**Table 1.** Data Extraction Table

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| **Author** | **Participants** | **Participant's Background** | **Intervention** | **Control** | **Duration of Intervention** | **Outcome Measures** | **Results** |
| 1.Gray et al 2021 | n=263  Age(mean); 52.65  Female n (%): 129(49%)  Male n (%): 134(51%) | Urban dwellers, Washington State, USA | PeerAID, low intensity CLW Intervention, promote health education, assistance, client advocacy, social support, informal counselling, linkages to community resources, blood glucose monitoring, healthy eating, physical activity, medication taking, and smoking cessation | Usual Care | 12 months  Follow up:  Baseline and  12months  Drop out: 9% | Primary: Self-management (Summary of Diabetes Self-Care) Activities including eating behaviours (Diabetes Self-Management Assessment Report Tool), physical activity (International Physical Activity Questionnaire) medication taking (Morisky Medication Adherence Scale), blood glucose monitoring, foot care, and tobacco use (Self-reported).  Secondary: Depression (Patient Health Questionnaire depression scale (PHQ-8), Diabetes distress (Diabetes Distress Scale), Self-efficacy (Diabetes Management Self-Efficacy Scale ), Social Support (Multidimensional Diabetes Questionnaire) | Significant within group improvements from baseline to 12-months in general diet, specific diet, carbohydrate spacing, foot care, and medication taking (p<0.05)  Intervention arm participants 141 min of additional weekly physical activity (Baseline:12months: 271.3 (421.6) to 344.2 (455.6) (+72.8) compared to controls (baseline:12months; 240.1 (364.1) to 199.9 (350.0) (−40.2)) at 12 months Adjusted intervention effect of 141(95% CI 46.4, 236.4)(p<0.004) |
| 2. Bossche et al (2021) | n=135 Age (mean): 60.04 Female n(%): 84(62.2) Male n(%): 51(37.8) | Urban dwellers, City of Ghent, Belgium requiring psychosocial support | CLWs provided 8 weeks hands-on, tailored support spanning the domains of social support, coaching, advocacy, navigation to healthcare. The aim was to assess the effects of the intervention on patients who required emotional support, experienced social isolation, reduced social participation, anxiety and fear of COVID-19 | Usual care | 8 weeks  Follow up: baseline, 8 weeks Drop out:17% | Primary: change in feelings of emotional support, social isolation, ability to participate in social roles and activities, and anxiety (Patient-Reported Outcomes Measurement Information System (PROMIS™); (fear of COVID-19 scale)   Secondary: NR | No significant between-group difference in mean change from baseline in emotional support, social isolation, ability to participate in social roles and activities, anxiety and fear of COVID-19.  Patient Global Impression of Change (PGIC) did demonstrate a significant difference between intervention and control group (p = 0.027, 95%CI (-0.81; -0.05)). |
| 3. Ramirez et al (2020) | n=288 Age (mean ± SD): 56.05 (10.20) Female n(%):155 (54) Male n(%):133 (46.2) | Hispanic/Latino ethnicity in urban Chicago and Texas | LIVESTRONG Cancer Navigation Services (LCNS) is a community-delivered intervention with community-based participatory research methods to address the unique needs of individuals affected by cancer, including Latino cancer survivors | Limited access to Patient navigators and lay community health workers services but no access to LCNS | 12 months Follow up: baseline, 3, 9, 15 months Drop out:17% | Primary: HRQOL, including facets of physical, functional, social, and emotional well-being (27-item Functional Assessment of Cancer Therapy– General (FACT-G) scale) Cancer-specific HRQOL in breast cancer survivors (Functional Assessment of Cancer Therapy–Breast); Colorectal cancer survivors (Functional Assessment of Cancer Therapy–Colorectal); Prostate cancer survivors (Functional Assessment of Cancer Therapy–Prostate)  Secondary: NR | At 3 months males (colorectal cancer) within PN-LCNS group significantly greater HRQOL (FACT-G) (95% CI, 2.030-18.119; p = .014); Females (breast cancer) within PN-LCNS significantly worse HRQOL (FACT-G) (95% CI, –9.059 to –1.049; p = .013). than PN service alone  At 3, 9, 15 months female (Colorectal Cancer) within N-LCNS group significantly greater HRQOL (FACT-Colorectal) (3m- 95% CI, 0.030-0.305; p = .017; 9m -95% CI, 0.001-0.293; p = .049; 15m- 95% CI, 0.025-0.317; p = .021) than PN group |
| 4. Mercer et al (2019) | n=900 Mean Age (%): 52.5 Mean Female n(%):543 (60.3) Mean Male n(%): 355(39.4) | Glaswegians living within 15% of most-deprived postcodes in Glasgow | The Glasgow Deep End Links Worker Programme (LWP) aims to help people in areas of deprivation to “live well” in their communities by providing an attached community-links practitioner (CLP) to general practices. CLPs would forge relationships between general practices and community organizations (walking groups, debt management support, welfare rights, drug and alcohol management support, lunch clubs, befriending schemes, crafting clubs, bereavement support), and support patients to access nonmedical services on offer. | Usual care | 9 months Follow up: baseline, 9 months Drop out:14% | Primary: HRQOL (EQ-5D-5L)   Secondary: Well-being (Investigating Choice Experiments for the Preferences of Older People Capability Measure for Adults (ICECAP-A); Hospital Anxiety and Depression Scale (HADS-A / HADS-D); Work and Social Adjustment Scale; burden of multimorbidity; self-reported lifestyle activities | At 9 months no significant effect on any of the outcome measures of interest (EQ-5D-5L 95% CI 0.008 (–0.028 to 0.045) p= .648)  Participants who consulted 3 or more times with a CLP demonstrated significant improvements in HRQOL (EQ-5D-5L) (CI;0.071 (0.016 to 0.126); p=.011); Anxiety (HADS-A) (CI: –1.380 (–2.339 to -0.421); p=.005); Depression (HADS-D) (CI:–1.280 (–2.209 to –0.352):p=.007); Exercise (CI:0.339 (0.071 to 0.607);p=.013) |
| 5. Kangovi et al (2018) | n=592 Age (mean ± SD):52.6 (11.1) Female n(%): 370 (62.5) Male n(%):222 (37.5) | Urban high-poverty zip code Philadelphia, USA | Individualized Management for Patient-Centred Targets (IMPaCT) is a standardized intervention delivered in 3 stages: goal-setting, tailored support and connection with long-term support in which CLWs provide specific social support, navigation, and advocacy to help low-income patients achieve health goals spanning the domains of coaching, social support, and advocacy. CLWs did not directly provide health education or clinical care. | Usual care and goal setting only | 6 months  Follow up: baseline, 6, 9 months Drop out:21% | Primary: mean change in self-rated physical health using SF-12v2 Health Survey (Physical Component)  Secondary: -mean change in self-rated mental health using the SF-12v2Health Survey (Mental Component)  -mean change in patient-selected chronic disease (HbA1c,BMI,SBP,or CPD)  -mean change in patient activation measure, | At 9 months, both groups had non-significant improvement in self-rated physical health (mean (SD), 1.8 (11.2))vs 1.6 (9.9); P = .89) and self-rated mental health (difference in differences, 0.8; 95% CI, –1.1 to 2.6; P = .41)  Intervention arm had significant improvements in chronic disease control (difference in differences: (HbA1c, –0.23%; BMI, –0.15; CPD, –0.50; SBP, –6.26 mm Hg; P = .21)  Intervention arm had a greater improvement in patient activation (difference in differences, 1.9; 95% CI, –0.1 to 3.8; P = .06) |
| 6. Spencer et al (2018) | n=222 0-6 months - CLW led DSME program (n= 89) vs EUC (n=73)  6-12-month - CLW led telephone call vs 12 months of weekly group sessions delivered by Peer leaders (n=60) Vs EUC (n=73)  Age (mean ± SD):48.9 (10.6) Female n(%):135 (60.8) Male n(%):87 (39.1) | American Latino/a Southwest Detroit inner city, USA | Founded in 1999, the Racial and Ethnic Approaches to Community Health (REACH) Detroit Partnership is a community-based participatory research (CBPR) coalition of community organizations, academic institutions, and health care systems that has used CBPR approaches to design, implement, and evaluate interventions aimed at improving diabetes care. CLW facilitated necessary referrals to other service systems. | 0-18 months EUC: received a 2-h class conducted by a research assistant covering how to interpret their clinical and anthropometric results. EUC participants contacted once each month to update contact information.   Or   6-18 months Community Health Worker & Peer leader provided patients with ongoing emotional and behavioural support through weekly drop-in group-based sessions, goal setting and follow-up telephone contacts from 6 to 18 months.   Or  6-18 months Community Health Worker only. After the 6-month intervention, participants randomized to this group received monthly telephone calls from a CLW who had led their DSME group to check in and assess continued progress in setting and meeting diabetes care goals | 18 months Follow up: baseline, 6, 12, 18 months Drop out:29% | Primary: HbA1c   Secondary: total cholesterol; LDL cholesterol (LDLc); HDL cholesterol (HDLc); Systolic and diastolic blood pressures; BMI; diabetes-related distress (Diabetes Distress Scale); diabetes-specific social support (Diabetes Social Support Scale); Depressive symptoms (Patient Health Questionnaire-9); diabetes self-management (Diabetes Care Profile) | CLW group, mean HbA1c sig decreased by 20.51% (95% CI,20.75,20.26; P<0.001) vs EUC (0.45% (95% CI, 20.87, 20.03); P < 0.05) from baseline to 6 months  From 6 to 12 months HbA1c were sustained for CLW+PL group (20.63% (95% CI,21.06,20.19); P,0.01) only and continued onto 18 months (20.56% (95% CI 21.06, 20.05); (P<.05)  At 18 months LDLc decreased significantly from baseline in the CLW+PL group (212.3 mg/dL (95% CI,223.1, 21.6);P<0.05)  Intervention effects were not significant for LDLC; HDLc, total cholesterol; BMI or blood pressure  Depressive symptoms significantly decreased in CLW intervention from baseline to 6 months (21.1 points (95% CI 21.9, 20.4); P < 0.01)  Diabetes-related distress significantly decreased from baseline to 6 months for CLW group(20.4points (95%CI20.6,20.2); P <0.001), with an intervention effect of 20.3 (95% CI 20.6, 20.03; P , 0.05).  Diabetes management showed a significant intervention effect at 6 months, and the intervention effect was sustained to 12 months in the CLW+PL group (0.3 (95% CI 0.1, 0.6); P<0.05) |
| 7.Carrasquillo et al (2017) | n=300 Age (mean ± SD):55.25 Female n(%):165 (55) Male n(%):135 (45) | Latinos with cardiovascular disease, Miami-Dade County, Florida, USA | Miami Healthy Heart Initiative in which participants received 12 months of a personalized CLW intervention. CLW services included health education, patient navigation (help obtaining appointments, appointment reminders, appointment preparation checklists, medication refills, assistance with behavioural health linkages, communication with the clinician about patient care issues, and ≥1 clinic visit with the patient),and health coaching (helping patients to prioritize concerns before clinician visits, bringing all their medications, and ensuring they informed clinicians during the visit about elevated home blood pressure or glucose level readings) CLW assisted with non-medical services; housing, employment, legal and financial assistance, food resources, linkages to existing community social service providers. | Participants continued to receive care from their primary health care clinician. Resources available included social workers, nurse educators who provided counselling on nutrition, physical activity, type 2 diabetes education, and medication regimen adherence. Also study team mailed EUC type 2 diabetes education materials to participants every 3 months.5 Follow-up telephone calls were conducted approx. 2 weeks after each mailing to confirm receipt of mailings and verify contact information | 12 months  Follow up: baseline, 12 months Drop out:29% | Primary: HbA1c; SBP, mm Hg; LDLC Level, mg/dL   Secondary: BMI, self-reported physical activity (International Physical Activity Questionnaire), and fruit and vegetable intake (Centres for Disease Control and Prevention Fruit and Vegetable Consumption Questionnaire) | After adjusting for baseline values and covariates, the CLW group had an HbA1c level that was significantly lower ( 0.51%) (95%CI, −0.94%to −0.08%) than that of participants in the EUC group −4.62 (−9.01% to −0.24%) (*p*=.08)  No significant differences between CLW and EUC groups for BMI; physical activity; fruit and veg intake. |
| 8. Kangovi et al (2017) | n=302 Age (mean ±SD): NR Female n(%): 228 (75.4) Male n(%): 74 (24.5) | African American / Hispanic; high-poverty neighbourhood residents with Diabetes, Philadelphia, USA | CLWs used a semi structured interview guide to get to know the patients holistically and assess their socioeconomic determinants of health (e.g., trauma, food insecurity, housing instability, drug and alcohol use, or family stress) CLWs provided 6months of hands-on, tailored support spanning the domains of coaching, social support, advocacy, and navigation to help patients achieve their action plans. CLWs did not directly provide health education or clinical care, and when these needs arose. CLWs navigated patients to the appropriate clinician | Patients assigned to goal setting alone went on to receive usual care in accordance with guidelines at each site (including potential referrals to a social worker or diabetes nutritionist). | 6 months Follow up: baseline, 6 months Drop out:15% | Primary: mean change in HbA1c, BMI, SBP, and self-reported number of cigarettes per day between enrolment and 6-month follow-up.   Secondary: mean change in self-rated health (SF-12) and patient activation measure | At 6-months changes in chronic disease control between CLW support versus goal setting–alone arms (changes in HbA1c: -0.4 vs 0.0 (-0.4) (95% CI;-1.3, 0.4); BMI: –0.3 vs –0.1 (–0.2 )(95% CI; –0.8, 0.5) ; cigarettes per day: –5.5 vs –1.3 ( –4.3) (95% CI;–9.3, 0.7); SBP: –1.8 vs –11.2 (9.4)(95%CI;–1.6, 20.4) respectively; P = .08)  CLW support showed greater improvements in mental health (2.3 vs –0.2; P = .008) and reported higher quality primary care that was comprehensive (49.2% vs 39.7%; P = .010) and supportive of disease self-management (62.9% vs 38%; P < .001)  no differences in change in patient activation (2.2 vs 1.5; P = .66) or change in self-rated physical health (0.9 vs 0.5; P = .67). |
| 9.McDermott et al (2015) | n=213  Age (mean ± SD) (95% CI):47.9 (46.6-49.2) Female: n%: 133 (62.4)  Male n(%): 80 (38.6) | Indigenous Australians with Diabetes, Rural remote northern Queensland, Australia | Indigenous health worker resident in the community (selected by the health service) to work as part of the primary care team. Roles included helping patients make and keep appointments, understand their medications and nutrition and the effects of smoking and where appropriate, work with the family to help support the patient in self-management | Waitlist control, intervention was provided after 18 months | 18 months Follow up: baseline, 18 months Drop out:10% | Primary: glycaemic control (HbA1c)   Secondary: Quality of Life (AQoL) | Significant decrease in HbA1c of 1% from baseline in the intervention group, from 10.8% (95 mmol/mol) to 9.8% (84 mmol/mol) vs waitlist group (0.2% from 10.6% (92 mmol/mol) to 10.3% (89 mmol/mol), (p = 0.018)  AQoL - not reported |
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| 10.Spencer et al (2013) | n=164 Age (mean ± SD):52.5 Female n(%):116(70.7) Male n(%):48 (29.2) | African American / Hispanic Latino with Diabetes and mental health issues, Detroit Inner city, USA | CLW Model as part of the Racial and Ethnic Approaches to Community Health (REACH) Detroit Partnership. Using a socioecological model, family, health system, and community-level interventions were developed to address sources of diabetes disparities at each level | 6 months delayed intervention | 12 months Follow up: baseline, 6, 12 months Drop out:17% | Primary: diabetes-related emotional distress (Problem Areas in Diabetes Scale) (PAID); Depressive severity (PHQ-9) (PHQ-2)    Secondary: NR | Adjusted for demographics PAID significantly improved pre-intervention (-6.5 (-11.2, -0.04) (p<.05) to post-intervention -12.3 (-16.4, -6.3) (p<.001) for the CLW group.  PHQ did not change significantly, but the PHQ-2 had an average intervention effect of-0.3 (p<0.05) in the model adjusted for demographics |
| 11.Spencer et al (2011) | n=164 Age (mean): 52.5 Female n(%): 116 (70.7) Male n(%): 48 (29.2) | African American and Latino populations with Diabetes, urban, Detroit, USA | REACH Detroit partnership recruited CLW to implement a culturally tailored behavioural theory based community Diabetes education classes and conduct home visits to facilitate patient goal setting, patient provider communication skills and referral to other services as required. | 6 months delayed intervention | 12 months Follow up: baseline, 6 months Drop out:26% | Primary:HbA1c; LDL cholesterol; blood pressure   Secondary: Diabetes self-management (Summary of Diabetes Self-Care Activities scale); Diabetes-specific psychological distress (Problem Areas in Diabetes scale); Participant empowerment (Perceived Competence for Diabetes scale); Physical activity and dietary practices (CDC’s Behavioural Risk Factor Surveillance System) | Adjusted mean HbA1c level was 8.6% at baseline in the intervention group; this level significantly improved to 7.8% at 6 months, change of -0.8 percentage points (p<.01)  All groups demonstrated statistically significant increase physical activity: from 37% to 53% for the intervention group (p<.05) and from 32% to 53% for the control group (p<.01). No difference between groups  At 6 months control group only improved dietary practices (p<.05)  At 6 months Diabetes self-care significantly improved between intervention group vs control; feet inspection (49% -77%; p<.01);Significant within intervention group only blood testing (74%-87%; p<.05). |
| 12.Babamoto et al (2009) | n=189 Age (mean ± SD): 50±11.9,  Female n(%):121(64) Male n(%): 68(36) | Low socioeconomic Hispanic/Latino populations with diabetes, urban, Los Angeles, USA | 6-month CLW program, Amigos en Salud (Friends in Health), using trained lay people. All CLWs received formal program training before the study was initiated. CLWs conducted 10 weekly individual educational sessions based on ADA standards with participants and their family members. Tailored to the participants’ needs, such as knowledge, identified problems, goals, and level of progress. | Standard provision: a non-contact control group of type 2 diabetes patients who were not enrolled in the study and who received Physician and Nursing care in clinics **or** Case management: Registered Nurses worked directly with individual patients, following standardized clinic protocols for diabetes education and monitoring as per ADA guidelines | 6 months  Follow up: baseline, 6 months Drop out:10% | Primary: HbA1c; BMI; Medication Behaviour & Adherence (Morisky Self-Reported Medication behaviour Scale); Diabetes knowledge (Diabetes Knowledge Questionnaire)   Secondary: NR | Mean HbA1c decreased significantly from 8.6% to 7.2% (p < .05) in the CLW group, 8.5% to 7.4% (p< .05) in the case management group, and 9.5% to 7.4% (p < .05) in the standard provider care group. No change in non-contact group.  Medication Adherence improved significantly in both the case management group (77%to 55%, *p* < .05) and standard provider care groups (67% to 50%, p < .05) only. No Change in non-contact group  No change in BMI  Mean Diabetes Knowledge Scale score significantly improved from 10.6 to 14.7\* (*p*<.05) in the CLW group only  Exercise 3 days a week increased from 28% to 63% (p< .05) in the CLW group and from 17% to 35% (*p* < .05) in the standard provider care group but remained unchanged in the case management group |

CLW- Community Link Worker; NR - not reported; PN-LCNS- Patient Navigation-Livestrong Cancer Navigation Services; PN - Patient Navigation; HRQOL- Health Related Quality of Life; CI- confidence Interval; EQ-5D-5L - a standardized measure of self-reported health-related quality of life that assesses 5 dimensions at 5 levels of severity; HbA1c-haemoglobin; BMI - body mass index; SBP-systolic blood pressure; CPD-cigarettes per day; PL - Peer leader; LDLC- low-density lipoprotein cholesterol; EUC-Enhanced Usual care; PHQ-9 Patient Health Questionnaire-9; PHQ 2 Patient Health Questionnaire- 2; LDL- Low Density Liporotein; CDC- Centre for Disease Control; ADA- American Diabetes Association.