updated the definitions and added electronic health)
<b>Findings versus usual care (MD [95% CI]; number of trials)</b>		
HbA <sub>1c</sub> (%)	-0.37 (-0.45 to -0.28); 120 trials	-0.28 (-0.35 to -0.21); 99 trials
HbA <sub>1c</sub> (mmol/mol)	-4.0 (-4.9 to -3.1); 120 trials	-3.1 (-3.9 to -2.3); 99 trials
Systolic blood pressure (mmHg)	-3.13 (-4.06 to -2.19); 65 trials	-2.3 (-3.1 to -1.4); 73 trials
Diastolic blood pressure (mmHg)	-1.55 (-2.15 to -0.95); 61 trials	-1.1 (-1.5 to -0.6); 68 trials
LDL-C (mmol/L)*	-0.10 (-0.14 to -0.05); 47 trials	-0.14 (-0.21 to -0.07); 48 trials

Footnotes: HbA<sub>1c</sub>, glycated hemoglobin; LDL-C, low-density lipoprotein cholesterol; MD (95% CI), mean difference (95% confidence intervals); T1D, type 1 diabetes; T2D, type 2 diabetes. \*To convert LDL-C to mg/dL, multiply by 38.67.

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**Supplementary Table 9. Education programs and other characteristics of trials included in the meta-analysis**

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>b</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
<b>Tutino 2016(1)</b>													
6 tertiary hospitals (under funded health system)	China	3586 (urban T2D; >80% in high risk category) Active: 1858 Control: 1728	56.5 (11.6)	45.6	Unemployed: 63.1%  ≤ 11 years of education: 32.2%	7.85 (2.02)	Median (IQR) : 5 (1.0 to 10.0)	Trio team (diabetologists, nurses, health care assistants)	Patient education (12 months): 2-4 hours in groups or on an individual basis as appropriate. At least 2 additional contacts by nurse (telephone or face-to-face visits) → Low risk categories: every 4-6 months follow up → High risk categories: every 2-3 months follow up	6 patients each group	Risk factors, hypoglycemia, SMBG, adherence to medications & lifestyle	NA	71.4% returned for 2 <sup>nd</sup> comprehensive assessment after 12.5 months (JADE)
<b>Hayashino 2016(2)</b>													
22 urban primary care clusters	11 districts, Japan	2199 Active: 971 Control: 1265	56.5 (5.9)	37.5	NA	7.4 (1.2)	NA	PCPs, CDE, PN, dietitians	Patient education (12 months): 6 sessions of phone call on lifestyle advice (15–30 min each), or 4 sessions of face-to-face advice (30 min each)	Individual	lifestyle changes	NA	NA
<b>Ali 2016(3)</b>													
10 out-patient clinics	India, Pakistan	1146 (HbA <sub>1c</sub> ≥8.0% & SBP ≥140 mmHg with/without LDL ≥3.4 mmol/L) Active: 575 Control: 571	54.2 (9.2)	54.1	Low income (<US\$400 per month): 66.4%  <high school education: 29.9%	9.9 (1.5) vs 9.9 (1.7)	Median (IQR) : 7 (3 to 13) vs 7 (3 to 12)	Physicians, nurses, dietitians, social workers	Patient education (2.5 years): every 3-monthly follow up & at least monthly phone contact	Individual & group (50-80 intervention group per care manager)	DM self-management, lifestyle adherence, smoking cessation, medication use, SMBG (if on insulin) & stress management.	NA	NA
<b>Dario 2016(4)</b>													
Local health authority	Alto Vicentino, Italy	299 (HbA <sub>1c</sub> >7.0%; >50% had CHD) Active: 208 Control: 91	73.0	43.8	Retired: 54.5%  <High school education: 88.0%	7.94 (0.98) vs 7.93 (1.10)	15.01 (10.2 4) vs 16.01 (9.84)	Physicians, health centre operator	Patient education (12 months): Not specified	NA	NA	NA	NA
<b>Krag 2016(5)</b>													
311 primary care practices	Denmark	1381 (97.5% newly diagnosed T2D; 99.1% Western Europeans) Active: 761 Control: 620  970 (followed up for 13 years after intervention) Post-active:	66.7-70.1 after 6-year intervention	49.3	NA	M: 8.8 (1.7) vs 9.0 (1.6)  F: 8.6 (1.3) vs 9.4 (1.9) after 6-year intervention	19 years follow up from baseline	PCPs	Patient education (6 years): every 3-monthly visit with GPs; 4 leaflets	NA	Physical exercise, dietary compliance, goal-setting, target attainment	NA	NA



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Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
		549 Post-control: 421											
<b>Lundström 2014(6)</b>													
311 primary care practices	Denmark	1381 (97.5% newly diagnosed T2D; 99.1% Western Europeans) Active: 761 Control: 620	Median (IQR): 65.4 (55.7 to 73.6)	46.9	NA	Median (IQR): 10.2 (8.6 to 11.6) vs 10.2 (8.7 to 11.9)	19 years follow up from base-line	PCPs	<u>Patient education (6 years):</u> every 3-monthly visit with GPs; 4 leaflets	NA	Physical exercise, dietary compliance, goal-setting, target attainment	NA	NA
<b>Hansen 2013(7)</b>													
311 primary care practices	Denmark	1,381 (97.5% newly diagnosed T2D; 99.1% Western Europeans) Active: 761 Control: 620	Median (IQR): 65.4 (55.7 to 73.6)	46.9	NA	Median (IQR): 10.2 (8.6 to 11.6) vs 10.2 (8.7 to 11.9)	6- & 14-year follow up from base-line	PCPs	<u>Patient education (6 years):</u> every 3-monthly visit with GPs; 4 leaflets	NA	Physical exercise, dietary compliance, goal-setting, target attainment	NA	NA
<b>Nielsen 2006(8)</b>													
311 primary care practices	Denmark	874 (newly diagnosed T2D; >1/3 were current smoker) Active: 459 Control: 415	Median (IQR): 63.0 (53.8 to 71.4)	49.5	<u>Salaried employees:</u> 28.0% <u>Basic school education:</u> 78.4%	Median (IQR): 10.2 (8.6 to 11.6) vs 10.2 (8.7 to 11.9)	5.5-6.0 years after 6-year intervention	PCPs	<u>Patient education (6 years):</u> every 3-monthly visit with GPs; 4 leaflets	NA	Physical exercise, dietary compliance, goal-setting, target attainment	NA	NA
<b>Olivarius 2001(9)</b>													
311 primary care practices	Denmark	1263 (newly diagnosed T2D; >1/3 were current smoker) Active: 649 Control: 614	Median (IQR): 65.5 (55.3 to 74.0) vs 65.3 (56.3 to 73.5)	47.3	<u>Salaried employees:</u> 28.0% <u>Basic school education:</u> 78.4%	Median (IQR): 10.2 (8.6 to 11.6) vs 10.2 (8.7 to 11.9)	≈5.5-6.0 (at end of 6-year intervention)	PCPs	<u>Patient education (6 years):</u> every 3-monthly visit with GPs; 4 leaflets	NA	Physical exercise, dietary compliance, goal-setting, target attainment	NA	NA
<b>Johansson 2016(10)</b>													
39 general practices	Salzburg, Austria	337 (12% smokers) Active: 148 Control: 189	62.2 (8.8) vs 63.6 (10.8)	51.3	<u>Retired:</u> 67.4% <u>Low education level:</u> 89.5%	7.02 (1.25) vs 7.08 (1.25)	8.4 (7.1) vs 7.0 (5.6)	MDT (GP, nutritionist, psychologist, sports scientist), trained PL	<u>Patient education (24 months)</u> Weekly physical exercise meeting for at least 1-h. Monthly peer group meetings.  <u>PL training:</u> Six 4-h sessions during 1 <sup>st</sup> year.	8-12 patients each group	<u>Patient modules:</u> Personal, social, emotional topics in diabetes (diet, cardiovascular risk management, prevention of diabetes complications, self-management, medical checks, depression).  <u>PL modules:</u> Physical activity, management of T2D, nutrition, motivation	9 instruction sheets on exercise.  Standard curriculum for peer group meetings with newsletters before the sessions.	<u>Attendance rates of PL training:</u> Median 5  <u>Median number of physical exercise meetings of each patient:</u> 23  <u>Frequency of peer group meetings:</u>

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Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
													12 (67% of 15 possible sessions)
<b>Chao 2015(11)</b>													
District hospital (endocrinology service)	Nanjing, China	100 (elderly; >60% had T2D complications) Active: 50 Control: 50	68.5 (6.0) vs 70.7 (6.8)	51.0	<High school education: 38.0%	FPG: 7.9 (2.5) vs 7.5 (2.4)	≥5 years: 49.0%	CHW, care managers, researchers	Patient education (18 months): at least monthly contact; distribution of health promotion materials	Individual, group	lifestyle, psychological aspects of health, diabetes foot disease, cardio-cerebrovascular complications, DN, self-management	NA	NA
<b>Edelman 2015(12)</b>													
9 primary care practices	US	377 (HbA <sub>1c</sub> ≥7.5% with hypertension; 49.9% White) Active: 193 Control: 184	58.7 (10.9)	54.6	Low health literacy: 31.6%  Not employed or retired: 54.9%  <High school education: 49.1%	9.1 (1.0)	NA	Nurses	Patient education (24 months): calls within 2 weeks of randomization, every 8 weeks thereafter; low health-literacy handouts, community resources targeting relevant behaviours  Nurses training: several hours of didactic training in core case management strategies (e.g. motivational interviewing), DM management	Individual	Healthful behaviors for diabetes & hypertension control: medication adherence, weight loss, diet planning (low sodium/low GI diet, portion control), exercise, smoking/alcohol cessation  Fundamentals supporting attainment of healthful behaviours: basic diabetes & hypertension knowledge, insulin self-management, hypoglycemia, stress management, engaging providers in shared decision-making  Patient-specific barriers to healthful behaviours: low health literacy, poor memory, fear of side effects, lack of social support	Clinical experts listened in on study calls periodically & monitored for possible safety concerns. Monthly meetings with MDT to discuss patients' issues	Completion of scheduled calls: 78 vs 81%  Mean (SD) number of completed calls (scheduled 12): 9.3 (3.3) vs 9.7 (3.5)
<b>Tao 2015(13)</b>													
69 general practices	Cambridge, Leicester UK	1024 short term cost-effectiveness (Screen detectedT2D) Active: 513 Control: 511  999 long term modelling analysis	61.1 (7.2) vs 60.1 (7.5)	38.9	NA	7.3 (1.7)	Screen detected	Physicians, DM specialist nurses	Cambridge: one 30-min annual review for each patient, 3 additional 10-min consultations with a GP and 3 with a nurse, per year for the 1 <sup>st</sup> 3 years after diagnosis. Provision of educational materials  Leicester: Structured DESMOND education within 1 <sup>st</sup> 2 months of study, or individual advice from dietician. Provision of 2-monthly peripatetic clinic within 1 <sup>st</sup> year from a DM specialist nurse or physician.	Individual, group (not specified)	Cambridge modules: Basic of DM, 5-10% weight loss, exercise, alcohol, medications adherence, SMBG titration, smoking cessation  Leicester – DESMOND model: Self-management, lifestyle changes (dietary habits, exercise, smoking cessation, SMBG), CV risk factors, medications	NA	NA
<b>Ayala 2015(14)</b>													

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Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
3 primary care clinics	California, US	336 (HbA <sub>1c</sub> ≥7.0%; 96.0% Latino or Hispanic) Active: 168 Control: 168	56.3 (11.9)	63.0	Poverty: 62.0% ≤ 6 <sup>th</sup> grade of education: 41.0%	8.7 (1.5)	NA	Trained PL (volunteers with previous DM education, not required to have DM)	Patient education (12 months): achieved 8 telephone or in person contacts in 1 <sup>st</sup> 6 months, additional contacts as needed in the last 6 months  PL training: Received 40-50 hours of training & 2 booster trainings	34 peer leaders. Each peer to 5-8 patients	Patient modules: assistance with problem-solving e.g. barriers to medication use, social/emotional support & health care linkages (availability of specialty services)  PL modules: 10 manuals on lifestyle, emotional health, medical management, ways to conduct home/clinic visits, ways to lead cooking and physical activity support groups, adult learning theory (interaction, experiences sharing & opportunities to practice skills)	Weekly or biweekly meetings to review patient contact logs with peer leader coordinator	Median number of achieved contacts in 1 <sup>st</sup> 6 months: 4 (1-24) - 137 (92%) had telephone contacts - 53 (36%) had ≥6 contacts
<b>McDermott 2015(15)</b>													
12 primary care clusters	North Queensland, Australia	213 (HbA <sub>1c</sub> >8.5% & at least 1 major comorbidity) -50% indigenous; 50% Torres Straits Islander Active: 100 Control: 113	Mean 47.9 (95% CI 46.6 to 49.2)	62.4	Unemployed: 46.5% ≤12 years of education: 67.1%	10.7	NA	CHW, nurses, primary care team	CHW training: Intensive 3-week training & 2 workshops on refresher training (GCP & reflective practice)	Each CHW to 9-26 patients	a. Rationale for CCM & evidence-based management in DM, CHD, renal disease, hypertension, COPD b. "Hands-on" case management: regular home visits, basic DM care (scheduled clinical checks, blood tests, counselling & referral as per guidelines supported by the clinical team) c. Engaging with families and using local resources to support effective patient self-management.	CHW's diaries for intervention fidelity check	NA
<b>Segal 2016(16)</b>													
12 primary care clusters	North Queensland, Australia	213 (HbA <sub>1c</sub> >8.5% & at least 1 major comorbidity) -50% indigenous; 50% Torres Straits Islander Active: 100 Control: 113	Mean 47.9 (95% CI 46.6 to 49.2)	62.4	Unemployed: 46.5% ≤12 years of education: 67.1%	10.7	NA	CHW, nurses, primary care team	CHW training: Intensive 3-week training & 2 workshops on refresher training (GCP & reflective practice)	Each CHW to 9-26 patients	a. Rationale for CCM & evidence-based management in DM, CHD, renal disease, hypertension, COPD b. "Hands-on" case management: regular home visits, basic DM care (scheduled clinical checks, blood tests, counselling & referral as per guidelines supported by the clinical team) c. Engaging with families and using local resources to support effective patient self-management.	CHW's diaries for intervention fidelity check	NA
<b>Gold 2015(17)</b>													
11 Community health centres	US	3856 early clinics; 4516 late clinics. Total 8372 (T2D of whom statin & RASi were indicated)	>90% aged 55-75 years	61.0	NA	NA	NA	Adopted Kaiser Permanente QI approach	Patient education (24 months): electronic health records shortcuts; exam room poster & handouts in English, Spanish, Russian	NA	essential medications & its importance of adherence	NA	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
<b>Nicolucci 2015(18)</b>													
29 GPs	2 health districts, Italy	302 (HbA <sub>1c</sub> 7.5-10.0% & BP >130/80 despite on treatment) Active: 153 Control: 149	59.1 (10.3) vs 57.8 (8.9)	38.4	NA	7.9 (0.7) vs 8.0 (0.8)	8.3 (6.2) vs 8.7 (6.2)	Nurses	<u>Patient education (12 months):</u> Monthly phone contacts by nurses. Automated messages from computer database	NA	SMBG, medications adherence, possible barriers to good health	NA	NA
<b>Kim 2015(19)</b>													
Non-profit community agency	US	250 (HbA <sub>1c</sub> ≥7.0%; underserved Korean Americans) Active: 120 Control: 130	58.7 (8.4)	43.1	<u>No health insurance:</u> 49.8%  <u>Mean years of education:</u> 13.4 (3.0)	8.9 (0.2) vs 8.8 (0.2)	8.5 (7.2)	Bilingual RN & trained CHW	<u>Patient education (12 months):</u> GE: weekly 2-hour sessions for 6 weeks.  Motivational interview: monthly x 12. Total 11 counselling sessions (15-45 min in length)	4 RN to 38 patients  3 CHW to 67 patients	a. behavioral education (problem solving, coping skills, cognitive reframing) b. DM: treatment, risk factors, SMBG, ↑health literacy skills (reading food labels, healthcare resources access)	Weekly RN-CHW meeting to discuss on challenges & strategies to overcome barriers. The research team reviewed one of every ten counselling records on intervention fidelity	<u>Mean GE attendance rate:</u> 96.1% - 109 (90.8%) attended all 6 classes  <u>Mean number of motivational interview sessions:</u> 7.8 out of 11
<b>Pérez-Escamilla 2015(20)</b>													
Primary care clinic	US	211 (highly impoverished Latinos with T2D & HbA <sub>1c</sub> ≥7%) Active: 105 Control: 106	56.3 (11.8)	73.5	<u>&lt;high school education:</u> 74.0%	9.58 (0.12)	NA	2 trained bilingual CHW (nurse, MA)	<u>Patient education (12 months):</u> 17 home visit sessions: weekly at month 1, biweekly at months 2 & 3, monthly thereafter till month 12  <u>CHW training:</u> 65-h of core training & more than 25-h supplemental training.	Individual	<u>Patient modules:</u> T2D & its complications, nutrition, physical activity, SMBG, adherence to medications & medical appointments, and mental health. Hands-on activities e.g. onsite supermarket shopping, food label reading  <u>CHW modules:</u> T2D pathophysiology, risk factors, lifestyle, SMBG & medications, sick days, psychosocial & behavioral health. Also on motivational interviewing & communication skills, social determinants of health & cultural competence	Weekly troubleshoot meeting with research team based on home visit progress notes	51% received all 17 visits  <u>Mean duration of each home visit (min):</u> 87.8 (18.2)
<b>Simmons 2015(21)</b>													
130 rural clusters	Essex, England	1299 (7.1% ethnic minority) Combined: 322 Group: 330	Combined 65.3 (9.3), Group 65.2	39.6	<u>Professional:</u> >60%  <u>Completed tertiary education:</u>	7.4	Median (IQR) : Combined	Trained volunteer PL with DM; MDT (PN, DM specialist nurse, dietitians, PCP)	<u>Patient education (12 months):</u> telephone/e-mail for 1:1 counselling, or monthly GE x 5	Each PL to maximum 10 patients	<u>Patient modules:</u> portion control, truths & myths about DM, goal-setting, medications, foot care, exercise, self-efficacy promotion, social/emotional support	<u>Peer-DM specialist nurses troubleshoot meetings on recorded patients' phone</u>	61.4% (592/977) of intervention patients attended an actual peer support session

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
		Individual: 325 Control: 322	(10.2), Individual 65.2 (8.9), Control 64.6 (10.3)		25.0%		6 (3-11), Group 7 (3-12), Individual 7 (3-12), Control 6.5 (3-12)		<u>PL training:</u> Two 3-h evening training sessions (1:1 meetings up to 1 hour; group meetings up to 1.5 hours). Summative assessment with provision of training certificates.		<u>PL modules:</u> a. basis of peer support & behaviour interventions b. basic DM knowledge (food, physical activity, self-monitoring) c. group/individual support skills (motivational interview) d. safety, communication & emotion handling skills, patient's confidentiality	<u>or face-to-face meetings:</u> monthly x 6, every 2 months thereafter	<u>Mean number of attendance:</u> 3.7 (others in telephone/ email contact)
<b>van Dijk-de Vries 2015(22)</b>													
40 family practices	South Netherlands	264 (low socio-economic T2D with emotional distress or problems with daily functioning; 99.2% Western descent) Active: 117 Control: 147	64 (10) vs 65 (9)	46.2	<u>Low education status:</u> 69.3%  <u>Absence of psychological care:</u> 83.0%	7.0 vs 6.9	9 (8) vs 8 (6)	PN	<u>Patient education (12 months):</u> extra 20-min consultations  <u>PN training:</u> three 8-h training sessions, followed by booster sessions & telephone consultations, whose frequency depends on the PNs' needs.	NA	<u>Patient modules:</u> Problem solving, cognitive therapy, self-management support  <u>PN modules:</u> Problems identification (metabolic & psychosocial), goal-setting	Intervention fidelity was checked by audiotaped consultation	46 (39.3%) patients with DM distress or problems with daily functioning were registered for intervention
<b>Chung 2014(23)</b>													
DM clinic at a university hospital	Kuala Lumpur, Malaysia	241 (HbA <sub>1c</sub> ≥8.0%; 44.8% Malays, 20.3% Chinese, 32.8% Indians) Active: 120 Control: 121	59.7 (9.5) vs 58.5 (8.3)	56.0	<u>Unemployed:</u> 59.3%  <u>&lt;Secondary school education:</u> 65.1%	9.6 (1.3) vs 9.5 (1.4)	16.3 (8.0) for both	Pharmacist	<u>Patient education (12 months):</u> Monthly follow-up phone calls with Every 3-4 months' review post clinic consultation	NA	Review on medications & any drug-related problem. Education on DM, hypertension, dyslipidemia, SMBG & medication adherence	NA	NA
<b>Hsu 2014(24)</b>													
27 community clinics	Taiwan	1060 Active: 789 Control: 271	NA	NA	NA	Mean 8.4 vs 8.6 (no SD)	NA	Case managers (not specified)	<u>Patient education (3.5 years follow up):</u> Group education & individualized nutrition counselling every 3 months (30-60 min each)	NA	Diet (low fat, carbohydrate counting), exercise, SMBG, foot care, medications, complication management	NA	NA
<b>Adepoju 2014(25)</b>													
7 clinics of a university affiliated health care system	Texas, US	376 (HbA <sub>1c</sub> ≥7.5%; 36.4% Hispanics/ non-Hispanic Blacks with T2D)	57.56 (10.92)	55.0	<u>Annual household Income &lt;US\$ 50,000:</u> 63.7%  <u>&lt;high school education:</u> 28.2%	9.28 (1.56)	3.11 (2.43)	Trained PL	<u>Patient education (24 months):</u> <u>CDSMP:</u> weekly 2.5-h classroom based teaching for 6 weeks in clinical environments & community settings  <u>PDA:</u> using DM pilot software	Individual, group (not specified)	<u>CDSMP:</u> DM self-management (decision making, action planning, effective communication skills)  <u>PDA:</u> Glucose & BP monitoring, medication usage, physical activity, dietary intake	Not monitored, use pre-scripted materials	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
		CDSMP: 101 PDA: 81 Combined: 99 Control: 95							<u>PL training:</u> 4-day prior training		<u>PL modules:</u> Not specified		
<b>Frei 2014(26)</b>													
30 primary care practices	Switzerland	326 (HbA <sub>1c</sub> ≥7.0%) Active: 162 Control: 164	65.7 (10.4) vs 68.3 (10.6)	42.6	<u>Mean years of education:</u> 11.6	7.8 vs 7.6	9.5 (7.4) vs 10.3 (7.8)	PCPs, PN	<u>Patient education (12 months):</u> Every 4-monthly PN consultations  <u>Personnel education:</u> PN: 6-day educational course organized by union of Swiss Practice Nurses & two 4-h interactive workshops  GP: two 4-h interactive workshops (right after randomization & 6 months later)	NA	<u>Patient modules:</u> SMBG, insulin administration, DM & its complications, behavioral goals (dietary & medications adherence, moderate exercise 30-min 3 days per week)  <u>Personnel modules:</u> PN: basic DM knowledge, drug adherence, ways to perform consultations with monitoring tools, communication skills  <u>Workshops:</u> team approach, evidence-based DM therapy, cardiovascular risk factors management	NA	NA
<b>Forjuoh 2014(27)</b>													
7 clinics of a university affiliated health care system	Texas, US	376 (HbA <sub>1c</sub> ≥7.5%; 36.4% Hispanics/non-Hispanic Blacks with T2D) CDSMP: 101 PDA: 81 Combined: 99 Control: 95	57.56 (10.92)	55.0	<u>Annual household income &lt;US\$ 50,000:</u> 63.7%  <u>&lt;high school education:</u> 28.2%	9.28 (1.56)	3.11 (2.43)	Trained PL	<u>Patient education (24 months):</u> CDSMP: weekly 2.5 h classroom based teaching for 6 weeks in clinical environments & community settings  <u>PL training:</u> 4-day prior training	NA	<u>Patient modules:</u> CDSMP: DM self-management (decision making, action planning, effective communication skills)  PDA: Glucose & BP monitoring, medication usage, physical activity, and dietary intake by using DM pilot software.  <u>PL modules:</u> Not specified	Not monitored	NA
<b>Chan 2014(28)</b>													
3 publicly funded hospital-based DM centres	Hong Kong	628 (Chinese T2D; 95.3% in high or very high 3.risk categories; 17.4% had cardiovascular & renal complications) Active: 312 Control: 316	54.7 (9.3)	43.5	<u>Full/part time employment:</u> 48.3%  <u>&lt;11 years of education:</u> 85.5%	8.2 (1.6)	9.4 (7.7)	Trio team (diabetologists, nurses, health care assistants) & 33 trained PL with DM	<u>Patient education (12 months):</u> JADE: 2-h group empowerment class 4-6 weeks after comprehensive assessments.  <u>PL training (PEARL):</u> Four 8-h workshops with before & after evaluation. Nurses facilitated initial group sharing, followed by at least 12 telephone contacts, 15-min per call by peer leaders (biweekly for 3 months → monthly for 3 months → 1 call every other month for 6 months)	Each peer leader to 10 patients	<u>Patient modules:</u> Provision of personalized report to reinforce on self-care, targets attainment  <u>PL modules:</u> SMBG, medications adherence, lifestyle, communication skills, experience sharing	Mailed reports on peer-patient discussion every 3 months.  Three half-day troubleshoot meetings among physicians, nurses, project coordinators & peer leaders	<u>Median (IQR) number of calls per patient:</u> 20 (9-24)
<b>Steventon 2014(29)</b>													
112	Cornwall,	513	63.9	42.1	NA	8.5 (1.8)	NA	Specialist nurse	<u>Patient education (12 months):</u>	Individual	DM management, limited	NA	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
general practices	Kent & Newham, UK	(65.7% had HbA <sub>1c</sub> >7.5%; 53.2% White) Active: 300 Control: 213	(13.0) vs 66.2 (11.9)			vs 8.3 (1.7)		or community matrons, care coordinator	Educational messages generated from the telehealth system were based on the SMBG frequency		medications titration (matrons)		
<b>Wilson 2014(30)</b>													
49 general practices	3 primary care trusts, UK	1,997 (>50% with HbA <sub>1c</sub> <7.0%; 58.5% White) Active: 1057 Control: 940	NA	42.1	NA	7.34 (1.40) vs 7.26 (1.24)	NA	DM specialist nurses, GPwSI, community based diabetologist	<u>Patient education (18 months):</u> Intermediate Care Clinics for DM	NA	DM self-management	NA	NA
<b>Tang 2014(31)</b>													
A federally qualified health centre	Detroit, US	116 (Latinos T2D) PL: 60 CHW: 56	49.3 (11.0)	58.6	<u>Annual household income &lt;US\$ 20,000:</u> 94.4%  <u>≤ Some high school:</u> 77.4%	8.0 (2.0)	6.6 (5.9)	Trained volunteer PL with DM or CHW (salaried employee of health clinic)	<u>Patient education - DSMS (18 months):</u> <u>PL-led:</u> 6 months' program consisted of eleven 2-h culturally tailored interactive group self-management classes, two home visits (60 min in length) per month, one visit with the PL/CHW & GP → 12 months of weekly group sessions. Phone contacts to patients who missed DSMS over 3 consecutive weeks.  <u>CHW-led:</u> similar 6 months' program → 12 months of monthly telephone outreach  <u>Personnel training:</u> <u>PL:</u> 46-h training for 12 weeks; had to meet the pre-established competency criteria for four domains: DM knowledge, active listening, empowerment-based facilitation & self-efficacy  <u>CHW:</u> 160-h of community outreach training, 80-h of DM education	NA	<u>PL/CHW DSMS modules:</u> Patient empowerment, goal-setting, action plan, group-based problem solving, emotional & social support  <u>PL/CHW training modules:</u> Basics of DM, communication, facilitation & behaviour modification skills, practice applying skills in experiential learning scenarios, motivational interviewing	NA	<u>At least one contact with PL/CHW between 6-18 months:</u> PL 27 (45.0%), CHW 30 (53.6%)  <u>Mean number of contacts throughout study period:</u> PL 3.67, CHW 2.88
<b>Rothschild 2014(32)</b>													
Primary care practices	Chicago, US	144 (70.5% had HbA <sub>1c</sub> ≥7%; Mexican Americans) Active: 73 Control: 71	53.7 (12.2)	67.4	<u>≤6 years of education:</u> 56.9%	8.3 (2.0)	NA	Trained CHW (non-DM)	<u>Patient education (24 months):</u> 36 home visits in total.  <u>CHW training:</u> 100-h of training with on-going supervision by 2 physicians, a nurse, and a clinical psychologist. Bimonthly	3 CHWs	<u>Patient modules:</u> Self-management skills (self-monitoring, environmental restructuring, social support, problem solving/decision making & stress management)  <u>CHW modules (developed by Midwest Latino Health Research Centre):</u> Basics of DM, behavioral self-	Study psychologist reviewed audiotaped study visits & randomly assessed CHW intervention skills at 6- and 12-month home visits.	<u>Median number of visits/week:</u> 7  <u>Mean duration of visits (min):</u> 99

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
									individual & group sessions with psychologist for case discussion & feedback. Evaluated via post-tests for adequate knowledge & competency assessment by role-play		management support, home visits	Fortnightly troubleshoot meeting with research team	
<b>Holmen 2014(33)</b>													
Primary care practices	Norway	151 (HbA <sub>1c</sub> ≥7.1%; >60% with 1-2 comorbidities) FTA-HC: 50 FTA: 51 Control: 50	57.0 (12.0)	41.0	Unemployed: 27.7%  ≤12 years of education: 66.0%	8.2 (1.1)	FTA-HC: 9.6 (8.4), FTA: 11.2 (7.3), Control 9.4 (5.5)	DM specialist nurse with or without dietician	Patient education (12 months): Via e-health or phone-based counselling at randomization & monthly for 4 months (20-min in length)	NA	DM self-management through awareness, SMBG, lifestyle, goal-setting, motivational feedback through symbols, visual graphs & trends reports	NA	20 (39%) had ≥50 e-health interactions.  42 (84%) patients attended ≥4 health counselling sessions
<b>Eakin 2014(34)</b>													
9 primary care practices	Queensland, Australia	302 (79.5% had CVD; 87.4% Caucasians) Active: 151 Control: 151	58.0 (8.6)	43.7	Full/part-time or casual employment: 62.9%  <high school education: 11.6%	Median (IQR): 7.1 (6.4 to 8.0)	Median (IQR): 5.0 (2.0 to 10.0)	Phone counsellor	Patient education (18 months): Received a detailed workbook & up to 27 phone calls over 18 months (4 initial weekly calls; fortnightly calls for 5 months; monthly calls for 12 months)  Phone counsellor training: At least bachelor's level in nutrition ± exercise physiology. One month intensive training in study protocol & health behavior counselling	NA	Patient modules: Behavioral therapy, motivational interview on self-monitoring, goal-setting, benefits of lifestyle changes to achieve 5-10% weight loss  Phone counsellor modules: Self-efficacy, social support, barriers & approach to health behavior change	Call content checklist, randomly taped phone calls & fortnightly clinical supervision meetings	Completion of ≥75% of intervention calls: 36.4% (55 of 151)  Mean duration of intervention calls (min): 24.6 (10.6)
<b>Dickinson 2014(35)</b>													
40 primary care practices	Colorado, US	822 (16.2% with psychiatric illness) Continuous QI: 189 Reflective adaptive: 312 Control: 321	60.5 (12.6) vs 61.9 (12.1) vs 60.0 (13.2)	51.3	NA	7.18 (1.59) vs 7.35 (1.76) vs 7.69 (2.00)	NA	MDT, practice facilitator	Mainly practice & HCP levels of intervention	NA	NA	NA	NA
<b>Slingerland 2013(36)</b>													
13 hospitals	The Netherlands	506 (84% on insulin ± oral antidiabetic agents) Active: 237 Control: 269	65.0 (11.0)	55.0	NA	8.1 (1.3)	Median (IQR): 11 (6 to 17)	Internal medicine doctors, DM specialist nurses, dietitians	Patient education (12 months): Provision of DM passport, educational meetings, waiting room leaflets & posters	NA	NA	NA	NA
<b>DePue 2013(37)</b>													
Primary care practices	American Samoan Island	104 (Intervention sample only; Tribal & under-served;	56.0 (12.5)	57.0	Unemployed: 57.0%  <high school graduates;	9.6 (2.1)	NA	1 NCM (RN), 4 trained CHWs	Patient education (12 months): Bilingual culturally-tailored flipcharts. Intervention dose & content were based on patients' risk categories & self-selected goals. Received NDEP	Individual, group (high risk patients only)	8 patient modules: Basics of DM, healthy eating, exercise, medications adherence, glucose/BP monitoring & progress tracking, risk reduction	Content checklist, observed by other CHWs, NCM reviewed	Mean number of completed visits: 74%  Median number of



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Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
		18% on insulin) High risk: 31 Moderate risk: 57 Low risk: 16			16.0%				education materials.  <u>CHW training:</u> Minimum high school education. Certified on DM knowledge & anthropometric procedures		(smoking, alcohol, foot care, complications screening), healthy coping (stress and depression), problem solving  <u>CHW modules:</u> Role-play, self-management support, motivational interview	CHW's visit progress notes	<u>visits:</u> Low risk 5.5, moderate risk 11, high risk 28  <u>Median length of visits:</u> Low risk 36.7, moderate risk 34.0, high risk 31.6
<b>DePue 2013(38)</b>													
A community health centre	American Samoan Island	268 (underserved T2D) Active: 104 Control: 164	55.0 (12.7)	62.0	<u>Unemployed:</u> 59.0%  <u>Mean years of education:</u> 12.5 (2.2)	9.8 (2.2)	NA	1 NCM (RN), 4 trained CHWs	<u>Patient education (12 months):</u> Bilingual culturally-tailored flipcharts. Intervention dose & content were based on patients' risk categories & self-selected goals. Received NDEP education materials.  <u>CHW training:</u> Minimum high school education. Certified on DM knowledge & anthropometric procedures	Individual, group (high risk patients only)	<u>8 patient modules:</u> Basic of DM, healthy eating, exercise, medications adherence, glucose/BP monitoring & progress tracking, risk reduction (smoking, alcohol, foot care, complications screening), healthy coping (stress and depression), problem solving  <u>CHW modules:</u> Role-play, self-management support, motivational interview	Content checklist, observed by other CHWs, NCM reviewed CHW's visit progress notes	<u>Mean number of completed visits:</u> 74%  <u>Median number of visits:</u> Low risk 5.5, moderate risk 11, high risk 28  <u>Median length of visits:</u> Low risk 36.7, moderate risk 34.0, high risk 31.6
<b>Gagliardino 2013(39)</b>													
Primary care practices	Argentina	198 (T2D with ≥2 years of DM follow-up) Active: 93 Control: 105	62.0 (9.0) vs 60.0 (10.0)	51.5	NA	7.1 (1.5) vs 7.3 (1.5)	6.0 (7.0) vs 6.0 (6.0)	Trained PL	<u>Patient education:</u> 4 weekly teaching (90–120 min each) & a reinforcement session at 6 months. Provided educational materials, multiple-choice-questions tests. Scheduled face-to-face or phone contacts with PL (weekly for the 1 <sup>st</sup> 6 months, biweekly for the next 3 months, monthly for the remaining 3 months)  <u>PL training:</u> 3-day intensive, structured, small-group interactive course. Monthly group calls among peers to share experience, challenges, and possible solutions.	Maximum 10 patients in each group	<u>4 patient modules (PEDNID LA):</u> a. general T2D concepts, symptoms of hypoglycaemia & hyperglycaemia, SMBG with active patient participation in disease management b. obesity & insulin sensitivity, weight loss, food selection (Plate model) c. importance of foot care & regular exercise d. 'sick days' rules, examinations & laboratory tests necessary to have good DM care  <u>PL modules:</u> pedagogic, motivational/communication/group management techniques, basic DM control/treatment & evaluation concepts	Quarterly reports to patients' physicians. Phone contacts were recorded. Monthly troubleshoot meeting with research team.	NA
<b>Gagliardino 2013(40)</b>													
36 primary care	Argentina	468 (T2D with ≥2 years of DM)	62.2 (9.0) vs 62.2	66.7	NA	7.7 (1.3) vs 7.8 (1.4) vs	Median (IQR)	MDT (diabetologist, CDE, dietitian)	<u>Patient education (42 months):</u> Followed PEDNID LA model as described above.	Maximum 10 patients in each group	<u>Patient modules:</u> Followed PEDNID LA model as described above.	A medical monitor reviewed	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
physicians		follow-up; 64.6% not on lipid lowering drugs at baseline) Physician education: 117 Patient education: 117 Combined: 117 Control: 117	(8.4) vs 62.4 (9.1) vs control 62.0 (8.4)			7.5 (1.5) vs control 7.8 (1.2)	8 (5 to 14) vs 8 (4 to 16) vs 10 (6 to 14) vs Control 9 (5 to 15)		<u>Physician education:</u> Received an education book from Argentine Diabetes Society. 25-structured interactive course conducted by trained diabetologist educators to groups of 10–15 physicians. Written evaluation after each module with practical test as final assessment.		<u>5 Physician modules (PROPAT):</u> a. diagnosis, classification & socio-economic impact b. associated CV risk factors c. chronic complications d. control, treatment & follow-up e. special conditions	physician's & patient's performance & the quality of data recorded every 6 months, which were then forwarded to the Central Coordinating Centre.	
<b>Sperl-Hillen 2013(41)</b>													
2 primary health care groups	New Mexico & Minnesota, US	623 (HbA <sub>1c</sub> ≥7.0%; 27% Hispanic & Blacks & 65% White) IE: 246 GE: 243 Control: 134	62.0	49.0	<high school education: 22.0%	8.07 vs 8.11 vs control 8.09	Mean 11.7 (no SD)	CDE	<u>Patient education (12 months):</u> IE: 1-h monthly sessions  <u>GE:</u> four 2-h weekly sessions	NA	<u>IE - 7 Patient modules (AADE):</u> healthy eating, SMBG, medications adherence, problem solving, risk reduction, healthy coping & being active <u>GE - US Diabetes Conversation map:</u> Overcome barriers to self-management & improve self-efficacy	<u>GE:</u> based on facilitator self-ratings & patient satisfaction scores after each session	NA
<b>Blackberry 2013(42)</b>													
59 general practices	Victoria, Australia	473 (HbA <sub>1c</sub> >7.5%; 19% with macrovascular disease; 33% with microvascular disease) Active: 236 Control: 237	62.8 (10.5)	43.0	<u>Unemployed:</u> 8.0%  <u>≤ secondary school education:</u> 84.0%	7.98 (1.22) vs 8.13 (1.34)	Median (IQR) : 10.0 (5.0 to 14.0)	PN	<u>Patient education (15 months):</u> 5 telephone coaching sessions every 6 weeks in the 1 <sup>st</sup> 6 months, at months 8 and 10; a face-to-face session at 12 months, & a final telephone coaching at 15 months.  <u>PN training:</u> 2-day training program in telephone coaching.	Individual	<u>Patient modules – COACH model:</u> Patient empowerment, risk factors targets & discussion with GPs, action plan, lifestyle changes, medications intensification  <u>PN modules – COACH model:</u> Lifestyle & pharmacological management of DM	Random analysis on recorded telephone coaching sessions. Research team provided 1 visit to the practice, monthly phone calls, & a group meeting.	<u>Median (IQR) number of coaching session:</u> 3 (1-5)  <u>Median (IQR) duration of each session:</u> 30 (10-120)
<b>Prezio 2013(43)</b>													
Urban community clinics	Texas, US	180 (non-insulin treated Mexican Americans) Active: 90 Control: 90	47.9 (11.0) vs 45.7 (10.7)	60.6	<u>Unemployed, disabled or retired:</u> 60.6%  <u>≤ 12 years of education:</u> 70.6%	8.9 (2.2) vs 8.7 (2.3)	4.8 (4.6) vs 4.5 (5.6)	Trained CHW, 3 full-time PCPs	<u>Patient education (12 months):</u> 3-h clinic-based culturally tailored session, 4-h of quarterly case management (Total 7 hours). Received printed educational materials.  <u>CHW training:</u> High school equivalent & certification from State of Texas. 12-h of didactic classroom teaching & 5-h of one-to-one training from CDE & dietitian (no contact with study patients). 10-h of one-to-one education from an endocrinologist. Written examination	NA	<u>3 patient modules:</u> SMBG, meal planning, sick days' rules, medication use, smoking cessation, exercise recommendations, DM complications  <u>CHW modules:</u> DM knowledge, dietary assessment, meal planning & technical interviewing skills	Quarterly data review & analysis, bimonthly research team meeting, weekly tracking of all patients	82 (92%) patients attended all 7 CoDE program

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
									& clinical observations before trial began.				
<b>Prezio 2014(44)</b>													
Urban community clinics	Texas, US	180 (non-insulin treated Mexican Americans) Active: 90 Control: 90	47.9 (11.0) vs 45.7 (10.7)	60.6	Unemployed, disabled or retired: 60.6%  ≤ 12 years of education: 70.6%	8.9 (2.2) vs 8.7 (2.3)	4.8 (4.6) vs 4.5 (5.6)	Trained CHW, 3 full-time PCPs	As above	NA	As above	As above	As above
<b>Prezio 2014(45)</b>													
Urban community clinics	Texas, US	180 (non-insulin treated Mexican Americans) Active: 90 Control: 90	47.9 (11.0) vs 45.7 (10.7)	60.6	Unemployed, disabled or retired: 60.6%  ≤ 12 years of education: 70.6%	8.9 (2.2) vs 8.7 (2.3)	4.8 (4.6) vs 4.5 (5.6)	Trained CHW, 3 full-time PCPs	As above	NA	As above	As above	As above
<b>Gabbay 2013(46)</b>													
12 primary care clinics	2 health systems at Pennsylvania, US	545 (Urban underserved high risk T2D, with either HbA <sub>1c</sub> >8.5% BP>140/90, or LDL>3.4 mmol/L; 46.6% White, 38.7% Hispanic) Active: 232 Control: 313	58.0 (11.0)	58.0	Annual household income <US\$ 35,000: 70.6%  With some college education: 34.3%	8.82 (2.38) vs 9.05 (2.27)	NA	3 NCM	Patient education (24 months): 1-h sessions with NCM (different days as PCP visits) at baseline, 2 & 6 weeks, then 3, 6 & 12 months, and then at least every 6 months thereafter. Email or phone contacts between visits whenever necessary.  Nurse training: Bachelor in nursing level. 80-h training.	Individual	Patient modules: Review of laboratory tests, lifestyle behavior, medications adherence  Nurse modules: Motivational interview, NCM, DM (didactic, role play, attending conferences or lectures, mock interviews)	Weekly to monthly feedback on audiotaped visits by motivational interview experts & a PhD-prepared nurse practitioner. At least biweekly troubleshoot meeting with research team.	Mean number of NCM visits: 5.7 (3.6)  75 (32%) patients lost engagement with NCM in the last 8 months despite multiple contact attempts.
<b>Bosi 2013(47)</b>													
39 DM clinics	Italy	1024 (non-insulin treated T2D with HbA <sub>1c</sub> 7.0-9.0%) Active: 501 Control: 523	Median (IQR): 60.2 (55 to 67) vs 60.4 (54 to 68)	39.7	NA	Median (IQR): 7.4 (6.9 to 7.8) vs 7.3 (6.9 to 7.8)	Median (IQR): 6.2 (3.2 to 8.8) vs 6.2	NA	Patient education (12 months): Commercially available educational program (Accu-check Educare) was used in both groups.	Individual	Patient-specific, included charts & other materials to promote patient engagement; on nutrition, exercise, SMBG & medications. Intervention patients had additional training in SMBG interpretation & titration to achieve glucose targets.	NA	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
							(3.4 to 8.8)						
<b>Russo 2016(48)</b>													
39 DM clinics	Italy	1024 (non-insulin treated T2D with HbA <sub>1c</sub> 7.0-9.0%) Active: 501 Control: 523	Median (IQR): 60.2 (55 to 67) vs 60.4 (54 to 68)	39.7	NA	Median (IQR): 7.4 (6.9 to 7.8) vs 7.3 (6.9 to 7.8)	Median (IQR): 6.2 (3.2 to 8.8) vs 6.2 (3.4 to 8.8)	NA	As above	Individual	As above	NA	NA
<b>Van den Donk 2013(49)</b>													
343 general practices	Cambridge, Leicester, Denmark, The Netherlands	3057 (screen detected T2D; 94.0% White) a. Cambridge 867 b. Leicester 159 c. Denmark 1533 d. Netherlands 498 Active: 1678 Control: 1379	60.1 (6.9) vs 60.0 (6.9)	42.4	<u>Employed:</u> 42.3%	Median (IQR): 6.5 (6.1 to 7.3) vs 6.6 (6.1 to 7.3)	Screen detected	Physicians, DM specialist nurses, dietitian	<u>Cambridge:</u> one 30-min annual review for each patient, 3 additional 10-min consultations with a GP and 3 with a nurse, per year for the 1 <sup>st</sup> 3 years after diagnosis. Provision of educational materials <u>Leicester:</u> Structured DESMOND education within 1 <sup>st</sup> 2 months of study, or individual advice from dietician. Provision of 2-monthly peripartetic clinic within 1 <sup>st</sup> year from a DM specialist nurse or physician. <u>Denmark &amp; Netherlands:</u> Small group or practice-based educational meetings with PCP & nurses. Provision of educational materials.	Variable	<u>Cambridge modules:</u> Basics of DM, 5-10% weight loss, exercise, alcohol, medications adherence, SMBG titration, smoking cessation <u>Leicester – DESMOND model:</u> Self-management, lifestyle changes (dietary habits, exercise, smoking cessation, SMBG), CV risk factors, medications <u>Denmark &amp; Netherlands modules:</u> Lifestyle, treatment targets	NA	NA
<b>Simmons 2016(50)</b>													
343 general practices	Cambridge, Leicester, Denmark, The Netherlands	3057 (screen detected T2D; 94.0% White) a. Cambridge 867 b. Leicester 159 c. Denmark 1533 d. Netherlands 498 Active: 1678 Control: 1379	60.3 (6.9) vs 60.2 (6.8)	42.1	<u>Employed:</u> 41.0%	7.0 (1.6) vs 7.0 (1.5)	Screen detected	Physicians, DM specialist nurses, dietitian	As above	Variable	As above	NA	NA
<b>Herman 2015(51)</b>													
343	Cambridge,	Risk factors	60 (7)	41.0	NA	Median	Screen	Physicians, DM	As above	Variable	As above	NA	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
general practices	Leicester, Denmark, The Netherlands	simulated model Active: 1678 Control: 1379				6.5% (no IQR)	detected	specialist nurses, dietitian					
<b>Sandbaek 2014(52)</b>													
343 general practices	Cambridge, Leicester, Denmark, The Netherlands	3057 (screen detected T2D; 94.0% White) a. Cambridge 867 b. Leicester 159 c. Denmark 1533 d. Netherlands 498 Active: 1678 Control: 1379  2861 on follow-up Post-active: 1386 Post-control: 1048	60.3 (6.9) vs 60.2 (6.8)	42.1	<u>Employed:</u> 41.0%	7.0 (1.6) vs 7.0 (1.5)	Screen detected	Physicians, DM specialist nurses, dietitian	As above	Variable	As above	NA	NA
<b>Mons 2013(53)</b>													
38 primary care practices	Southwest Germany	204 (HbA <sub>1c</sub> >7.5%; 24.5% had CHD; 15.7% had DN) Active: 103 Control: 101	Median (IQR): 68.0 (17.0) vs 67.0 (15.0)	38.7	<u>Low education level:</u> 68.6%	8.0 (0.9) vs 8.2 (1.1)	Median (IQR): 9.0 (7.5) vs 9.0 (10.0)	PN	<u>Patient education (12 months):</u> Monthly 10-min telephone counselling  <u>Nurse training:</u> Completed 3-year dual vocational training.	Individual	<u>Patient modules:</u> Medications adherence, lifestyle, problem solving, self-management  Not specified	Counselling was based on written manual & standardized questionnaires	<u>Mean number of phone counselling:</u> 92%: 10-12 sessions, 8%: 6-9 sessions
<b>Crowley 2013(54)</b>													
Academic affiliated primary care practice	Durham, US	359 (low health literacy African Americans; 43.7% had CHD or CKD) Active: 182 Control: 177	56.0 (12.0) vs 57.0 (12.0)	72.0	<u>Annual household income &lt;US\$ 10,000:</u> 37.2%  <u>&lt;12 year of education:</u> 30.1%	8.0 (0.1) for both	NA	Nurse centred outside the study sites	<u>Patient education (12 months):</u> Received culturally-tailored education pamphlets. Monthly nurse-patient telephone calls.	NA	<u>3 patient modules:</u> a. DM management (knowledge, self-monitoring, hypoglycemia& medication use) b. psychosocial determinants of DM control (depression, memory & social support) c. patient-specific behavior change (diet, exercise, smoking cessation, weight loss if BMI >25 kg/m <sup>2</sup> )	Software-generated education scripts.	<u>Mean number of scheduled calls:</u> 9.9 (3.0) of 12 calls  <u>Mean duration of each call (min):</u> 17.1 (7.3)  PCP replied to 76% of the

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
									<u>Nurse training:</u> quarterly electronic nurse-PCP medication management facilitation.		<u>Nurse modules:</u> Motivational interviewing, medications adherence, SMBG & home BP monitoring interpretations		contacts, in which 18% resulted in medications change.
<b>Mohamed 2013(55)</b>													
22 primary care practices & hospital DM clinic	Doha, Qatar	430 (Arabians with T2D) Active: 215 Control: 215	52.0 (8.9) vs 55.0 (10.7)	NA	<high school education: 57.9 (22.0) vs 50.0 (15.0) %	8.67 (1.50) vs 8.61 (2.9)	11.5 (9.0) vs 10.3 (8.4)	Health educators	<u>Patient education (12 months):</u> GE: Interactive sessions & provision of educational toolkit  <u>Health educators training:</u> Not specified	10-20 patients per session	<u>4 patient modules:</u> a. etiology of DM, sign & symptoms, complications b. diet, portion control (Idaho plate), goal-setting c. exercise & energy expenditure d. health beliefs, coping skills  <u>Health educators' modules:</u> DM self-management, counselling & empowerment skills	Recorded videos were externally reviewed.	NA
<b>Liu 2012(56)</b>													
3 general practices	Shanghai, China	208 (rural T2D; 13.0% had cardiovascular renal complications) Active: 119 Control: 89	62.0 (9.8) vs 62.5 (10.0)	62.0	<u>Mean years of education:</u> 6.22 (4.43) vs 6.08 (4.77)	NA	NA	GP, preventive doctor, nurse, PL	<u>Patient education (12 months):</u> 12 monthly sessions & one-to-one session post GE for behavioral counselling, prescription & ordering referrals/tests (1-h in length).  <u>Personnel training:</u> 1-day training workshop. Alternative leading the patient module based on area of expertise.	1 PL to 20-25 patients per group	<u>Patient modules:</u> Self-management (goal-setting, weekly action plan, meal planning, exercise, medications including insulin, hypoglycemia, DM foot care, understanding the blood tests results  Not specified	NA	<u>Mean number of attended sessions:</u> 10.1 of 12 (75.6% attended ≥10 sessions)
<b>Trief 2013(57)</b>													
Urban & rural primary care practices	New York, US	1665 (Under-served T2D aged ≥55 years; 49.4% White, 50.1% Black or Hispanic) Active: 844 Control: 821	70.82 (6.63)	62.82	<u>Mean years of education:</u> 9.77 (4.12)	7.38 (1.54)	11.09 (9.38)	4 NCM, dietitians	<u>Patient education (12 months):</u> Bilingual educational webpage (regular & low literacy versions), videoconferencing,	Individual, group (not specified)	Not specified	Daily supervision of NCM by an endocrinologist  Use of HTU were logged (contacts with NCM, the project Web page/chat room, frequency of patient's views on own clinical database)	NA
<b>Weinstock 2011(58)</b>													
Urban & rural primary care practices	New York, US	1665 (Under-served T2D aged ≥55 years; 49.4% White, 50.1% Black or	70.82 (6.63)	62.82	<u>Mean years of education:</u> 9.77 (4.12)	7.38 (1.54)	11.09 (9.38)	4 NCM, dietitians	As above	Individual, group (not specified)	Not specified	As above	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
<b>Nishita 2013(59)</b>													
Primary care practices	Island of O'ahu, US	190 (85.8% T2D; Asians 36%; Native Hawaiian/Pacific Islanders 35%; White 17.4%) Active: 128 Control: 62	Mean (SE) 48.46 (0.71)	62.63	Low socio-economic status  <4 years of college education: 49.47%	7.76 (0.12)	8.13 (0.61)	9 trained life coaches, 5 retail pharmacists	<u>Patient education (12 months):</u> Separate sessions with life coach & pharmacist (1-h & 45-min in length respectively). Frequency of contact was based on patients' needs. Had access to fitness club membership.  <u>Life coach training:</u> 65-h training model developed by the research team. Monthly trainings on other coaching topics, attended coaching conferences & accessed online diabetes self-management materials  <u>Pharmacist training:</u> Certification of pharmaceutical care in diabetes after completion of 17-h training.	NA	<u>Patient modules:</u> lifestyle changes, DM-related health behavior, goal-setting/action plan, problem solving, medications management  <u>Life coach modules:</u> DM, self-management strategies  <u>Pharmacist modules:</u> Medication management, diet, exercise	Periodic one-on-one meetings with certified life coach	94% of intervention group patients attended an average of 10 sessions with life coach. - 87% attended on average 4 pharmacist's sessions.
<b>Flamm 2012(60)</b>													
Primary care practices of 6 clusters	Austria	<u>1<sup>st</sup> year:</u> 1489  <u>2<sup>nd</sup> year:</u> 1072 (801 analysed) DMP/DMP: 414 DMP/Control : 440 Control/Control: 218	65.13 (10.20) vs 64.26 (10.61) vs 67.53 (10.24)	47.2	NA	7.40 (1.48) vs 7.32 (1.37) vs 7.14 (1.11)	NA	MDT	<u>Patient education (12 months):</u> 9-h training by physicians  <u>Physician training:</u> Mandatory 10-h in person training course	3-12 patients each group	<u>4 patient modules:</u> Self-management, goal-setting, lifestyle modifications, medications adherence  <u>Physician modules:</u> Updates on DM care, treatment guidelines, practice management training	NA	NA
<b>Sönnichsen 2010(61)</b>													
Primary care practices of 6 clusters	Austria	1489 Active: 649 Control: 840	65.4 (10.4) vs 65.5 (10.4)	47.8	NA	7.46 (1.53) vs 7.34 (1.31)	NA	MDT	As above	As above	As above	As above	As above
<b>Glasgow 2012(62)</b>													
5 primary care clinics within Kaiser Permanente	Colorado, US	463 (T2D with BMI >25 kg/m <sup>2</sup> & at least 1 other CV risk factor; 72.0% White, 15.4% Black or African Americans) CASM+: 162	58.4 (9.2)	49.8	<u>Annual household income &lt;US\$ 50,000:</u> 47.3%  <u>&lt;High school education:</u> 19.1%	NA	NA	Care coordinators, physician, dietitian	<u>Patient education (12 months):</u> CASM: Online access to specific website. Periodic computer-generated motivational calls & prompts  <u>CASM+:</u> 2 follow up calls from a team member at 2- and 8-weeks after initial visit. 3 groups visits (120-min in length)	NA	<u>CASM modules:</u> Online forum & community resources, personalized action plan on healthy lifestyle & medications adherence, self-efficacy  <u>CASM+ modules:</u> Patient-physician/dietician interaction on healthy eating (grocery shopping tips), understanding assessment results, facilitate social support	NA	<u>Website use:</u> 11 log-ins initially, but declined to 3 at 12 months

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
		CASM: 169 Control: 132											
<b>Simmons 2012(63)</b>													
343 general practices	Cambridge, Leicester, Denmark, The Netherlands	3057 (screen detected T2D; 94.0% White) a. Cambridge 867 b. Leicester 159 c. Denmark 1533 d. Netherlands 498 Active: 1678 Control: 1379	60.3 (6.9) vs 60.2 (6.8)	42.1	<u>Employed:</u> 41.0%	7.0 (1.6) vs 7.0 (1.5)	Screen detected	Physicians, DM specialist nurses, dietitian	<u>Cambridge:</u> one 30-min annual review for each patient, 3 additional 10-min consultations with a GP and 3 with a nurse, per year for the 1 <sup>st</sup> 3 years after diagnosis. Provision of educational materials  <u>Leicester:</u> Structured DESMOND education within 1 <sup>st</sup> 2 months of study, or individual advice from dietitian. Provision of 2-monthly peripatetic clinic within 1 <sup>st</sup> year from a DM specialist nurse or physician.  <u>Denmark &amp; Netherlands:</u> Small group or practice-based educational meetings with PCP & nurses. Provision of educational materials.	Variable	<u>Cambridge modules:</u> Basics of DM, 5-10% weight loss, exercise, alcohol, medications adherence, SMBG titration, smoking cessation  <u>Leicester – DESMOND model:</u> Self-management, lifestyle changes (dietary habits, exercise, smoking cessation, SMBG), CV risk factors, medications  <u>Denmark &amp; Netherlands modules:</u> Lifestyle, treatment targets	NA	NA
<b>Griffin 2011(64)</b>													
343 general practices	Cambridge, Leicester, Denmark, The Netherlands	3057 (screen detected T2D; 94.0% White) a. Cambridge 867 b. Leicester 159 c. Denmark 1533 d. Netherlands 498 Active: 1678 Control: 1379	60.3 (6.9) vs 60.2 (6.8)	42.1	<u>Employed:</u> 41.0%	7.0 (1.6) vs 7.0 (1.5)	Screen detected	Physicians, DM specialist nurses, dietitian	As above	Variable	As above	NA	NA
<b>Webb 2012(65)</b>													
20 primary care practices	Leicester, UK	345 (screen detected T2D; 12.8% had CHD;	59.4 (10.0) vs 60.0 (10.0)	42.3	NA	7.2 (1.5) vs 7.3 (1.8)	Screen detected	Specialty doctors, DM nurse educator, dietitian	<u>Patient education (12 months):</u> Structured DESMOND education within 1 <sup>st</sup> 2 months of study, or individual advice from dietitian. Provision of 2-monthly peripatetic	Individual, group (not specified)	<u>Leicester – DESMOND model:</u> Self-management, lifestyle changes (dietary habits, exercise, smoking cessation, SMBG), CV risk factors, medications	NA	NA



SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
		58.3% White Europeans, 40.0% South Asians) Active: 146 Control: 199							clinic within 1 <sup>st</sup> year from a DM specialist nurse or physician.				
<b>Rubak 2011(66)</b>													
78 primary care practices	Denmark	628 (screen detected T2D aged 40-69 years) Active: 307 Control: 321	61.0	42.0	NA	Mean 6.9 vs 6.8 (no SD)	Screen detected	GP	<u>GP training:</u> 1.5-day training & 2 half-day follow up during the 1 <sup>st</sup> year	NA	<u>GP modules:</u> Motivational interview, intensive DM treatment	NA	NA
<b>van den Donk 2010(67)</b>													
79 primary care practices	Southwest Netherlands	498 (screen detected T2D; 98.4% White) Active: 255 Control: 243	60.1 (5.4) vs 59.9 (5.1)	46.2	NA	7.3 (1.6) vs 7.4 (1.7)	Screen detected	GP, DM nurse	<u>Personnel training:</u> GP: 3-h session DM nurse: 2-h sessions every 3 months	NA	Intensive treatment of DM, hypertension, dyslipidaemia, structured lifestyle education (diet, weight loss, exercise, smoking cessation, medications adherence)	NA	NA
<b>Janssen 2009(68)</b>													
79 primary care practices	Southwest Netherlands	498 (screen detected T2D; 98.4% White) Active: 255 Control: 243	60.1 (5.4) vs 59.9 (5.1)	46.2	NA	7.3 (1.6) vs 7.4 (1.7)	Screen detected	GP, DM nurse	As above	NA	As above	NA	NA
<b>Rygg 2012(69)</b>													
2 hospitals	Norway	146 (White Norwegians; T2D with ≥3 years GP follow-up) Active: 73 Control: 73	Mean 66.0 (no SD)	45.0	<u>College or university education:</u> 27.0%	7.1 (1.4) vs 6.9 (1.3)	Median (IQR) : 5.0 (2.5 to 10.0)	MDT (physician, DM nurse, physiotherapist, dietitian, trained PL)	<u>Patient education (12 months):</u> 15-h over 3 sessions at 1-2 weeks' intervals  <u>DM nurse training:</u> 4-14 years of experience	8-10 patients each group	<u>Patient modules:</u> T2D & its complications, diet, physical activity, problem solving.  Not specified	NA	NA
<b>McMahon 2012(70)</b>													
Veteran affairs health care system (primary care)	Boston, US	151 (HbA <sub>1c</sub> ≥8.5%; 74.2% non-Hispanic White, 12.6% non-Hispanic Black, 9.3% Hispanic) Online: 51 Phone: 51 Web (control): 49	60.2 (10.8)	5.3	<u>Retired:</u> 57.0%  <u>&lt;high school graduate:</u> 9.5%	<u>Online:</u> 9.6 (1.0)  <u>Phone:</u> 9.9 (1.2)  <u>Web (usual care):</u> 10.1 (1.4)	≥10 years: 49.3%	CDE (advanced PN, clinical pharmacist)	<u>Patient education (12 months):</u> <u>Phone:</u> biweekly phone calls to review glucose/BP records  <u>Online:</u> at least biweekly log-ins to upload glucose/BP data. CDE assigned educational modules after reviewing patients' records. Phone reminders if absence of log-ins for 2 weeks.  <u>Web:</u> utilization was based on patient's discretion.	NA	<u>Patient modules:</u> Lifestyle & nutrition modifications, medications management   <u>Web modules:</u> websites with vetted contents on peer-sharing & mutual contents.	NA	<u>Mean number of successful phone contacts (months):</u> ≤6: 52%, 7-9: 37% >9: 10%  <u>Mean number of successful online contacts (months):</u> ≤6: 42%, 7-9: 47% >9: 12%

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
													Mean number of log-ins (months): ≤6: 32%, 7-9: 25% >9: 43%
<b>Fisher 2012(71)</b>													
34 primary care practices	Eastern US	483 (Insulin naïve T2D with HbA <sub>1c</sub> 7.5-12.0%; 63.1% Caucasians. 31.1% African American) Active: 256 Control: 227	55.8 (10.7)	46.8	No college education: 52.7%	8.9 (1.2)	7.6 (6.1)	Physician & staffs (not specified)	Patient education (12 months): SMBG uploads to Accucheck 360 <sup>0</sup> for 3 consecutive days every 3 months  Personnel training: Regular contacts (not specified)	NA	Patient modules: Recognition of problematic glycaemic patterns, changes in portion size, physical activity level & meal compositions.  Personnel modules: Interpretation of Accucheck 360 <sup>0</sup> data	All physicians in intervention were contacted regularly over 12 months to ensure consistency over time	Mean number of daily blood glucose test (including Accucheck 360 <sup>0</sup> profiles): 0.77 (0.69) vs 1.05 (0.80), p<0.0001
<b>Polonsky 2011(72)</b>													
34 primary care practices	Eastern US	483 (Insulin naïve T2D with HbA <sub>1c</sub> 7.5-12.0%; 63.1% Caucasians. 31.1% African American) Active: 256 Control: 227	55.8 (10.7)	46.8	No college education: 52.7%	8.9 (1.2)	7.6 (6.1)	Physician & staffs (not specified)	As above	NA	As above	As above	As above
<b>Estrada 2011(73)</b>													
205 PCPs	11 South-eastern states, US	1182 (16.6% African Americans; 18.0% CHD; 14.0% depression) Active: 715 Control: 467	58.7 (13.6) vs 60.6 (13.8)	49.9	On insurance or Medicaid: 116 (9.8%)	NA	NA	PCP	Personnel education (24 months): Case-based learning at website. Email reminders every 1-3 weeks on website updates.	NA	practical goals/guidelines, guidance for quality improvement & systems redesign, CME credits tracking	NA	Median duration of website visit (mins): 37 (16-66) vs 5 (3-18)
<b>Craeto 2011(74)</b>													
Primary care & specialist clinics	Leicester-shire, UK	189 (T2D with micro-albuminuria; 20.1% CHD; 68.3% White Europeans, 27.5% South Asians) Active: 94 Control: 95	61.5 (10.5)	24.3	NA	7.9 (1.4) vs 8.0 (1.6)	11.5 (9.3)	CDE	Patient education (18 months): GE & one-on-one meetings every 3 months. Each patient had a DM record book.	Individual, group (8-10 patients)	Patient modules - DESMOND model: Basics of DM, lifestyle changes (healthy eating, physical activity, medication adherence), natural history of microalbuminuria, CV risk factors identification & modifications. Additional group insulin management session if indicated.	DESMOND educators were part of quality assurance program.	96% attended initial education class, 73% had at least one extra session, 61% attended >1 session.  Insulin-treated patients: 27/46 (58%) attended initial insulin session, 34/57 (59%)

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
<b>Sherifali 2011(75)</b>													
Primary care practices	Hamilton, Canada	465 (aged ≥40 years with HbA <sub>1c</sub> ≥7%; 61.3% White) Active: 233 Control: 232	62.0 (11.0)	51.2	<high school education: 51.0%	7.85 (0.88) vs 7.81 (0.83)	13.0 (10.0) vs 13.0 (9.0)	Project staffs (not specified)	<u>Patient education (12 months):</u> Patient-specific computer-generated educational messages	Individual	Metabolic control & treatment targets, smoking cessation, foot care, community resources	Written communication between project staffs & patients were sent to PCP	NA
<b>Rosal 2011(76)</b>													
Community health centres	Texas & California, US	252 (low-income Latinos with HbA <sub>1c</sub> ≥7.5%; 67.7% hypertension, 74.9% obesity) Active: 124 Control: 128	<u>Aged ≥55 years:</u> 53.9%	76.6	<u>Disabled:</u> 61.7%  <u>&lt;High school education:</u> 75.2%	8.98 (1.9)	<u>&gt;10 years:</u> 44.4%	MDT (dietitian or health educator & trained PL, or 3 trained PL with supervision of 2 investigators)	<u>Patient education (12 months):</u> <u>IE:</u> 1-h home visit at initiation  <u>GE:</u> 12 weekly intensive phase → 8 monthly maintenance phase (2.5-h in length each at community centres)	Individual, group (not specified)	DM knowledge, self-efficacy & confidence, self-management behaviour, hands-on experience (cooking lessons, bingo games), goal-setting, problem-solving	NA	<u>Attendance rates:</u> <u>Intensive phase:</u> 68% attended ≥6/12 sessions, 10% attended none  <u>Maintenance phase:</u> 18% attended ≥4/8 sessions, 27% attended none
<b>Allen 2011(77)</b>													
2 urban community health centres	US	525 (79.4% Black; T2D with HbA <sub>1c</sub> ≥7% or CHD or non-diabetes with suboptimal BP/lipid control) Active: 261 Control: 264	54.3 (12.0) vs 54.7 (11.5)	71.2	<u>Unemployed:</u> 60.0%  <u>Annual household income &lt;US\$ 20,000:</u> 54.5%  <u>&lt;High school education:</u> 32.4%	8.9 (2.2) vs 8.3 (1.9)	NA	PN, trained CHW	<u>Patient education (12 months):</u> Separate sessions with PN & CHW. Frequency & intensity of education was patient-specific. Phone follow-up between visits. Low literacy Wellness Guide was developed by study team.  <u>Personnel training:</u> PN & CHW training before study	Individual, group (not specified)	<u>Patient modules:</u> Medications adherence & titration, behavioral counselling, lifestyle modification (low fat, low sodium diet; smoking cessation; exercise program), identification of barriers & strategies  <u>Personnel modules:</u> PN: management of DM, hypertension, dyslipidemia; motivational interview CHW: pathophysiology of DM, diet, physical activity, motivational interview	Quarterly quality assurance assessment (analysis of audiotaped sessions & intervention documentation)	70% had ≥4 in-person visits with PN.  <u>Mean number of sessions with PN/CHW team:</u> In-person: 7 (3) Phone: 6 (5)
<b>Quinn 2011(78)</b>													
26 primary care practices	Maryland, US	163 (T2D with HbA <sub>1c</sub> ≥7.5%; 52.8% non-Hispanic White, 39.3%	CPDS 52 (8.0), CPP 53.7 (8.2), CO 52.8 (8.0)	50.3	<high school education: 30.1%	CPDS 9.9 (2.1), CPP 9.0 (1.8), CO 9.3 (1.8)	CPDS 8.2 (5.3), CPP 6.8 (4.9), CO	Virtual DM educator	<u>Patient education (12 months):</u> Mobile DM management software & a web portal provided automated, real-time educational, behavioural & motivational messages. A learning library was available on patient portal.	Individual	Self-management, treatment targets, action plan	NA	<50% of active patients made or received live phone calls, with an average of 1 phone call/month.

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
		non-Hispanic Black) CPDS: 62 CPP: 22 CO: 23 Control: 56	Control 53.2 (8.4)			Control 9.2 (1.7)	7.7 (5.6), Control 9.0 (7.0)						
<b>Fischer 2011(79)</b>													
8 community health centres	US	5,457 (61.5% Hispanic, 16.9% White, 15.9% African Americans) Active: 2357 Control: 3100	54.1	59.3	Low-income	NA	NA	MA	<u>Patient education (13 months):</u> Provision of patient's report card: mailing (quarterly), point-of-care (generated automatically during each PCP visit).  <u>MA training:</u> 3-h annually by CDE, reinforced during monthly clinic-level collaborative meeting.	Individual	<u>Patient modules:</u> Brief explanation on DM, hypertension, dyslipidaemia; goal-setting  <u>MA modules:</u> Self-management, patient-centered care	NA	NA
<b>Salinero-Fort 2011(80)</b>													
8 community health centres	Madrid, Spain	600 (Aged >30 years; 22.5% had cardiovascular renal complications) Active: 300 Control: 300	66.7 (14.5)	51.6	NA	7.05 (1.3) vs 7.36 (1.2)	9.1 (8.3)	30 nurses, 3 scientific researchers	<u>Patient education (24 months):</u> Total 10 visits: monthly x 2 → every 3 monthly. Behavioral sessions lasted about 40-min. Usual sessions were 20-min in length.  <u>Nurse training:</u> Not specified	1 nurse to 20 patients	<u>Patient modules:</u> SMBG, physical activity, identification of dietary behaviour, health-related behavior modification, medication adherence, smoking cessation  <u>Nurse modules:</u> Not specified	NA	NA
<b>RosenbekMinet 2011(81)</b>													
Academic affiliated DM outpatient clinic	Denmark	349 (78.2% T2D; 21.8% T1D) Active: 173 Control: 176	56.4 (12.1)	49.6	<u>Employed/self-employed:</u> 38.4%  <u>&lt;Middle school:</u> 69.3%	7.0 (1.2) for both	4.7 (6.9) vs 4.7 (6.5)	Physicians, 3 DM specialist nurses, psychologist, two dietitians, one physiotherapist	<u>Patient education (12 months):</u> 1-year motivational interview program consisting of 5 individual sessions (45-min each) every 3 months.  <u>Personnel training:</u> 5-day course on motivational interview → 3 practical sessions every 3 months for 18 months. Supervised in 10 real patient scenarios for 1-year.	8-10 patients each group	<u>Patient modules:</u> DM treatment, prevention of complications, SMBG, lifestyle, alcohol use  <u>Personnel modules:</u> mainly motivational interview techniques	Audiotaped personnel-patient counselling sessions were reviewed.	<u>Mean number of visits per patient:</u> 4.6 (average 34-min each) -85% attended ≥5 sessions; 15% had 1-3 sessions
<b>Smith 2011(82)</b>													
20 general practices	Ireland	395 (66.6% had ≥3 medical comorbidities; 94.3% White non-Hispanic) Active: 192 Control: 203	66.1 (11.1) vs 63.2 (11.0)	45.8	<u>Primary education only:</u> 44.8%	7.2 (1.4) vs 7.2 (1.2)	7.4 (7.0) vs 6.9 (6.3)	GP, PN, trained PL with T2D	<u>Patient education (24 months):</u> PL meetings at GP premises at patient's convenience (1-1.5 h in length). Total 9 PL sessions over 2 years (monthly x 2 → every 3 monthly)  <u>PL training:</u> Two 90-min evening sessions, given peer supporter manual & resource pack.	1 PL to 7-8 patients	<u>Patient modules:</u> Basics & complications of DM (sexual, hypo- & hyperglycemia, DR, DN, sleep problems), CV risk factors, SMBG, sick days' rules, healthy eating plate, exercise, foot care, medications, insulin & injection sites  <u>PL modules:</u> Basics & complications of DM, lifestyle & medication issues, role-play	a. PL's log diaries. b. Recorded PL meetings. c. Project managers contacted every PL after each group meeting. d. Focus groups with professionals,	<u>Mean number of attended peer support meetings:</u> 5.0 -18% never attended  <u>Mean number of study team-PL contacts:</u> 25 over 2 years

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
									GP & PN training: 1.5-h practice-based educational session by a GP. 3 training sessions to PN.		GP & PN modules: T2D treatment in primary care	PL & patients.	
<b>Huang 2010(83)</b>													
Primary care clinics	Taiwan	193 (HbA <sub>1c</sub> ≥7.0%) Active: 75 Control: 79	56.6 (8.0) vs 56.9 (7.5)	56.5	<6 years' education: 67.5%	8.0 (1.5) vs 8.4 (1.8)	4.8 (4.4) vs 4.8 (4.5)	Dietitians	Patient education (12 months): GE: not specified IE: every 3 months, 30-60-mins in length. Patients could call dietician's mobile for dietary advice, and vice versa	Individual, group (not specified)	Patient modules: GE: SMBG, medications, exercise, foot care, complication management IE: individualized nutrition counselling & dietary plan, portion size	NA	NA
									Dietitian training: Additional clinical training in the Department of Endocrinology & Department of Nutrition of research centres.		Dietitian modules: Not specified		
<b>Trento 2010(84)</b>													
13 hospital-based DM clinics	Italy	815 (non-insulin-treated T2D) Active: 421 Control: 394	69.0 (8.4) vs 69.6 (8.4)	49.3	Retired: 50.7%  <High school education: 83.7%	7.75 (1.57) vs 7.81 (1.43)	15.7 (6.9) vs 16.6 (7.2)	Physicians, nurses, dietitians, pedagogist	Patient education (24 months): Seven 1-h interactive group sessions (every 3 months) & annual individual consultations	Individual, group (9-10 patients)	Lifestyle, hypoglycemia, DM complications, laboratory results, problem solving	NA	NA
<b>Piatt 2011(85)</b>													
11 primary care practices	Pennsylvania, US	119 (underserved; 91.6% White; 55.5% ≥2 DM complications) CCM: 30 PROV: 38 Control: 51	CCM 69.7 (10.7) vs PROV 64.4 (8.9) vs Control 68.6 (8.6)	49.6	Low socio-economic status: 79.8%	CCM 7.6 (1.5) vs PROV 7.3 (1.6) vs Control 6.9 (1.3)	CCM 10.3 (8.4), PROV 11.5 (9.0), Control 13.1 (10.9)	CDE, PCP	Patient education (12 months): CCM: 6 weekly DSME sessions → monthly support group. Presence of CDE for 6 months	Group (not specified)	Patient modules: DM self-management, lifestyle, problem solving	NA	>75% of patients attended at least ¾ of 6 DSME classes.  About 50% of patients attended at least 2/3 of support groups.
					Annual household income <US\$ 20,000: 42.9%				PCP education (PROV): 1 PBL session		PCP modules: Not specified		
<b>Piatt 2006(86)</b>													
11 primary care practices	Pennsylvania, US	119 (under-served; 91.6% White; 55.5% had ≥2 DM complications) CCM: 30 PROV: 38 Control: 51	CCM 69.7 (10.7) vs PROV 64.4 (8.9) vs Control 68.6 (8.6)	49.6	Low socio-economic status: 79.8%	CCM 7.6 (1.5) vs PROV 7.3 (1.6) vs Control 6.9 (1.3)	CCM 10.3 (8.4), PROV 11.5 (9.0), Control 13.1 (10.9)	CDE, PCP	As above	As above	As above	NA	As above

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
					<high school education: 57.1%								
<b>Barceló 2010(87)</b>													
10 public health centres	Xalapa& Veracruz, Mexico	307 (98.0% T2D) Active: 196 Control: 111	Aged ≥40 years: 94.5%	NA	Low socioeconomic status	Mean 8.4 vs 8.7 (no SD)	NA	MDT (physician, nurses, dietitian, psychologist)	Patient education (18 months): Joined sessions with MDT or peers.  Personnel training: 3 sessions	NA	4 patient modules – PEDNID LA model: Dietary information & management, foot care & regular exercise, DM care, sick days' rules.  Personnel modules: Structured patient DM education, foot care training, in-service training on DM management	Real-time adjustments based on the qualitative assessment of the peer support group by patients.	81.1% & 32.4% of intervention & control groups joined the support group.
<b>Cleveringa 2010(88)</b>													
55 primary care practices	The Netherlands	3391 (55.2% had CVD; 97.7% Caucasians) Active: 1699 Control: 1692	65.2 (11.3) vs 65.0 (11.0)	51.0	NA	7.1 (1.3) vs 7.0 (1.1)	5.8 (5.7) vs 5.4 (5.8)	PN	Patient education (12 months): PN-led DM consultation hour every 3 months.  PN training: Not specified	NA	Not specified  PN modules: DM care	NA	NA
<b>Cleveringa 2008(89)</b>													
55 primary care practices	The Netherlands	3391 (55.2% had CVD; 97.7% Caucasians) Active: 1699 Control: 1692	65.2 (11.3) vs 65.0 (11.0)	51.0	NA	7.1 (1.3) vs 7.0 (1.1)	5.8 (5.7) vs 5.4 (5.8)	PN	As above	NA	As above	NA	NA
<b>Cleveringa 2010(90)</b>													
55 primary care practices	The Netherlands	3,391 (55.2% had CVD; 97.7% Caucasians) Active: 1699 Control: 1692	65.2 (11.3) vs 65.0 (11.0)	51.0	NA	7.1 (1.3) vs 7.0 (1.1)	5.8 (5.7) vs 5.4 (5.8)	PN	As above	NA	As above	NA	NA
<b>Davis 2010(91)</b>													
3 rural community health centres	South Carolina, US	165 (HbA <sub>1c</sub> >7%; 73.9% African Americans or other, 26.1% non-Hispanic White) Active: 85 Control: 80	59.9 (9.4) vs 59.2 (9.3)	74.6	Medicaid: 41%  <high school: 41.2%	9.4 (0.3) vs 8.8 (0.3)	8.5 (6.6) vs 10.3 (8.1)	CDE, dietitian, PN at primary care	Patient education (12 months): 13 DSME sessions (3 individual, 10 group); 2 sessions during 1 <sup>st</sup> month, 3 groups were in-person, others were by videoconference. Additional phone counselling when required.	NA	Patient modules: Self-management (goal-setting, exercise, foot care, diet, stress management, social support)	NA	NA
<b>Jameson 2010(92)</b>													
13 primary care	US	103 (HbA <sub>1c</sub> ≥9%; 63.1%)	49.3 (10.8) vs 49.7	51.5	63.1% privately insured	10.4 (1.2) vs 11.1	NA	Pharmacist	Patient education (12 months): Individual meetings at pharmacy & telephone follow up	Individual	Patient modules: Self-management (lifestyle, SMBG, medication, insulin)	NA	Mean number of office visits per patient:

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
practices		White) Active: 52 Control: 51	(10.9)			(1.6)			<u>Pharmacist training:</u> Board-certified pharmacotherapy specialist.		<u>Pharmacist modules:</u> Joined the American Society of Health-System Pharmacists DM management traineeship, an ADA postgraduate course in DM management & an AADE training program.		6 (30-60-min duration)  <u>Mean number of phone calls per patient:</u> 3 (10-20-min duration)
<b>Edelman 2010(93)</b>													
2 veteran affairs medical centres	North Carolina & Virginia, US	239 (HbA <sub>1c</sub> ≥7.5% & SBP >140 or DBP >90; 59.0% African Americans, 36.4% White) Active: 133 Control: 106	63.0 (9.4) vs 60.8 (10.0)	4.2	≤High school education: 40.2%	9.2 (1.3) vs 9.2 (1.5)	NA	MDT (primary care general internist, pharmacist, nurse or other CDE)	<u>Patient education (12 months):</u> Interactive 90-120-min sessions with same care team every 2 months (total 7 visits), followed by one-on-one breakout session with either internist or pharmacist	7-9 patients each group	<u>Patient modules:</u> Selected by patients: foot care, mechanism of medications, signs & symptoms of hyper- & Hypoglycemia, diet, sick days, SMBG, exercise	Frequent calls & consultations between 2 centres.	NA
<b>Goderis 2010(94)</b>													
90 primary care practices	Belgium	2495 (Western European; 39.2% on antiplatelet, 39.9% on statin) Active (AQIP): 1577 Control (UQIP): 918	68.0 (12.0) for both	52.1	NA	7.1 (1.3) vs 7.2 (1.3)	7.2 (6.9) vs 7.2 (7.3)	GP, MDT (general internist with interest in DM, CDE, dietician, psychologist, ophthalmologist)	<u>Patient education (23 months):</u> Open to all patient groups. Home visit by CDE was available to intervention group. Provision of printed educational materials.  <u>GP training:</u> <u>UQIP:</u> 2 postgraduate educational sessions. Case-coaching by endocrinologist by phone/mail.  <u>AQIP:</u> as above & 2 extra educational sessions, joint case discussion with MDT and endocrinologist.	Individual, group (not specified)	<u>Patient education:</u> Disease insight, diet, exercise, medications adherence, insulin management, motivational interview.  <u>GP modules:</u> Detailed coaching on DM guidelines, principles of insulin treatment in primary care	NA	<u>Mean number of patient contacts/week:</u> 97 vs 92  <u>Physician attendance to common educational meetings:</u> 76 vs 70%
<b>Borgermans 2009(95)</b>													
90 primary care practices	Belgium	2495 (Western European; 39.2% on antiplatelet, 39.9% on statin) Active (AQIP): 1577 Control (UQIP): 918	68.0 (12.0) for both	52.1	NA	7.1 (1.3) vs 7.2 (1.3)	7.2 (6.9) vs 7.2 (7.3)	GP, MDT (general internist with interest in DM, CDE, dietician, psychologist, ophthalmologist)	As above	As above	As above	NA	PCP referral to MDT service: 91 vs 75%
<b>Chan 2009(96)</b>													
9 public hospitals	Hong Kong	205 (Chinese T2D with plasma creatinine 150-350)	65.0 (7.2)	33.2	NA	8.2 (1.9) vs 8.4 (0.2)	14.0 (7.9)	DM team (diabetologists, endocrine trainees, DM specialist nurses,	<u>Patient education (24 months):</u> Doctor-patient visits every 3 months or more often if indicated. Reinforcement using phone calls by nurses.	NA	Low-protein/potassium diet, drug/insulin use, SMBG	NA	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
		umol/L Active: 104 Control: 101						dietitian)					
<b>Ko 2011(97)</b>													
9 public hospitals	Hong Kong	205 (Chinese T2D with plasma creatinine 150-350 umol/L) Active: 104 Control: 101	65.0 (7.2)	33.2	NA	8.2 (1.9) vs 8.4 (0.2)	14.0 (7.9)	DM team (diabetologists, endocrine trainees, DM specialist nurses, dietitian)	As above	NA	As above	NA	NA
<b>Shea 2009(98)</b>													
Urban & rural primary care practices	New York, US	1665 (underserved T2D aged ≥55 years; 49.4% White, 35.2% Hispanic, 14.9% African Americans) Active: 844 Control: 821	70.8 (6.5) vs 70.9 (6.8)	62.8	≤12 years of education: 83.1%	7.36 (1.48) vs 7.40 (1.60)	11.2 (9.6) vs 10.99 (9.2)	4 NCM, dietitians	<u>Patient education (12 months):</u> Bilingual educational webpage (regular & low literacy versions), videoconferencing.	Individual, group (not specified)	Not specified	Daily supervision of NCM by an endocrinologist  Use of home telemedicine unit was logged (contacts with NCM, the project Web page/chat room, frequency of patient's views on own clinical database)	NA
<b>Shea 2006(99)</b>													
Urban & rural primary care practices	New York, US	1665 (underserved T2D aged ≥55 years; 49.4% White, 35.2% Hispanic, 14.9% African Americans) Active: 844 Control: 821	70.8 (6.6)	62.8	≤12 years of education: 83.1%	7.36 (1.48) vs 7.40 (1.60)	≤10 years: 420 (49.8%) vs 410 (50.0%)	4 NCM, dieticians	As above	Individual, group (not specified)	Not specified	As above	NA
<b>Gary 2009(100)</b>													
A community, university affiliated managed care organization	Baltimore, US	542 (Urban African Americans) Active: 269 Control: 273	58.0 (11.0)	73.0	<u>Living in poverty:</u> 50.0%  <u>Retired or disabled:</u> 58.0%  <u>Mean years of education:</u> 11.0	7.8 (2.2)	NA	CDE (RN), trained CHW	<u>Patient education (24 months):</u> <u>Nurse/CHW team:</u> 6-week training initially. At least 3 home visits/year by CHW. Annual session with nurse.  <u>Telephone group:</u> Received DM-specific information in mail. Phone calls from nurses every 6 months.	Individual	<u>Nurse/CHW team – PRECEDE PROCEED model:</u> CV risk factors, lifestyle, foot care, barriers to optimal DM care & self-management (depression, socioeconomic problems, caregiver concerns)  <u>Telephone group:</u> Preventive health screening	CHWs were supervised by nurses & maintained daily contact. Weekly case conferences to discuss on problematic patients.	92% of patient completed 24-month visit.
<b>Gary 2003(101)</b>													



SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
A community, university affiliated managed care organization	Baltimore, US	186 (urban African Americans) NCM: 38 CHW: 41 Combined: 36 Control: 34	59.0 (9.0)	77.0	<u>Annual household income &lt;US\$ 7,500</u> : 50.0%  <u>Mean years of education</u> : 10.0 (3.0)	8.6 (2.0)	9.0 (8.0)	CDE (RN), trained CHW	<u>Patient education (24 months)</u> : <u>NCM intervention</u> : 45-min face-to-face visits 3x/year and/or telephone contacts.  <u>CHW intervention</u> : 45-60-min face-to-face home visits 3x/year and/or telephone contacts.  <u>Combined intervention</u> : Total 6 visits/year & biweekly meetings to coordinate interventions.	Individual	<u>Modules for all groups</u> : Lifestyle, foot care, eye care, SMBG, smoking cessation, adherence to medications, appointments & referrals.	Documentation of visits & phone calls. Initial weekly troubleshoot meetings with research team	<u>At least 3 visits</u> : NCM 25%, CHW 62%  <u>At least 7 visits</u> : NCM <5%, CHW <20%  ≈50% of all patients had at least 1 phone contact.
<b>Rodríguez-Idígoras 2009(102)</b>													
35 primary care practices	Malaga, Spain	328 (78.4% with BMI >27 kg/m <sup>2</sup> ; 43.3% had sedentary lifestyle) Active: 161 Control: 167	Mean (95% CI): 63.32 (61.60 to 65.04) vs 64.52 (62.96 to 66.09)	48.5	NA	Mean (95% CI): 7.62 (7.38 to 7.88) vs 7.41 (7.21 to 7.61)	Mean (95% CI): 11.32 (10.16 to 12.50) vs 10.18 (9.11 to 11.25)	Physician, DM specialist nurse	<u>Patient education (12 months)</u> : Not specified	NA	SMBG training & interpretation	Recorded interventions.	<u>Mean number of phone calls per month</u> : Patients to centre: 3.0; Centre to patients: 2.62  62% of patients sent SMBG records at least 8 months over the study period.
<b>Al Mazroui 2009(103)</b>													
A military hospital out-patient clinic	United Arab of Emirates	240 (OAD-treated T2D with suboptimal control) Active: 120 Control: 120	48.7 (8.2) vs 49.9 (8.3)	30.8	NA	Geo-metric mean (95% CI): 8.5 (8.3 to 8.7) vs 8.4 (8.2 to 8.6)	6.1 (2.9) vs 6.2 (2.7)	Pharmacist	<u>Patient education (12 months)</u> : Provision of printed leaflets. Monthly reinforcement during medications collection at pharmacy.	Individual	DM complications, dosage, side effects/storage of medications, lifestyle, self-management, smoking cessation	NA	NA
<b>O'Connor 2009(104)</b>													
57 PCPs in a medical group	US	2020 (60.2% had hypertension; 14% with CHD, 7.5% had depression) Case-based learning + feedback: 604 Case-based learning only: 725 Control: 691	64.0 (13.0)	42.0	NA	Median 7.2 (no IQR)	NA	PCP	Mainly practice & HCP levels of intervention	NA	NA	NA	NA
<b>Samuel-Hodge 2009(105)</b>													

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
24 churches	North Carolina, US	201 (African Americans; 18.9% had CHD) Active: 117 Control: 84	Mean (SE): 57.0 (0.9) vs 61.3 (1.3)	63.7	Mean years of education: 12.6 (0.4) vs 12.2 (0.5)	Mean (SE): 7.7 (0.2) vs 7.9 (0.3)	Mean (SE): 8.8 (0.8) vs 9.2 (0.9)	Dietician, trained PL	<u>Patient education (12 months):</u> <u>8-month intensive phase:</u> <u>IE:</u> one 60-min counselling. <u>GE:</u> 12 biweekly 90-120 min group sessions. 1 <sup>st</sup> 7 GE were led by a registered dietician. Also, monthly phone contacts & 3 encouragement postcards.  <u>4-month reinforcement phase:</u> monthly phone contacts  <u>PL training:</u> 4 weekly 4-h sessions	Individual, group (not specified)	<u>Patient modules:</u> diet, physical activity, self-management behaviors, hands-on activities  <u>PL modules:</u> Motivational interview, DM self-management	NA	97% completed IE 51% attended all GE sessions (mean 6 sessions per patient).  62% completed scheduled calls (only 1.5 calls per patient) -37% of scheduled calls occurred during the final 4 months.
<b>Weitzman 2009(106)</b>													
4 primary care clinics	Israel	417 (aged >30 years) Active: 242 Control: 175	63.1 vs 65.8	52.3	Mean years of education: 11.0 vs 9.1	8.1 for both	8.4 vs 9.5	Internist, family medicine specialist	Mainly HCP& patient levels of intervention	NA	NA	NA	NA
<b>Anderson 2009(107)</b>													
Primary care	Michigan, US	310 (45.2% African Americans) Active: 156 Control: 154	55.5 (11.3) vs 55.7 (11.5)	58.7	<high school education: 10.3%	7.7 (2.1) vs 7.5 (1.8)	8.6 (8.1) vs 8.0 (7.8)	CDE (nurse, dietician)	<u>Patient education (24 months):</u> One-to-one meeting after enrolment, followed by meeting among CDE, physician & patient. Monthly phone calls from CDE.  <u>CDE training:</u> >10 years' experience using empowerment approach	Individual	<u>Patient modules:</u> Self-management plan, behavioral change  <u>CDE modules:</u> Not specified	NA	NA
<b>Powers 2009(108)</b>													
3 primary care clinics of Durham Veteran Affairs Medical Centre	US	216 (T2D with hypertension; 55.6% White, 42.6% African Americans) Active: 102 Control: 114	63.8 (10.8) vs 64.3 (10.8)	1.4	<u>Employed:</u> 19.0%  <u>&lt;high school education:</u> 54.6%	7.54 (0.15) vs 7.20 (0.15)	NA	RN	<u>Patient education (24 months):</u> Total 12 calls (every 2-monthly). No face-to-face meetings.	Individual	<u>9 patient modules:</u> Basics of hypertension, memory, social support, patient-doctor communication, medication & appointment adherence, lifestyle (diet, exercise, smoking, alcohol use), health literacy aids, medication side effects	Used scripted information and tailored algorithm generated from database	<u>Mean number of calls each patient:</u> 11 (average 5-min)
<b>O'Connor 2009(109)</b>													
Multi-specialty medical group (123 PCPs)	US	3703 (11.1% had CHD in preceding 12 months) Combined: 946 Physician only: 1041 Patient only: 869 Control: 847	56.1 (12.1)	46.1	NA	7.53 (1.60)	NA	PCP	<u>Patient education (12 months):</u> Every 4-monthly mailing of 4-page brochures	Individual	<u>Patient modules:</u> A graph on personal trend of biochemical tests, treatment targets, customized checklists to facilitate patient-PCP communication, behavioural change	NA	NA
<b>Ma 2009(110)</b>													

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
Out-patient clinic of a county medical centre	US	419 (63.0% T2D; 59.2% metabolic syndrome; 72.6% Hispanic & African Americans, 11.9% Asian & Pacific Islander Active: 212 Control: 207	55.1 (9.6)	65.6	<u>Unemployed, disabled or retired:</u> 60.5%  <u>&lt;8<sup>th</sup> grade education:</u> 44.9%	7.6 (1.7)	NA	Nurse, dietitian	<u>Patient education (15 months):</u> One-on-one 30-60-min counselling by nurse or dietitian (every 4-6 weekly during 1 <sup>st</sup> 6 months, then every 2-3 months). Total 8-10 visits. Addition telephone contact was offered if required.  <u>Personnel education:</u> Trained & supervised by a senior nurse practitioner & study principal investigator.	Individual	<u>Patient modules:</u> Medical management strategies, behavior change, risk reduction plan  <u>Personnel modules:</u> individualized care, care coordination, self-management support, treatment guidelines for primary & secondary CVD prevention, behavioral counselling	NA	<u>Mean contact time for each patient throughout study:</u> 11.2 hours (about 45-min monthly)
<b>Newman 2009(111)</b>													
Secondary care DM clinics in 4 hospitals	UK	404 (41.0% T2D, 57.0% T1D; 92.0% White, 5.0% Asians, 5.0% Black; 41.0% had cardiovascular-renal complications) CGMS: 102 Glucowatch: 100 Attention control: 100 Control: 102	Median (IQR): 52.0 (41.0 to 63.0)	45.0	<u>Unemployed, disabled or retired:</u> 54%  <u>No qualifications:</u> 22%	9.1 (1.3)	Median (IQR) : 16.0 (10.0 to 25.0)	Nurse	<u>Patient education (18 months):</u> Nurse feedback sessions as below: 1 <sup>st</sup> 3 months: at baseline, 6 & 12 weeks. Subsequently till 18 months: at 6, 12, 18 months. Also, available through phone calls/emails.  <u>Personnel education:</u> 2-day training	Individual	<u>Patient modules:</u> Lifestyle & medication management  <u>Personnel modules:</u> Use of continuous glucose monitoring devices, data interpretation, provision of clinical feedback as appropriate	Research nurses met regularly to discuss on cases & ensure common approach	NA
<b>van Bruggen 2008(112)</b>													
30 general practices	The Netherlands	1640 (24.6% had macro-vascular complication) Active: 822 Control: 818	67.1 (11.4) vs 67.2 (11.9)	50.8	<u>Primary or technical school:</u> 58.6%	7.0 (1.1) vs 7.1 (1.2)	6.6 (6.0) vs 6.6 (5.9)	Nurse	Mainly practice & HCP levels of intervention	NA	NA	NA	NA
<b>Grant 2008(113)</b>													
11 primary care practices	US	244 (88.5% White) Active: 126 Control: 118	58.8 (10.1) vs 53.3 (12.3)	49.2	<u>Medicare or Medicaid:</u> 28.3%	7.3 (1.5) vs 7.4 (1.6)	NA	PCP	Mainly practice level of intervention, with more patients' engagement	Individual	<u>Patient modules (months):</u> Online medication module to review medications list, edit inaccuracies, answer on adherence barrier & side effects. Formulation of Diabetes Care Plan to be discussed during clinic visit.	NA	Among patients with active accounts, the rate of consent to join the intervention was 39% & 35% in the control arm
<b>Smith 2008(114)</b>													
6 primary care practices	US	639 (93.2% T2D; 10-year UKPDS CHD risk 16-18%) Active: 360 Control: 279	Median (IQR): 62 (22 to 92) vs 60 (27 to 90)	52.8	NA	Median (IQR): 7.3 (5.2 to 15.1) vs 7.3 (4.2 to 15.5)	Median (IQR) : 4 (0 to 43) vs 4 (0 to 47)	Endocrinologist, PCP, diabetes educator	Mainly practice & HCP levels of intervention	NA	NA	Endocrine specialty review was 2-3-h weekly rotated among 3 endocrinologists. Average time of review was	59% of PCP considered the specialty messages useful.

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
												4.4-min.	
<b>Peterson 2008(115)</b>													
24 community primary care practices	US	7101 (17.7% had myocardial infarction) Active: 3970 Control: 3131	62.4 (0.91) vs 63.2 (0.92)	49.7	NA	Mean 7.25 vs 7.33 (no SD)	NA	MDT (not specified), site coordinator	Mainly practice & HCP levels of intervention	NA	NA	Monthly performance reports review chaired by the local physician champion.	NA
<b>Christian 2008(116)</b>													
2 community health centres	Colorado, US	310 (Hispanics/Latinos with T2D & BMI ≥25.0 kg/m <sup>2</sup> ) Active: 155 Control: 155	53.0 (11.25) vs 53.4 (10.7)	66.1	NA	8.08 (2.02) vs 8.29 (1.93)	NA	PCP	<u>Patient education (12 months):</u> Availability of pre-visit 4 to 5-page personalized report to be discussed with PCP.	Individual	<u>Patient modules:</u> Calorie intake, exercise, motivation, barriers to lifestyle changes, goal-setting	NA	NA
<b>Duran 2008(117)</b>													
Hospital & primary care practice	Madrid, Spain	126 (T2D with PVD; 68.1% on statin, 83.6% on RASi) Active: 63 Control: 63	Median (IQR): 70 (57 to 76) vs 69 (58 to 74)	29.3	NA	Median (IQR): 7.5 (6.5 to 9.2) vs 7.2 (6.5 to 8.5)	Median (IQR): 19.0 (10.0 to 28.0) vs 19.0 (10.0 to 26.0)	DM team, PCP	Mainly practice& HCP levels of intervention	NA	NA	NA	NA
<b>O’Kane 2008(118)</b>													
Hospital DM clinic	Northern Ireland	184 (newly diagnosed T2D aged <70 years) Active: 96 Control: 88	57.7 (11.0) vs 60.9 (11.5)	45.0	NA	8.8 (2.1) vs 8.6 (2.3)	Newly diagnosed	DM specialist nurse, dietitian, podiatrist, medical staff (not specified)	<u>Patient education (12 months):</u> Not specified	NA	SMBG self-management, lifestyle	NA	63/96 patients performed >80% of requested SMBG (4 fasting & 4 postprandial glucose levels)
<b>Simon 2008(119)</b>													
48 general practices	Oxfordshire & South Yorkshire, UK	453 (non-insulin treated T2D with HbA <sub>1c</sub> ≥6.2%; 22.7% had DM-related complications) More intensive: 151 Less intensive: 150 Control: 152	65.7	42.6	<u>Skilled manual or manual:</u> 44.8%	7.5	Median (IQR) 3.0 (2.0-6.0)	Nurse	<u>Patient education (12 months):</u> Not specified  <u>Nurse training:</u> 6-day case-based learning over 5 weeks	NA	<u>Patient modules:</u> <u>More intensive group:</u> SMBG self-interpretation related to diet, physical activity & medications adherence  <u>Less intensive group:</u> SMBG results interpreted by nurses  <u>Nurse modules:</u> Behavioral change techniques & skills	Scripts on topics were used by nurses. Taped interventions were self-reviewed by nurses & externally reviewed by a sociologist.	<u>Use of glucometer ≥2x/week for 12 months:</u> More intensive 79 (52%) vs Less intensive 99 (67%)
<b>Farmer 2007(120)</b>													
48	Oxford-	453	65.7	42.6	<u>Skilled manual</u>	7.5	Me-	Nurse	As above	NA	As above	As above	As above

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
general practices	shire & South Yorkshire, UK	(non-insulin treated T2D with HbA <sub>1c</sub> ≥6.2%; 22.7% had DM-related complications) More intensive: 151 Less intensive: 150 Control: 152			<u>or manual:</u> 44.8%		dian (IQR) 3.0 (2.0-6.0)						
<b>Lorig 2008(121)</b>													
Primary care	San Francisco, US	567 (Latinos) Active: 369 Control: 198	52.9 (13.2) vs 52.8 (13.4)	45.5	<u>Mean years of education:</u> 7.68 (4.49) vs 7.30 (4.54)	7.44 (2.00) vs 7.38 (1.87)	NA	2 trained PL	Patient education (2 stages): SDSMP: 2.5-h weekly for 6 weeks. Class size was 10-15 patients. Followed by telephone reinforcement for 18 months	2 PL to 10-15 patients	Patient modules: DM complications, self-management (lifestyle, hypoglycemia, SMBG, foot care), sick days' rules, stress management	Staff observations on PL through 2 practice sessions.	NA
									<u>PL training:</u> 4-day interactive training		Not specified		
<b>Dijkstra 2008(122)</b>													
40 primary care practices	The Netherlands	993 Active: 504 Control: 489	63.2 (9.9) vs 63.6 (9.2)	49.7	NA	NA	5.6 (5.9) vs 6.6 (6.8)	MDT (PCP, PN, practice assistants)	Mainly practice & HCP levels of intervention	NA	Introduction of DM passport	NA	NA
<b>Bellary 2008(123)</b>													
21 general practices	Coventry & Birmingham, UK	1486 (South Asians; 18.0% had CVD; 28.0% with albuminuria) Active: 868 Control: 618	57.0 (11.9)	48.0	NA	8.2 (1.9)	<10 years: 68.0%	MDT (PCP, PN, 2 community DM specialist nurses), 5 link workers	Patient education (24 months): Research DM clinic by PN (4-h practice/week). Patient's follow up every 2 months. 2 community DM specialist nurses attended research clinics every 6-8 weeks.	Individual. 5 link workers to 21 practices.	Patient modules: Lifestyle modifications, insulin initiation & self-management	Quarterly observations by DM specialist nurses on care offered by PN	NA
									<u>Link workers training:</u> Completed a DM management & care foundation course (equivalent to diploma). Attended PN's research DM clinics.  <u>PN training:</u> Formally trained in DM. Had 1:1 observed sessions with a DM specialist nurse.		<u>Personnel modules:</u> Not specified		
<b>O'Hare 2004(124)</b>													
6 general practices	Coventry & Birmingham, UK	361 (South Asians) Active: 182 Control: 179	58.9 (11.7)	49.0	NA	8.0 (2.0)	Median (IQR) 6.5 (3.0 to 11.0)	MDT (PCP, PN, 2 community DM specialist nurses), 5 link workers	As above, except 12-month duration.	As above	As above	As above	NA
<b>Eccles 2007(125)</b>													

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
58 general practices	3 primary care trusts, Northeast England	3608 (aged >35 years) Active: 1674 Control: 1934	65.7 (11.8) vs 66.6 (11.3)	47.3	NA	7.4	NA	PN, DM register facilitator	<u>Patient education (15 months):</u> Distribution of newsletter.  <u>PN training:</u> Evening meetings with small group discussion, meetings with practice clinical governance leads, telephone meeting with the practice DM leads (usually PN as well)	NA	Not specified for both	NA	NA
<b>Herrin 2007(126)</b>													
22 family medicine & internal medicine practices	North Texas, US	2007 (Medicare beneficiaries aged ≥65 with T2D; 89.3% White, 7.9% Black) DQIP + nurse: 600 DQIP: 811 Control: 596	72.9	50.2	<u>Socio-economic status score:</u> 53.4/100	NA	NA	CDE	Mainly practice & HCP level of intervention.  <u>CDE training:</u> RN with 3-5 years' experiences in CDE.	NA	Not specified	CDE's care protocols were developed & approved by a quality committee.	NA
<b>Herrin 2006(127)</b>													
22 family medicine & internal medicine practices	North Texas, US	1891 (Medicare beneficiaries aged ≥65 with T2D; 89.3% White, 7.9% Black) DQIP + nurse: 568 DQIP: 758 Control: 565	72.9	50.2	<u>Socio-economic status score:</u> 53.4/100	7.1 (1.4) vs 7.2 (1.4) vs 7.2 (1.5)	NA	CDE	As above	NA	NA	As above	NA
<b>Thomas 2007(128)</b>													
A resident community clinic	Mayo Clinic, US	483 Active: 252 Control: 231	NA	NA	NA	Mean (95% CI) 7.3 (7.1 to 7.5) vs 7.4 (7.2 to 7.7)	NA	NA	Mainly practice & HCP levels of interventions.	NA	NA	NA	NA
<b>Johansen 2007(129)</b>													
A secondary referral centre	Norway	120 (48.0% had family history of premature CHD; mean baseline 10-year UKPDS CHD risk 18%) Active: 60 Control: 60	59 (9) vs 58 (11)	25.8	NA	7.5 (1.5) vs 7.6 (1.6)	Median (IQR): 4.0 (1.0 to 10.0) vs 3.0 (1.0 to 12.0)	MDT (physician, nurse, dietitian, physiotherapist)	<u>Patient education (24 months):</u> Lifestyle modification program with pharmacological treatment unchanged for 6 months → medications titration among those failed to achieve treatment targets.  Delivered by physician & nurse in 2 sessions (5-h duration). One individual 45-min session with a dietitian, 10-week training program with a physiotherapist. Refund for attending a gymnasium. Every 3 monthly 15-20	Individual, group (12 patients)	Different non-pharmacological treatment options; exercise training diary.	NA	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
									min physician's visits.				
<b>Chin 2007(130)</b>													
34 primary care practices	US	2364 (under-served T2D; 42.9% White, 30.0% Hispanic or Latinos, 24.5% non-Hispanic Black) Active: 1174 Control: 1190	56.9 (14.7) vs 54.5 (13.6)	64 vs 67	Medicare or Medicaid: 40.0%	Mean 8.6 (95% CI 8.2 to 9.0)	NA	MDT (not specified)	<p><u>Patient education (48 months):</u> Bilingual videos, brochures &amp; process of care cards.</p> <p><u>Personnel training:</u> 4 two-hour or 8 one-hour learning sessions over 4 months</p>	NA	<p><u>Patient modules:</u> 6 key processes of DM care (HbA<sub>1c</sub>, cholesterol, BP, urine microalbumin, dilated eye &amp; foot examinations)</p> <p><u>Personnel modules:</u> DM education, facilitation on patients' behavioral change, motivational interview</p>	16 one-hour conference calls for troubleshooting. Regional meetings to learn QI techniques & lesson sharing.	<u>Good implementation of CCM:</u> ACTIC scores 6.7-8.1/11 for each domain
<b>Perria 2007(131)</b>													
295 primary care clusters	Lazio, Italy	6395 (51.5% with BMI ≤ 29 kg/m <sup>2</sup> ) Active: 1973 Passive: 2190 Control: 2232	≥50 years old: 93.9%	48.0	NA	NA	≤10 years: 70.7%	PCP	<p>Mainly practice &amp; HCP levels of intervention</p> <p><u>PCP training:</u> 2-day course (interactive &amp; group work sessions)</p>	NA	<u>PCP modules:</u> Implementation of treatment guidelines	NA	NA
<b>Clancy 2007(132)</b>													
Academic affiliated primary care centre	Charleston, US	186 (T2D with HbA <sub>1c</sub> >8.0%; 82.8% African Americans) Active: 96 Control: 90	56.1	72.0	Retired or unemployed: 72.6% <u>Mean years of education:</u> 10.0	9.30 (0.20) vs 8.90 (0.22)	NA	MDT (internist, RN)	<u>Patient education (12 months):</u> Monthly 2-h interactive group visit. Individual visit: when necessary for general health screening & 60-min consultation with physicians.	Individual, group (14-17 patients each)	<u>Patient modules:</u> Foot care, lifestyle, DM complications, emotional aspects of DM	NA	NA
<b>Bebb 2007(133)</b>													
42 general practices	Nottingham, UK	1534 (Insulin-naïve T2D; 9.4% non-White; 32.0% macro-vascular complications) Active: 797 Control: 737	64.3 (9.9) vs 64.3 (10.0)	40.9	NA	7.7 (1.4) vs 7.7 (1.5)	≤10 years: 78.6%	PCP, PN	Mainly HCP & patient levels of intervention	NA	NA	NA	NA
<b>Fornos 2006(134)</b>													
14 community pharmacies	Spain	112 (T2D with drug-related problems) Active: 56 Control: 56	62.4 (10.5) vs 64.9 (10.9)	NA	NA	8.4 (1.8) vs 7.8 (1.7)	NA	PCP, pharmacist	<p><u>Patient education (13 months):</u> Monthly visit with pharmacists (total 13 sessions).</p> <p><u>Pharmacist training:</u> 18-h training</p>	Individual	<p><u>Patient modules:</u> DM complications, lifestyle, smoking cessation, foot examination, SMBG, knowledge &amp; adherence to medications.</p> <p><u>Pharmacist modules:</u> DM educational program</p>	Administration of knowledge questionnaires at baseline & study end.  Pharmacists attended clinical sessions & presented results on drug-related problems to PCPs.	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
<b>Gabbay 2006(135)</b>													
2 primary care clinics of a teaching hospital	US	332 (95% T2D, 33.1% had CHD, mainly Caucasians) Active: 150 Control: 812	65.0 (12.0) vs 64.0 (20.0)	45.9	NA	7.4 (1.4) vs 7.36 (1.5)	10.0 (9.0) vs 9.0 (8.0)	Nurse	<u>Patient education (12 months):</u> A 45-60-min baseline visit → 1:1 session at least every 4 months.  <u>Nurse training:</u> RN trained at Penn State DM Centre through seminars with a dietitian, CDE & endocrinologist.	Individual	<u>Patient modules:</u> behavioral goal-setting, individualized care plan, self-management  <u>Nurse modules:</u> DM management protocol	NA	NA
<b>Wu 2006(136)</b>													
Hospital medical clinic	Hong Kong	442 (non-compliant polypharmacy Chinese T2D) Active: 219 Control: 223	71.2 (9.4) vs 70.5 (11.1)	51.4	NA	NA	NA	Pharmacist	<u>Patient education (24 months):</u> a 10-15 min telephone call at the midpoint between clinic visits over the study period.	NA	Nature, side effects, compliance to medications; self-care (lifestyle, SMBG). Misconceptions were clarified.	NA	<u>Mean number of phone calls over 24 months:</u> 6-8
<b>Harno 2006(137)</b>													
Primary care & university hospital outpatient department	Finland	175 (T1D & T2D: no specific breakdown) Active: 101 Control: 74	NA	NA	NA	7.82 (0.13) vs 8.21 (0.18)	NA	NA	Mainly practice & patient levels of intervention	NA	NA	NA	NA
<b>O'Connor 2005(138)</b>													
12 primary care clinics (internists or family physicians)	Minnesota, US	754 (96.7% non-Hispanic White; 13.5% current smokers) Active: 428 Control: 326	Mean 57.6 vs 58.0 (no SD)	43.5	<high school education: 18.0%	Mean 8.1 vs 8.0 (no SD)	Mean 8.9 vs 7.9 (no SD)	MDT (physician, nurse, a clinic staff)	<u>Patient education (18 months):</u> Delivered by physicians & nurses.  <u>Personnel training:</u> DM QI team attended the 8 off-site 3-h sessions.	NA	<u>Patient modules:</u> Self-management, behavioral modifications to achieve goals.  <u>Personnel modules:</u> Not specified	Telephone contacts & site visits by research team	NA
<b>Gerber 2005(139)</b>													
5 urban public hospitals	Chicago, US	244 (95.1% African Americans & Latinos) Active: 122 Control: 122	<u>Lower literacy:</u> 57.7 (11.7) vs 60.4 (10.8)  <u>Higher literacy:</u> 49.4 (12.0) vs 51.8 (11.3)	66.0	<u>Annual household income &lt;US\$ 15,000:</u> 57.0%  <u>&lt;high school education:</u> 45.5%	<u>Lower literacy:</u> 8.1 (2.2) vs 8.1 (1.7)  <u>Higher literacy:</u> 8.3 (2.4) vs 8.3 (2.1)	Median (no IQR): Lower literacy 6 vs 4  Higher literacy 7 vs 5	Computer-based	<u>Patient education (12 months):</u> Bilingual computer-based multimedia application using audio & video to provide information. After each lesson, multiple choice questions were presented for reinforcement. Patients who answered incorrectly received immediate audio feedback. The average time for lesson completion ranged between 10-20 min.	NA	"Living Well with Diabetes" <u>module:</u> Introduction to DM & management, medications, insulin, lifestyle, stress & depression, oral health & prevention of complications (eye, foot, cardiovascular-renal diseases)	NA	<u>Mean duration of computer use (min):</u> 53.5 vs 21.3  <u>Intervention group:</u> greater computer use in higher health literacy patients (81.0 vs 44.1 min & 4.0 vs 2.1 sessions)
<b>McMahon 2005(140)</b>													
Department	US	104	64.0	1.0	<High school	10.0	12.4	Care manager,	<u>Patient education (12 months):</u>	Individual	Individualized SMBG	Phone contacts	30/52 patients



SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
ment of Veterans Affairs Boston Health Care System		(HbA <sub>1c</sub> ≥9.0%) Active: 52 Control: 52	(7.0) vs 63.0 (7.0)		<u>education:</u> 33.7%	(0.8) vs 9.9 (0.8)	vs 12.2	CDE (advanced PN, dietician, pharmacist)	Half-day education session for all patients. Intervention group had access to "MyCareTeam" DM education website, with specific modules & external links.		recommendation, home BP monitoring (≥3x/week)	by research team if patients did not log into the website for 2 weeks.	logged in to the website at least once in every 3 months.
<b>Rothman 2005(141)</b>													
Academic affiliated general internal medicine practice	North Carolina, US	217 (HbA <sub>1c</sub> ≥8.0%, 64.5% African Americans; 43.8% with history of nephropathy) Active: 112 Control: 105	54.0 (13.0) vs 57.0 (11.0)	56.2	<u>Annual household income &lt;US\$ 20,000:</u> 71.4%  <u>&lt;high school education:</u> 73.3%	11 (3) vs 11 (2)	8 (9) vs 9 (9)	CDE (pharmacists), DM care coordinator	<u>Patient education (12 months):</u> All patients had a 1-h session with a clinical pharmacist. Intervention group received additional education from 3 clinical pharmacists (2 were CDEs) during dedicated clinic slots or in consultation with PCP. Phone contacts every 2-4 weeks. DM care coordinator offered health behavior counselling.	Individual	DM education, evidence-based treatment guidelines, proactive management of clinical & laboratory parameters, medication management, health behavior.	Team members queried the database on patients who failed to meet treatment goals.	NA
<b>Phillips 2005(142)</b>													
An academic affiliated primary care clinic (345 internal medicine residents )	Atlanta, US	4138 (94.0% African Americans) Feedback + reminder: 1063 Feedback: 1049 Reminder: 1043 Control: 983	59.0 (13.0)	67.0	Low socio-economic status	8.1 (2.2)	9.0 (9.0)	MDT (physician, nurse-managers, dietitians, podiatrist). Internal medicine residents	<u>Patient education (36 months):</u> Not specified  <u>Personnel training (36 months):</u> Annual lectures, provision of pocket cards. 5-min feedback sessions every 2 weeks with an endocrinologist.  Mainly practice & HCP levels of interventions.	NA	<u>Patient modules:</u> SMBG, diet, exercise  <u>Personnel modules:</u> DM management, treatment goals & thresholds.	Feedback was provided in 97% of scheduled sessions. Attempts to ensure homogeneity of feedback content & style by a combination of "scripts".	NA
<b>Glasgow 2005(143)</b>													
52 PCPs (internist & family physicians)	Colorado, US	886 (80.9% White/non-Hispanic, 12.6% Hispanic) Active: 469 Control: 417	62.0 (1.4) vs 64.0 (1.3)	51.2	<u>Annual household income &lt;US\$ 30,000:</u> 41.2%  <u>&lt;high school education:</u> 13.7%	7.33 (1.34) vs 7.30 (1.22)	NA	Care managers (nurses or medical assistants)	<u>Patient education (12 months):</u> 30-min during 2 clinic visits at 6 months apart to complete touch-screen assessment & action planning procedures. Brief follow-up calls after each visit to reinforce information & strategies.	Individual	Diet, SMBG, goal-setting & action plan, smoking cessation	NA	<u>At 6 months:</u> Received the computer based interactive assessment: 93%  Received ≥1 follow-up phone call: 67%  Discussed the printout with the physician: 73%  Discussed lifestyle goals with care manager: 77%
<b>Dijkstra 2005(144)</b>													
Internal medicine clinics at 9 general hospitals	The Netherlands	769 (67.5% T2D, 32.5% T1D) Active: 351 Control: 418	58.0 (15.0) vs 58.0 (16.0)	45-50	NA	8.1 (1.3) vs 8.0 (1.2)	14.0 (12.0) vs 17.0 (12.0)	MDT (internist, DM specialist nurse, dietician, podiatrist)	<u>Patient education (12 months):</u> Educational meetings with local patient organization. Discussion of DM passport with internists.	Individual, group (not specified)	Goal-setting & strategies to achieve treatment targets, complications screening & prevention, medication adherence, understanding laboratory parameters	Barriers & strategies on DM passport use were discussed in meetings with	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
												national DM opinion leaders.	
<b>Dijkstra 2006(145)</b>													
Secondary out-patient care at 13 general hospitals	The Netherlands	764 (T2D only) Patient-centered: 240 Professional-directed: 248 Control: 276	62.8 (12.0) vs 64.0 (11.0) vs 65.4 (10.4)	54.1	NA	8.0 (1.2) vs 8.1 (1.2) vs 7.9 (1.1)	12.2 (10.0) vs 12.6 (11.5) vs 14.6 (10.3)	MDT (internist, DM specialist nurse, dietitian, podiatrist)	<u>Patient education (12 months):</u> Educational meetings with local patient organization. Discussion of DM passport with internists.  <u>Personnel education (12 months):</u> Educational meetings with DM opinion leaders	As above	<u>Patient modules:</u> Goal-setting & strategies to achieve treatment targets, complications screening & prevention, medication adherence, understanding laboratory parameters  <u>Personnel modules:</u> Guidelines on prevention & treatment of DM complications.	As above	NA
<b>Mason 2005(146)</b>													
A hospital DM centre	Salford, UK	1407 (94.5% T2D among those with BP ≥140/80 or TC ≥5.0 mmol/L; 19.2% with previous MI/stroke) BP clinic: 506 vs. 508 Lipid clinic: 345 vs. 338	<u>BP clinic:</u> median (IQR) 63.5 (55.4 to 72.1) vs 63.7 (56.4 to 71.9) <u>Lipid clinic:</u> median (IQR) 56.5 (45.1 to 66.9) vs 58.6 (49.3 to 69.6)	36.3	NA	NA	NA	GP, DM specialist nurse	<u>Patient education (12 months):</u> Intervention: Initial 45-min consultation with DM specialist nurse → 30- to 45-min sessions every 4-6 weeks until targets were achieved.  Control: Follow up with GPs, annual 20-min review with diabetologists.  <u>Personnel education:</u> RN (degree level) had training by the local clinicians & pharmacists. GPs had 4-monthly educational sessions.	Individual	<u>Patient modules:</u> Treatment targets, goal-setting & action plan, medications review, low salt/fat diet, weight loss, alcohol, exercise  <u>Personnel modules:</u> hypertension & hyperlipidemia guidelines.	NA	NA
<b>New 2003(147)</b>													
A hospital DM centre	Salford, UK	1407 (94.5% T2D among those with BP ≥140/80 or TC ≥5.0 mmol/L; 19.2% with previous MI/stroke) BP clinic: 506 vs. 508 Lipid clinic: 345 vs. 338	<u>BP clinic:</u> median (IQR) 63.5 (55.4 to 72.1) vs 63.7 (56.4 to 71.9) <u>Lipid clinic:</u> median (IQR) 56.5 (45.1 to 66.9) vs 58.6 (49.3 to 69.6)	36.3	NA	NA	NA	GP, DM specialist nurse	<u>Patient education (12 months):</u> Intervention: Initial 45-min consultation with DM specialist nurse → 30- to 45-min sessions every 4-6 weeks until targets were achieved.  Control: Follow up with GPs, annual 20-min review with diabetologists.  <u>Personnel education:</u> RN (degree level) had training by the local clinicians & pharmacists. GPs had 4-monthly educational sessions.	Individual	<u>Patient modules:</u> Treatment targets, goal-setting & action plan, medications review, low salt/fat diet, weight loss, alcohol, exercise  <u>Personnel modules:</u> hypertension & hyperlipidemia guidelines.	NA	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
			69.6)										
<b>Clifford 2005(148)</b>													
Community based DM centre	Australia	198 (Anglo-Celt descent; 47.8% known CHD/stroke) Active: 99 Control: 99	70.5 (7.1) vs 70.3 (8.3)	47.8	NA	Median (IQR): 7.5 (6.9 to 8.1) vs 7.1 (6.3 to 7.8)	Median (IQR) : 10.0 (7.6 to 14.0) vs 8.0 (6.6 to 12.0)	pharmacist	Patient education (12 months): At baseline, at 6-weekly intervals by telephone, and at face-to-face meetings with clinical pharmacists at 6 & 12 months. Provision of educational materials.	Individual	Patient modules: SMBG, lifestyle, medications profile & adherence, smoking cessation	NA	NA
<b>Mehler 2005(149)</b>													
12 primary care practices	Colorado, US	884 (14.1% current smoker; 29.8% White, 31.2% Hispanic, 5.5% African Americans) Electronic: 415 Direct: 146 Control: 323	61.6 (11.0) vs 65.3 (14.3) vs 66.0 (12.0)	NA	NA	NA	NA	PCP	Mainly practice & HCP levels of intervention	NA	NA	NA	NA
<b>Maljanian 2005(150)</b>													
Primary & secondary care	Connecticut, US	507 (336 completed follow-up) Active: 176 Control: 160	58.0 (12.7)	53.3	NA	7.9 (1.8)	61% within one year	PCP, RN, dietitian	Patient education (12 months): 3 4-h classes & 12 weekly phone calls. First call was 15-20 mins in length, subsequent calls were 5-7 mins in duration. Individual visits with RN & dietitian.	Individual, group	Patient modules: Basic DM education, self-management skills	NA	Median number of programme visits: 3.7
<b>Simmons 2004(151)</b>													
135 general practitioners	New Zealand	398 (25.6% T1D, 74.4% T2D; 13.8% had CHD) Active: 222 Control: 176	49.0 (10.0) vs 54.0 (10.0)	47.0	NA	9.4 (1.5) vs 9.2 (1.6)	Age at diagnosis: mean (SD) 39 (13) vs 43 (14)	PCP, clinic practice staffs (not specified)	Mainly practice & patient levels of intervention	NA	NA	NA	NA
<b>New 2004(152)</b>													

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
44 general practices	Salford, England	5371 (T2D with BP ≥140/80 or total cholesterol ≥5.0 mmol/L or both) BP clinic: 5178 Lipid clinic: 5275 (no breakdown on active and control)	NA	NA	NA	NA	NA	DM specialist nurse, PN, PCP	Mainly practice & HCP levels of intervention  <u>Personnel training:</u> DM specialist nurses provided educational materials & protocols to PCP & PN.	NA	<u>Personnel modules:</u> Treatment algorithm & targets for BP and cholesterol.	NA	NA
<b>Wolf 2004(153)</b>													
Primary care	US	147 (79.2% Caucasians; T2D & BMI ≥27.0 kg/m <sup>2</sup> ) Active: 73 Control: 71	53.3 (8.6) vs 53.4 (8.0)	60.4	NA	7.7 (1.6)	NA	Dietitians	<u>Patient education (12 months):</u> 6 individual sessions (total 4-h) & 6 1-h small groups discussion. Had monthly phone contacts.	Individual, group (not specified)	Dietary assessment & 5% weight loss, exercise	NA	100% attended all individual sessions, 78% attended ≥4 classes.
<b>California Medi-Cal 2004(154)</b>													
One community-based & 2 university-based clinics	Southern California, US	362 (54.7% African Americans & Hispanic on Medicaid, 35.5% White; HbA <sub>1c</sub> ≥7.5%) Active: 188 Control: 174	Mean (SE): 57.0 (0.9) vs 56.9 (1.0)	71.8	≤12 <sup>th</sup> grade; 79.9%	Mean (SE): 9.6 (0.1) vs 9.7 (0.1)	Mean (SE): 10.3 (0.8) vs 12.0 (0.8)	GP, nurses, dietitians	<u>Patient education (36 months):</u> Not specified. Had telephone contacts when necessary.	Individual	Glucometer use, SMBG records & on-going assessment, diet, exercise, self-care behaviors.	NA	NA
<b>Krein 2004(155)</b>													
2 academically affiliated Department of Veterans Affairs Medical Centres	Michigan, US	246 (HbA <sub>1c</sub> ≥8.5%; 58.5% White) Active: 123 Control: 123	61.0 (10.0) vs 61.0 (11.0)	3.3	≤12 years of education; 55.3%	9.3 (1.5) vs 9.2 (1.4)	11.0 (10.0) vs 11.0 (9.0)	NCM	<u>Patient education (18 months):</u> NCM-patient phone contacts & face-to-face if necessary.  <u>NCM training:</u> 2-day interactive course initially, training updates & reinforcement at 2 months & every 6 months.	1 NCM to 60-120 patients	<u>Patient modules:</u> Self-management, identification of barriers to self-care, medications adherence  <u>NCM modules:</u> Goal-setting, role play & case discussions on treatment algorithms.	NA	NA
<b>Smith 2004(156)</b>													
30 general practices	North Dublin, Ireland	183 (non-insulin treated T2D, 19.1% on statin) Active: 96 Control: 87	64.7 (12.3) vs 65.6 (10.8)	44.3	NA	6.85 (1.6) vs 6.6 (1.9)	5.8 (5.1) vs 6.3 (7.4)	MDT (GP, PN, community DM specialist nurses)	<u>Personnel training (18 months):</u> 6-week distant learning course with 3 skills sessions on primary DM care. Community DM specialist nurses visited practices for 1-2 half days a month. Practices with PN generally requested to be trained by DM specialist nurses.	Individual, group (not specified)	Basics of DM & complications, dietary assessment, self-management	Feedback from GPs and PNs by semi-structured interview at 1-year of study	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
<b>Trento 2004(157)</b>													
A hospital-based secondary care DM unit	Italy	112 (non-insulin treated T2D) Active: 56 Control: 56	Median (IQR): 62 (35 to 80) vs 61 (43 to 78)	45.5	<high school education: 93.8%	7.4 (1.4) for both	Median (IQR): 9.4 (1 to 23) vs 9.8 (1 to 39) at base-line	Physicians, nurses, dietitians	<u>Patient education (1-5 years):</u> Interactive educational workshops (hands-on activities, group work, problem-solving, real-life simulations & role play) facilitated by 1-2 physicians & an educator.  4-session cycle in years 1 & 2 → 7 sessions in years 3 and 4 → restarted in year 5 for in-depth learning.	<u>Intervention:</u> group (not specified)  <u>Control:</u> individual	Basics of DM & complications, lifestyle, goal-setting, action plan, smoking cessation, medications adherence, hypoglycemia, sick days' rules	Regular feedback from patients on sessions conducted & topics covered.	<u>Mean duration of group visits:</u> ≈50 min.  <u>Mean duration of individual visits:</u> 15-20 min.
<b>Trento 2002(158)</b>													
A hospital-based secondary care DM unit	Italy	112 (non-insulin treated T2D) Active: 56 Control: 56	Median (IQR): 62 (35 to 80) vs 61 (43 to 78)	45.5	<high school education: 93.8%	7.4 (1.4) for both	Median (IQR): 9.4 (1 to 23) vs 9.8 (1 to 39) at base-line	Physicians, nurses, dietitians	As above	As above	As above	As above	As above
<b>Trento 2001(159)</b>													
A hospital-based secondary care DM unit	Italy	112 (non-insulin treated T2D) Active: 56 Control: 56	Median (IQR): 62 (35 to 80) vs 61 (43 to 78)	45.5	<high school education: 93.8%	7.4 (1.4) for both	Median (IQR): 9.4 (1 to 23) vs 9.8 (1 to 39) at base-line	Physicians, nurses, dietitians	As above	As above	As above	As above	As above
<b>Ko 2004(160)</b>													
3 regional DM centres	Hong Kong	180 (Chinese T2D with HbA <sub>1c</sub> 8.0-11.0%) Active: 90 Control: 90	55.0 (9.0) vs 56.0 (10.2)	56.2	NA	8.6 (1.6) vs 8.4 (1.2)	NA	Physicians, CDE	<u>Patient education (12 months):</u> 30-min individual educational sessions with CDE every 3 months after physicians' consultations (total 5 visits of 2.5-h), consisting of feedback & reinforcement.	Individual	CV risk factors, lifestyle modifications, goal-setting/action plan, smoking cessation	NA	NA
<b>Reiber 2004(161)</b>													
7 Veteran Affairs general internal medicine clinics	US	1593 (95.5% T2D; 23.8% prior MI/CABG; 21.9% depression; 67.2% hypertension) Active: 986 Control: 607	Mean 65.7 vs 65.8 (no SD)	NA	<12 years education: 16.4%  <u>Annual income &lt;USD\$20,000:</u> 66.1%	NA	5 years and below: 36.6%  6-15 years: 37.6%	PCP	Mainly practice & HCP levels of intervention	NA	NA	NA	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
							16 years and above: 25.8%						
<b>Gaede 2008(162)</b>													
Steno Diabetes Centre	Denmark	160 (T2D with micro-albuminuria) Active: 80 Control: 80	54.9 (7.2) vs 55.2 (7.2) at baseline	NA	NA	8.4 (1.6) vs 8.8 (1.7) at baseline	13.3 (0.4) years follow up from base-line	MDT (physician, nurse, dietitian)	<u>Patient education (4 years):</u> Individual consultations every 3 months.	Individual	Low fat diet, exercise, smoking cessation, behavior modification	NA	84% and 87% of intervention & control groups were still treated at Steno Diabetes Centre respectively.
<b>Gaede 2008(163)</b>													
Steno Diabetes Centre	Denmark	160 (T2D with micro-albuminuria) Active: 80 Control: 80	54.9 (7.2) vs 55.2 (7.2) at baseline	NA	NA	8.4 (1.6) vs 8.8 (1.7) at baseline	7.8 (0.3) years follow up from base-line	MDT (physician, nurse, dietitian)	As above	Individual	As above	NA	NA
<b>Gaede 2003(164)</b>													
Steno Diabetes Centre	Denmark	160 (T2D with micro-albuminuria) Active: 80 Control: 80	54.9 (7.2) vs 55.2 (7.2) at baseline	NA	NA	8.4 (1.6) vs 8.8 (1.7) at baseline	7.8 (0.3) years follow up from base-line	MDT (physician, nurse, dietitian)	As above	Individual	As above	NA	NA
<b>Gaede 1999(165)</b>													
Steno Diabetes Centre	Denmark	160 (T2D with micro-albuminuria) Active: 80 Control: 80	54.9 (7.2) vs 55.2 (7.2) at baseline	25.6	NA	8.4 (1.6) vs 8.8 (1.7) at baseline	Median (IQR) : 5.5 (2.0 to 8.8) vs 6.0 (4.0 to 10.0)	MDT (physician, nurse, dietitian)	As above	Individual	As above	NA	NA
<b>Jones 2003(166)</b>													
Primary care practice	Southern Ontario & Nova Scotia, Canada	1029 (T2D & BMI >27.0 kg/m <sup>2</sup> with suboptimal self-care) Active: 529 Control: 500	Mean 54.58 vs 54.86 (no SD)	48.4	NA	Mean 8.49 vs 8.61 (no SD)	Mean 10.09 vs 11.15 (no SD)	MDT (not specified)	<u>Patient education (12 months):</u> Monthly mail or phone contacts. Provision of a general DM handbook.	Individual	Patient-specific education contents, mainly on behavioral change, SMBG, personal goal-setting & smoking cessation	NA	NA
<b>Meigs 2003(167)</b>													
A hospital-based general	Boston, US	598 (71.1% White, 19.1% Black,	68 (12) vs 67 (12)	52.3	<u>Medicaid or Medicare:</u> 69.7%	8.4 (0.1) vs 8.1 (0.1)	9.9 (5.5) vs 9.7	Internal medicine residents	Mainly practice & HCP levels of interventions	NA	NA	NA	NA

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
medicine practices		51.9% had any cardiovascular complications) Active: 307 Control: 291					(5.6)						
<b>Ilag 2003(168)</b>													
9 university-affiliated primary care internal medicine practices	US	Year 1: 204 Active: 103 Control: 111  Year 2: 154 (85.0% T2D, 81.2% Caucasians, 10.4% African Americans)	59.0 (14.0) vs 59.0 (12.0)	53.2	NA	HbA <sub>1c</sub> ≤8.0%: 56.0%	NA	RN, CDE	<u>Patient education (24 months):</u> Review of patients' information booklets with RN or CDE.	NA	Importance of medications (aspirin, RASi, statin), prevention of complications, smoking cessation	NA	NA
<b>Litaker 2003(169)</b>													
Academic affiliated general medicine clinic	Cleveland, Ohio, US	157 (T2D with stage I-II hypertension; 59.2% African Americans) Active: 79 Control: 78	60.5 (8.5) vs 60.6 (9.6)	58.6	<u>Mean years of education:</u> 12.9 (2.7) vs 12.3 (3.0)	8.4 (1.4) vs 8.5 (1.6)	NA	Nurse	<u>Patient education (12 months):</u> In-person office visits & telephone contacts by nurses.  <u>Nurse training:</u> Training on DM treatment algorithms by the research team before study started.	Individual	<u>Patient modules:</u> Weight control, exercise, smoking cessation, alcohol, dietary sodium restriction, medications adherence & side effects  <u>Nurse modules:</u> Not specified	NA	NA
<b>Taylor 2003(170)</b>													
Kaiser Permanente Medical Centre	Colorado, US	169 (HbA <sub>1c</sub> >10.0% with at least hypertension, hypercholesterolemia or cardiovascular disease; 94.7% T2D; 23.1% had cardiovascular disease; 61.6% Caucasians, 25.4% Black or Hispanic) Active: 84 Control: 85	55.5 (8.9) vs 54.8 (11.4)	47.3	<u>≤high school education:</u> 23.7%	9.5 (0.3) for both	NA	RN	<u>Patient education (12 months):</u> IE: 90-min consultation with RN GE: 1- to 2-h interactive sessions, weekly for 4 weeks 15-min nurse-patient phone contacts: before 4 <sup>th</sup> group sessions, 5, 8, 12, 16, 20, 28, 36, and 44 weeks into the program	Individual, group (4-10 patients each)	<u>Patient modules:</u> Lifestyle, medications, psychosocial status, self-management plan, problem solving, glucose/BP monitoring	NA	<u>Mean number of nurse-patient phone contacts:</u> 12.8 (3.0 to 30.0)  <u>Mean number of nurse-PCP phone contacts:</u> 3.1 (1.0 to 8.0)
<b>Frijling 2002(171)</b>													
124 general practices	The Netherlands	1410 (38.0% had FPG >8.0 or 2-h PPG >10.0 mmol/L) Active: 703	64.8 (11.1) vs 65.6 (12.1)	55.4	NA	NA	NA	PCP, facilitator (practice assistant)	<u>Personnel training:</u> 80-h including 8-h of diabetes education sessions	Individual	<u>Personnel modules:</u> Diabetes care, organizational & administrative tasks related to study	NA	15 outreach visits (1-h in length) per practice by facilitator

SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
		Control: 707											
<b>Brown 2002(172)</b>													
University DM clinic	Starr County, Texas, US	256 (Mexican Americans T2D with HbA <sub>1c</sub> ≥10.0%; age >35 years) Active: 128 Control: 128	54.7 (8.2) vs 53.3 (8.3)	63.9	Low socio-economic status	11.8 (3.0)	7.6 (5.8) vs 8.1 (6.9)	MDT (physician, nurses & dietitians); 8 trained CHW with DM	<p><b>Patient education (12 months):</b> 52-h over 1 year, with follow up till 3 years in preferred language, consisting of 12 weekly 2-h educational sessions, 14 biweekly &amp; 3 monthly 2-h support group sessions. Use of videotapes on delivery of culturally-tailored educational contents by CHW.</p> <p><b>Personnel training:</b> Nurses &amp; dietitians: seminars, supervised practical sessions at university hospital CHW: at least high school graduate. Attended a 8-week course.</p>	Individual, group (8 patients & 1 family member per patient)	<p><b>Patient modules:</b> Culturally tailored self-care counselling (dietary selection, SMBG etc), problem-solving, behavioral change &amp; health-belief, hands-on, family &amp; social support.</p> <p><b>Personnel modules:</b> Nurses &amp; dietitians: DM education &amp; management CHW: DM self-management</p>	NA	Attendance dropped at week 13 during the transition from focus group to support group sessions. It declined to 50% at study end, but varied based on the group dynamics (some maintained at 100%).
<b>Hirsch 2002(173)</b>													
University based primary care clinic (2 firms)	Washington, US	109 (73.4% White, 26.6% non-White) Active: 44 Control: 65	60.0 vs 57.0	56.0	Medicaid/Medicaid care: 57.8%	7.64 vs 7.57	NA	MDT (physician, pharmacists, nurses, dietitians)	<p><b>Personnel training (14 months):</b> Traditional tutorials, conferences, email consults, case of the week.</p> <p>Mainly practice &amp; HCP levels of interventions.</p>	NA	NA	NA	NA
<b>Keyserling 2002(174)</b>													
7 primary care practices	Central North Carolina, US	200 (African Americans women with poorly controlled T2D; 23.5% had CHD) Clinic & community: 67 Clinic only: 66 Control: 67	Mean 58.5 vs 59.8 vs 59.2 (no SD)	100	<p><u>Annual household income &lt;US\$ 10,000</u>: 29.0%</p> <p><u>Mean years of education</u>: 10.1-11.1</p>	Mean 10.8 vs 11.1 vs 11.3 (no SD)	Mean 10.8 vs 10.7 vs 9.9 (no SD)	Dietitian, trained PL with T2D	<p><b>Patient education (12 months):</b> <b>Clinic &amp; community based:</b> a. 1<sup>st</sup> 6 months - monthly individual counselling visits. Two 90-min group sessions &amp; monthly phone contacts from PL. b. Last 6 months – one 90-min group session &amp; monthly phone contacts from PL.</p> <p><b>Clinic only:</b> had intervention (a) as above</p> <p><b>Minimal intervention:</b> Mailed educational pamphlets.</p> <p><b>PL training:</b> 4 weekly 4-h sessions</p>	Individual, group (not specified)	<p><b>Patient modules:</b> Patient-specific lifestyle change advice, especially physical activity</p> <p><b>PL modules:</b> Behavioral goals, social support</p>	NA	<p><u>Attendance rates &amp; mean duration of individual visits (both intervention groups):</u> Visit 1 - 93% (68-min), Visit 2 - 86% (45-min), Visit 3 - 83% (41-min), Visit 4 - 72% (45-min)</p> <p><u>Mean number of phone contacts with PL:</u> 9.7 (53% were 10 to 20-min in length; 38% &lt;10-min)</p>
<b>Pouwer 2001(175)</b>													
Academic affiliated outpatient	Netherlands	400 (58.5% T2D, 41.5% T1D; 49.5% with cardiovascular)	53.0 (16.0) vs 54.0 (18.0)	52.5	<u>Mean years of education</u> : 12.0 (3.6) vs 11.0 (3.4)	7.8 (1.4) vs 7.8 (1.3)	NA	DM specialist nurse	<b>Patient education (12 months):</b> Two 15-min monitoring on psychosocial well-being	Individual	<b>Patient modules:</b> DM-related topics (not specified), psychosocial well-being questionnaires & discussion	NA	NA



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Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
diabetes clinic		-renal complications) Active: 191 Control: 209							<u>Personnel training:</u> Role-play training delivered by 2 psychologists.		<u>Personnel modules:</u> Counselling skills		
<b>Groeneveld 2001(176)</b>													
15 primary care practices	Leiden, The Netherlands	246 (3.3% insulin treated T2D) Active: 91 Control: 155	62.7 (11.0) vs 62.3 (10.0)	58.1	NA	FPG: 10.4 (3.8) vs 9.7 (3.5)	4.1 (3.7) vs 4.6 (4.0)	MDT (nurses, dietitians)	Mainly practice & patient levels of intervention	NA	NA	NA	NA
<b>Wagner 2001(177)</b>													
36 primary care practices	Washington, US	707 (68.9% Caucasians, 31.1% non-Caucasians; age ≥30 years) Active: 278 Control: 429	Mean 61.2 vs 60.4 (no SD)	47.1	<u>Annual household income &lt;US\$ 15,000:</u> 92.0%  <u>≤12 years of education:</u> 10.9%	Mean 7.5 vs 7.4 (no SD)	NA	MDT (PCP, nurses, pharmacists)	<u>Patient education (24 months):</u> Chronic care clinics every 3-6 months, consisting of individual visits with PN & an interactive group educational.	Individual, group (6-10 patients)	DM self-management	NA	Among patients attended at least 1 chronic care clinic, 2/3 joined 3-6 clinics throughout the study period.
<b>Kiefe 2001(178)</b>													
70 community physicians: family medicine (37.1%), internal medicine (55.7%), endocrinology (2.9%)	Alabama, US	1931 (35.9% White, 19.8% Black; 39.2% had CHD) Active: 965 Control: 966	Mean 75.9 vs 76.1 (no SD)	NA	<u>Urban practice:</u> 52.9%  <u>Rural practice:</u> 35.7%  <u>Suburban practice:</u> 7.1%	NA	NA	Physicians	Mainly practice & HCP levels of intervention	NA	NA	NA	NA
<b>Piette 2001(179)</b>													
3 general medicine & one university-affiliated Veteran Affairs DM clinics	US	292 (60.3% White, 30.5% Black or Hispanic; 44% HbA <sub>1c</sub> ≥8%) Active: 146 Control: 146	60.0 (10.0) vs 61.0 (10.0)	2.9	<u>Annual household income &lt;US\$ 10,000:</u> 21.3%	8.2 (1.7) vs 8.1 (1.7)	NA	RN	<u>Patient education (12 months):</u> Generation of automated health promotional messages after self-care information was uploaded, coupled with weekly telephone nurse follow up. Periodic phone contacts to reinforce on educational information or to follow up on non-compliant patients. Frequency was based individualized.	Individual	DM self-care, prevention of complications, medications adherence	NA	<u>Mean number of ATDM contacts per patient:</u> 15 (8)  <u>Mean number of telephone nurse contacts per patient:</u> 13 (8)  <u>Mean total hours of telephone nurse contacts (hours):</u> 3.8 (3.0)
<b>Piette 2000(180)</b>													
2 general medicine clinics	US	280 (49.6% Hispanic; 29.0% White; >50% had ≥1	56.0 (10.0) vs 53.0 (10.0)	58.9	<u>Annual household income &lt;US\$ 10,000:</u> 58.1%	8.8 (1.8) vs 8.6 (1.8)	NA	RN	As above	Individual	As above	NA	<u>Mean number of ATDM contacts per patient:</u> 17 (12)

## SUPPLEMENTARY DATA

Study setting	Country	Study population	Age*	Female gender (%)	Socio-economic & education status	Base-line HbA <sub>1c</sub> <sup>a</sup>	DM duration <sup>a</sup>	Personnel involved (overall)	Frequency & duration of patient/personnel training	Patients per group	Curriculum	Quality assurance	Attendance rates/intensity
		DM-related complications) Active: 137 Control: 143											<u>Mean number of telephone nurse contacts per patient:</u> 6 (4)  <u>Mean total hours of telephone nurse contacts (min):</u> 70 (13)
<b>Piette 2000(181)</b>													
2 general medicine clinics	US	280 (49.6% Hispanic; 29.0% White; >50% had ≥1 DM-related complications) Active: 137 Control: 143	56.0 (10.0) vs 53.0 (10.0)	58.9	<u>Annual household income &lt;US\$ 10,000:</u> 58.1%	8.8 (1.8) vs 8.6 (1.8)	NA	RN	As above	Individual	As above	NA	<u>Mean number of ATDM contacts per patient:</u> 17.1 (13.1 biweekly, 4.0 self-care education calls)  <u>Mean number of telephone nurse contacts per patient:</u> 5.6  <u>Mean duration of each telephone nurse contact (min):</u> 12.4

\*Age and DM duration were quoted in years. Data shown were baseline results at randomization quoted as mean (standard deviation), unless stated otherwise.

All parameters were in SI units and documented as intervention versus control arms, unless stated otherwise. To convert HbA<sub>1c</sub> to mmol/mol = (10.93\*NGSP) – 23.50. To convert LDL-C to mg/dL, multiply by 38.67.

Abbreviations: ADA, American Diabetes Association; AADE, American Association of Diabetes Educators; ATDM, automated telephone disease management; AQIP, Advanced quality improvement program; CCM, Chronic Care Model; CDE, certified diabetes educator; CDSMP, chronic disease self-management program; CHD, coronary heart disease; CHW, community health workers; CKD, chronic kidney disease; CPDS, coach PCP portal with decision support; CPP, coach PCP portal; COPD, chronic obstructive pulmonary disease; DM, diabetes mellitus; DMP, disease management program; DN, diabetic nephropathy; DSMS, Diabetes self-management support; FTA, Few Touch Application; FTA-HC, Few Touch Application with Health Counselling; GCP, Good Clinical Practice; GE, group education; GI, glycaemic index; GP, general practitioner; GPwSI, general practitioner with special interest; JNC-VII, Seventh Joint National Committee; MA, medical assistant; LDL-C, low-density lipoprotein cholesterol; NGSP, National Glycohemoglobin Standardization Program; NCM, nurse case manager; NDEP, National Diabetes Education Program; PBL, problem-based learning; PCP, primary care practitioner; PDA, personal digital assistant; PL, peer leaders; PN, practice nurse; POC, point-of-care; PROM, patient-related outcome measures; PROV, Provider's education; RN, registered nurse; SMBG, self-monitoring of blood glucose; SDSMP, Spanish Diabetes Self-management Program; UQIP, Usual quality improvement program; 95% CI, 95% confidence interval; NA, not available

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