

Supplementary Table 1: Original type 1 diabetes treatment topics and literature search.

Topic	Total # of Abstracts screened
Adjunctive therapies	443
Behavioral health	1665
Beta Cell Replacement	528
Exercise	550
Glycemic Targets	3269
Intensive Insulin therapy	1181
Nutrition	699
Transition of Care	112
Diabetes Technology	835

Supplementary Table 2: Search strategy – Medical Subject Headings (MeSH) and free-text terms.

#1	"Diabetes Mellitus, Type 1"[Mesh] OR insulin-dependent diabetes[Title/Abstract] OR "type-one diabetes" OR "type one diabetes" OR "type-1 diabetes" OR "type 1 diabetes" OR "type I diabetes" OR "IDDM" OR "T1DM" OR "T1D" OR "type-1a diabetes" OR "type 1a diabetes" OR "type 1.5 diabetes" OR "double diabetes" OR "autoimmune diabetes" OR "auto-immune diabetes" OR "immune-mediated diabetes" OR "insulin-deficient diabetes" OR "insulin deficient diabetes" OR "insulin-treated diabetes" OR "insulin treated diabetes" OR insulin depend* OR insulin-depend* OR "Ketosis-Prone" AND diabet* OR "Latent Autoimmune Diabetes in Adults" OR "LADA" OR "juvenile onset diabetes" OR "fulminant diabetes"
#2	"treatments" OR "treatment" OR "therapies" OR "therapy" OR model* OR prognosti* OR "survival analys*" OR "outcome" OR "progression" OR "efficacy" OR "effectiveness" OR "longitudinal" OR "time series" or "randomized controlled trial" OR "RCT"
#3	#1 and #2
#4	"continuous subcutaneous insulin infusion pump" OR "insulin infusion pump" OR "insulin pump" OR "pump" OR "CSII" OR "Sensor-augmented pump" OR "sensor augmented pump" OR "SAP" OR "Patch insulin pump" OR "Tubeless Pump" OR "Low Glucose Suspend" OR "LGS" OR Predictive Low Glucose Suspend" OR "PLGS" OR "Automated Insulin Delivery" OR "Automated Insulin Dosing" OR "AID" OR "Closed loop insulin" OR "Closed-Loop insulin" OR "Closed loop" OR "Hybrid Closed Loop" OR "Hybrid Closed-Loop" OR "HCL" OR "Artificial pancreas" OR "AP" OR "Non-FDA approved pumps" OR "Do-it-yourself" OR "DIY" OR "Do it yourself" OR "smart pump" OR "implantable pump" OR "implanted pump" OR "peritoneal delivery"
#5	"continuous glucose monitor" OR "continuous glucose monitoring" OR "CGM" OR "sensor" OR "intermittently scanned CGM" OR "isCGM" OR "real-time continuous glucose monitor" OR "real time continuous glucose monitor" OR "real-time CGM" OR "real time CGM" OR "rtCGM" OR "integrated continuous glucose monitor" OR "iCGM" OR "implanted continuous glucose monitor" OR "implanted CGM"
#6	#3 and #4 and #5
Filters	Age: Children, Adolescent, Elderly, Adult TIME: 2011-2022 Type of article: Review, RCT, Cohort, Trial Other: Human, English, Clinical

Supplementary Table 3: Inclusion/Exclusion Criteria for Evidence to Support Recommendations.

<u>Included:</u>	<u>Excluded:</u>
<p>Evidence-level (EL) 1: Randomized controlled trials (RCTs) Human participants English Published, full article in peer-reviewed journal Published January 1, 2012 or later All persons with type 1 diabetes mellitus All persons with LADA Continuous glucose monitoring (CGM), including Real-time CGM Intermittently scanned CGM Integrated CGM Insulin pump therapy, including Continuous subcutaneous insulin infusion Sensor-augmented insulin pump therapy Patch insulin pumps Closed-loop insulin delivery Automated insulin dosing systems Non-FDA-approved/DIY pumps</p>	<p>EL 1 systematic reviews or meta-analyses of RCTs EL 2 studies: meta-analyses including nonrandomized trials or observational studies; controlled trials without randomization; cohort, case-control, cross-sectional studies; epidemiological studies (including surveys and registry data); open-label extension studies; post-hoc analyses. EL 3 network analyses EL 4 consensus/position/policy statements and guidelines EL 3 studies: case reports/series, preclinical/feasibility/protocol/pilot studies, studies with hypothetical cohorts, basic research EL 4 studies: editorials/letters, opinions, reviews, theory Abstracts only N<50 Animal studies Non-English Studies published before year 2012, except when cited as background Studies that focus on diabetes technology or treatments that are no longer relevant to practice at the time of publication Studies with a focus on accuracy of a product/device Persons without diabetes Persons with CFRD, type 2 diabetes, gestational diabetes, diabetes in pregnancy, steroid-induced diabetes, monogenic diabetes, MODY, neonatal diabetes Persons with Diabetes s/p chemotherapy, pancreatectomy, post-transplant, medication/drug-induced</p>

Supplementary Table 4: A priori subgroups proposed for precision medicine analysis in PROPSERO protocol.

Proposed Subgroups for analysis
<ul style="list-style-type: none">- Age (including pediatric and geriatric)- Sex- Race/ethnicity- HbA1c- C-peptide- Hypoglycemia unawareness- Body mass index- Duration of diabetes- Age at onset- Complications of diabetes (including end-stage renal disease, vision loss, cardiovascular disease, neuropathy)- Co-existing significant health problems (including cancer/terminal disease)- Co-existing auto-immune diseases (including thyroid, coeliac disease)- Cognitive impairment- Social determinants of health (including insurance coverage, socioeconomic status)- Education (including health literacy/numeracy)- Family structure/support systems