

SUPPLEMENTARY MATERIAL

Supplementary Methods

Brief history of RENACED-DT1

RENACED-DT1 National Registry started as a patient / physician initiative. With initial partial funding by FIND, the first version of the online database was created in 2014, based on the 1989 St. Vincent Declaration, with modifications. Since 7/25/2014 the platform was piloted by one endocrinologist in private practice in Mexico City. During 2015, it was piloted by 5 different endocrinologists in 5 different states of the Mexican Republic (Mexico City, Jalisco, Nuevo León, Nayarit and Hidalgo), in both private and public settings. Changes were made for ease of capture, creating version 2.0. Currently, RENACED-DT1 is coordinated by the RENACED DT1 Research Group, in collaboration with the Sociedad Mexicana de Nutrición y Endocrinología (SMNE). Since 2016, the SMNE invited endocrinologists from all over the country to participate in the registry. Of 900 clinical endocrinologists, 43 (5%) volunteered to participate.

Supplementary Table 1: Patients registered in the RENACED-DT1 according to their state of residency and ordered according to the number of patients registered.

State	Patients registered (n=1603)	Absolute Percentage (100%)
Jalisco	382	23.83
Mexico City	341	21.27
México State	172	10.73
Hidalgo	126	7.86
Nuevo León	98	6.11
Nayarit	90	5.61
Durango	81	5.05
Querétaro	76	4.74
Michoacán	36	2.25
Baja California	35	2.18
Sinaloa	23	1.43
Tabasco	20	1.25
Colima	18	1.12
Quintana Roo	18	1.12
Morelos	15	0.94
Coahuila	14	0.87
Guanajuato	9	0.56
Veracruz	9	0.56
Puebla	7	0.44
San Luis Potosi	6	0.37
Guerrero	4	0.25
Sonora	4	0.25

Aguascalientes	3	0.19
Baja California Sur	3	0.19
Oaxaca	3	0.19
Campeche	2	0.12
Chihuahua	2	0.12
Tamaulipas	2	0.12
Chiapas	1	0.06
Tlaxcala	1	0.06
Yucatan	1	0.06
Zacatecas	1	0.06

Data is ordered according to the absolute percentage.

Supplementary Table 2: Insulin regimens divided by type of healthcare attention received in patients registered in RENACED-DT1.

Parameter	All-patients n= 1,603	Private HC n=457	Public HC n=1146	P-value
<i>Insulin dose</i>				
Per day	40 (26.5-56.3)	35.06 (23.7-48)	44 (28.3-60)	<0.001
Dose per kg/day	0.65 (0.41-0.92)	0.53 (0.34-0.76)	0.73 (0.48-0.97)	<0.001
<i>Insulin Regimen</i>				
Human Insulins	127 (7.92)	8 (1.75)	119 (10.4)	<0.001
Premixed insulins	45 (2.80)	5 (1.09)	40 (3.50)	0.0141
Basal	41 (2.55)	13 (2.8)	28 (2.44)	0.7762
MDI	832 (51.9)	188 (41.1)	644 (56.2)	<0.001
CSII	184 (11.5)	163 (35.7)	21 (1.83)	<0.001
Non-Specified	374 (23.3)	80 (17.5)	294 (25.6)	<0.001
Continuous Glucose Monitoring System	169 (10.5)	127 (27.8)	42 (3.6)	<0.001

Abbreviations: MDI (Multiple daily injections with insulin analogs), CSII (continuous subcutaneous insulin infusion), SMBG Self-Monitoring of blood glucose.

Supplementary Table 3: Type of insulin used divided by type of healthcare attention in patients registered in RENACED-DT1.

	Type of insulin	All-patients n= 1,603	Private HC n=457	Public HC n=1146	P-value
Basal Insulins	NPH (%)	140 (8.73)	9 (1.90)	131 (11.40)	<0.001
	Glargine (%)	695 (43.40)	359 (78.60)	549 (47.90)	<0.001
	Detemir (%)	50 (3.10)	15 (3.30)	35 (3.10)	0.937
	Degludec (%)	125 (7.80)	86 (18.80)	39 (3.40)	<0.001
	Lente / Ultralente (%)	3 (0.18)	2 (0.43)	1 (0.09)	0.409
Preprandials Insulins	Rapid Acting (%)	86 (5.40)	16 (3.50)	70 (6.10)	0.049
	Lispro (%)	850 (53.0)	170 (37.20)	680 (59.30)	<0.001
	Aspart (%)	183 (11.40)	139 (30.40)	44 (3.83)	<0.001
	Glulisine (%)	49 (3.10)	29 (6.34)	20 (1.74)	<0.001
Premixed	NPH 70/30 (%)	2 (0.12)	1 (0.21)	1 (0.02)	0.912
	Lispro protamine/ lispro 75/25 (%)	38 (2.37)	1 (0.21)	37 (3.22)	<0.001

Supplementary Table 4: Diabetic chronic kidney disease criteria according to KDIGO 2020 Clinical Practice Guideline for Diabetes Management in Chronic Kidney Disease.

	All-patients n= 1,603	Private HC n=457	Public HC n=1146	P-value
Any-Criteria (n; %)	130 (8.10)	24 (5.30)	106 (9.24)	0.010
Albumin-Creatinine ratio ≥30 mg/gr (n; %)	31 (1.90)	9 (1.96)	22 (1.91)	0.694
eGFR ≤60 (mL/min/1.73 m ²) (n; %)	59 (3.70)	8 (1.75)	51 (4.45)	0.041
Use of dialysis and/or history of a kidney transplant (n; %)	92 (13.10)	14 (3.06)	78 (6.80)	0.004

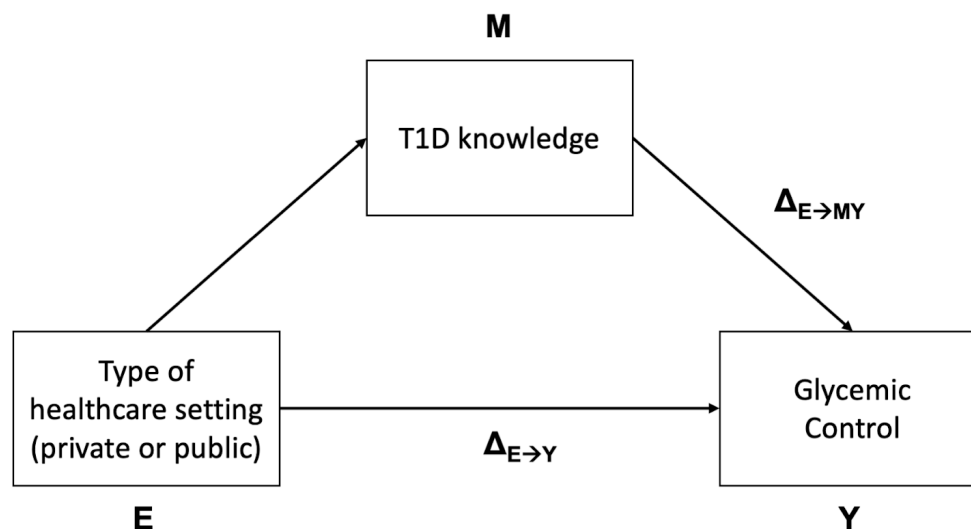
Diabetic chronic kidney disease was considered with the presence of albuminuria (albumin-to-creatinine ratio ≥30 mg/gr) recorded in two or more urine samples, reduced estimated glomerular filtration rate (eGFR <60 mL/min/1.73 m²), use of dialysis and/or history of a kidney transplant.

Supplementary Table 5: Causal mediation analysis predicting the mediating effect of knowledge and self-awareness of T1D on T1D treatment goals and associated complications via the type of health-care setting.

Efector (E): Type of Health-Care Setting						
Mediator (M)	Outcome (Y)	ACME (Average)	ADE (Average)	Total Effect (Average)	Proportion Mediated (Average)	
Effect of knowledge and self-awareness of T1D	Treatment goals	HbA1c ≤7.0%	-0.029 (-0.053 to -0.01)*	-0.071 (-0.143 to -0.01)*	-0.101 (-0.163 to 0.04)	29.2% (6.6% to 79%)*
		FPG ≤200 mg/dl	-0.033 (-0.056 to -0.01)*	-0.024 (-0.093 to 0.08)	-0.058 (-0.133 to 0.04)	57.7% (-14.2754 to 7.97)
		Triglycerides ≤150 mg/dl	-0.019 (-0.034 to -0.01)*	0.001 (-0.073 to 0.08)	1.028 (-2.947 to 5.98)	10.3% (-29.47 to 59.8)
		Total Cholesterol ≤200 mg/dl	-0.018 (-0.039 to -0.01)	0.014 (-0.071 to 0.09)	-0.004 (-0.082 to 0.07)	41.0% (-59.14 to 63.5)
		LDL ≤130 mg/dl	-0.019 (-0.038 to -0.01)*	0.040 (-0.045 to 0.12)	0.021 (-0.060 to 0.09)	-9.04% (-24.0% to 3.06)
		SBP ≤140 mmHg	0.002 (-0.004 to -0.01)	-0.044 (-0.069 to -0.03)*	-0.041 (-0.063 to -0.03)*	-5.1% (-24.56 to 9%)
		HDL ≥50 mg/dl	-0.001 (-0.002 to 0.03)	-0.113 (-0.206 to -0.02)*	-0.114 (-0.190 to -0.01)*	5.31% (-2.35% to 28%)
Associated Complications		DKA	0.003 (0.0001 to 0.001)*	0.001 (-0.004 to 0.006)	0.004 (-0.001 to 0.008)	7.75% (-13.7% to 73.3%)
		Confirmed Hypoglycemic Event	-0.007 (-0.010 to -0.003)*	0.001 (-0.008 to 0.009)	-0.006 (-0.013 to 0.002)	11.6% (-79.6% to 15.5%)
		Hospitalization for any cause	0.002 (-0.001 to 0.006)	-0.001 (-0.007 to 0.007)	0.002 (-0.003 to 0.007)	11.5% (-35.7% to 83.4%)
		Diabetic chronic kidney disease	-0.001 (-0.003 to 0.002)	0.008 (0.003 to 0.013)*	0.007 (0.003 to 0.011)*	12.0% (-128% to 15.74%)
		Diabetic retinopathy	-0.001 (-0.002 to 0.001)	0.003 (-0.002 to 0.007)	0.002 (-0.002 to 0.006)	-18.9% (-93.9% to 12.1%)
		Diabetic neuropathy	-0.002 (-0.004 to 0.001)	0.008 (0.003 to 0.012)*	0.006 (0.002 to 0.009)*	36.5% (-21.0 to 217%)*

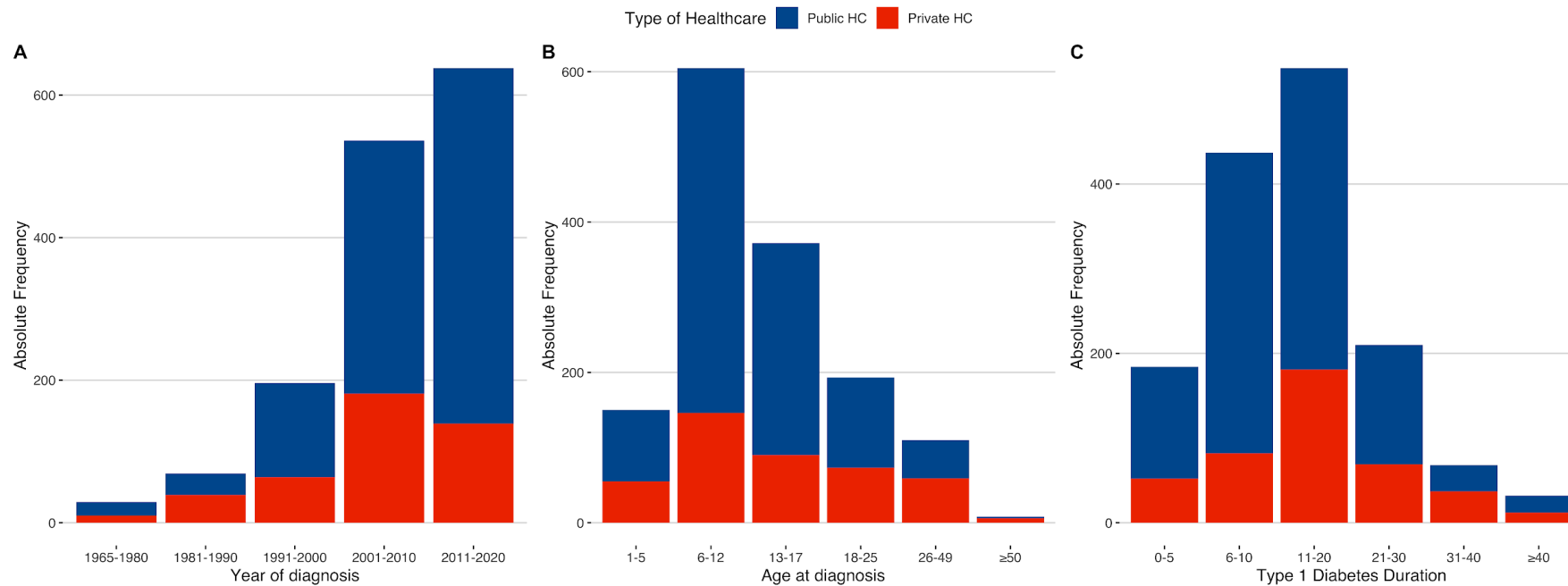
Abbreviations: BP= Systolic blood pressure; DBP= Diastolic blood pressure; FPG= Fasting plasma glucose; LDL-C= Low-density cholesterol; HDL-C= High-density cholesterol, DKA: diabetic ketoacidosis. * = p value <0.05; ACME= Average Causal Mediation Effect; ADE= Average Direct Effect

Supplementary Figure 1: Model-based causal mediation analyses using the type of healthcare setting of PWT1D as the effector and knowledge and self-awareness of T1D concept as a mediator of treatment goals and associated T1D complications.

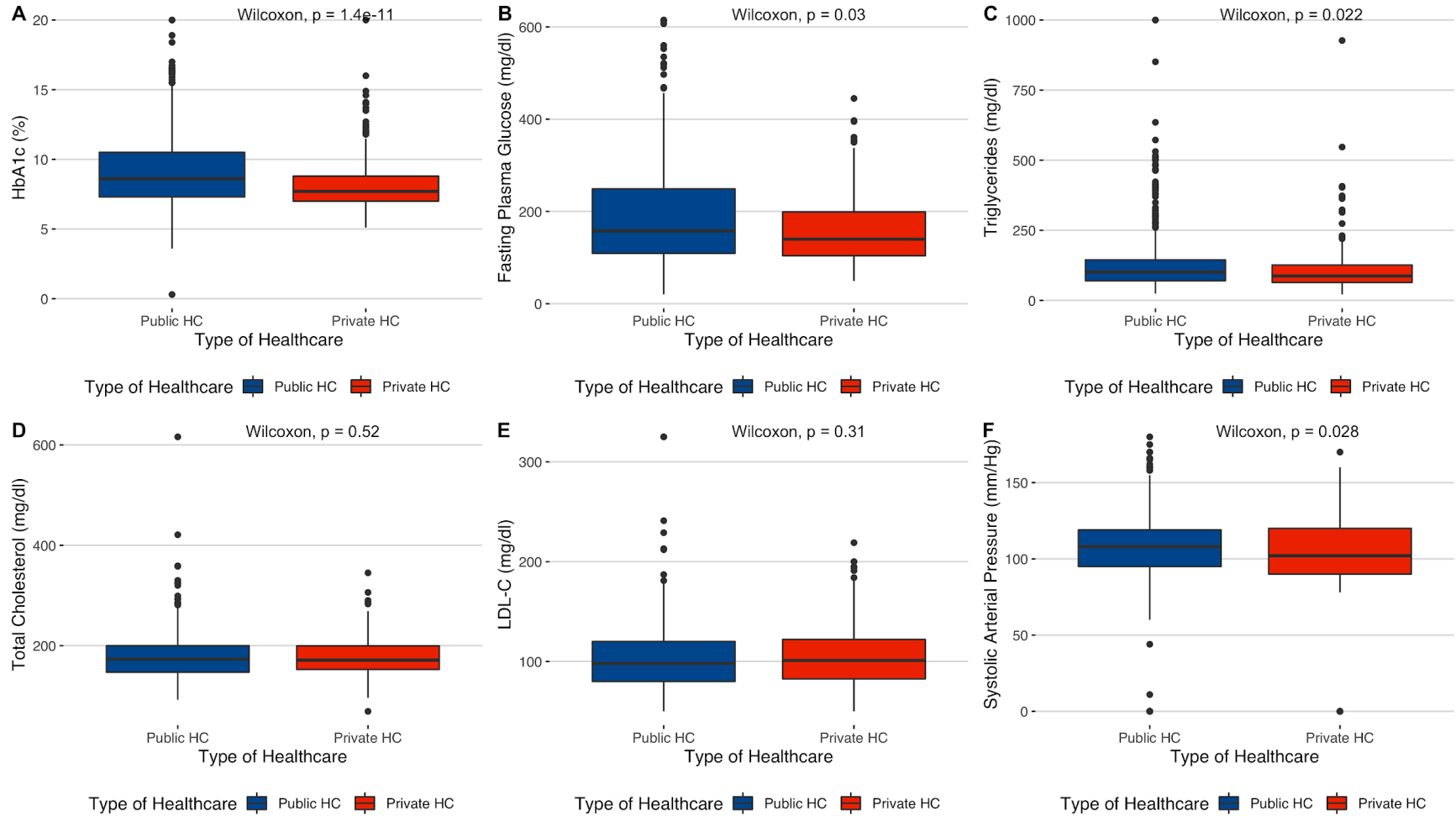


Abbreviations: PWT1D= Patients with type 1 diabetes; T1D= Type 1 diabetes. $\Delta E \rightarrow Y$ = Direct Effect; $\Delta E \rightarrow MY$ = Direct Effect

Supplementary Figure 2: Date of T1D diagnosis (A), age of patients at diagnosis (B), and time since diagnosis (C) of patients living with T1D included in the RENACED-DT1.



Supplementary Figure 3: Differences in HbA1c (A), fasting plasma glucose (B), triglycerides (C), HDL-C (D), LDL-C (E), and systolic arterial pressure (F) divided by healthcare attention in patients living with T1D included in the RENACED-DT1.



***Members of RENACED Diabetes Tipo 1 Research Group in alphabetical order:**

- Daniela Albor Rodriguez, Escuela de Medicina Instituto Tecnológico de Monterrey, Clínica EnDi, Mexico City, Mexico.
- Paloma Almeda-Valdes, M.D., Endocrinology, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubiran, Mexico City, Mexico
- Carlos A. Antillon-Ferreira, M.D., Pediatric Endocrinology, Centro Medico ABC, Mexico City, Mexico.
- Neftali E. Antonio-Villa, MD/PhD (PECEM), Faculty of Medicine, National University of Mexico, Mexico City, Mexico
- Jorge F. Bustamante-Martinez, M.D., Department of Internal Medicine, Servicios de Salud de Nayarit- Hospital General de Tepic, Nayarit, Tepic, Mexico.
- Sandra O. Caballero Gonzalez, M.D. Hospital de Especialidades Centro Médico de Occidente, Guadalajara, Jalisco, México.
- Carmen Castillo-Galido, Endocrinology, Clínica EnDi, Mexico City, Mexico.
- Jose J. Ceballos-Macias, M.D., Endocrinology, Especialidades Medicas SEDENA, Mexico City, Mexico.
- Martha P. Ceceña-Gonzalez, M.D., Endocrinology, Hospital del Prado, Baja California Norte, Mexico.
- Rocío Chontal-Fonseca, R.D.N., M. Ph., Clínica EnDi, Mexico City, Mexico.
- Natalia E. De La Garza-Hernandez, M.D., Endocrinology, CEMEDIN, Monterrey, Nuevo Leon, Mexico.
- Ana-Paula Diaz-Barriga-Menchaca, Bachelor in Bioscience, Tecnológico de Monterrey, Monterrey, Nuevo Leon, Mexico.
- Ana Escobedo-Ortiz, M.D., Endocrinology, Hospital General Dr. Miguel Silva, Morelia, Michoacan, Mexico.
- Patricia Esteves-Sanchez, M.D., Endocrinology, Hospital Regional de Alta Especialidad ISSSTE Tultitlan, Mexico, Mexico.
- Raquel N. Faradji, M.D., Endocrinology and Diabetes, Medical Director, Clínica EnDi, Escuela de Medicina Instituto Tecnológico de Monterrey/ Centro Medico ABC, Mexico City, Mexico.
- Aldo Ferreira-Hermosillo, M.D., Endocrinology, Hospital de Especialidades del Centro Medico Nacional Siglo XXI, Mexico City, Mexico.
- Mario H. Figueroa-Andrade, M.D., Endocrinology, Hospital General de Zona #1 IMSS, Colima, Colima, Mexico.
- Areli Flores-Camargo, Escuela de Medicina Instituto Tecnológico de Monterrey/ Centro Medico ABC, Mexico City, Mexico.
- Jose Gallegos-Martinez, M.D., Endocrinology, StarMedica, Morelia, Michoacan, Mexico.
- Raquel Garcia-Manzanares, Clínica de Endocrinología, Culiacan, Sinaloa, Mexico.
- Aili L. Garcia-Tuomola, Endocrinology, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubiran, Mexico City, Mexico
- Jose R. Gomez-Cruz, M.D., Endocrinology, Centro de Alta Especialidad Dr. Rafael Lucio, Jalapa, Veracruz, Mexico.
- Rita Gomez-Diaz, M.D., UMAE, Hospital de Especialidades, Centro Medico Nacional Siglo XXI, Mexico City, Mexico.

- Guillermo Gonzalez-Galvez, M.D., Endocrinology, Instituto Jalisciense de Investigacion en Diabetes y Obesidad S.C., Guadalajara, Jalisco, Mexico.
- Jesús R. Gonzalez-Gonzalez, M.D., Endocrinology and Diabetes, Hospital Cardiologica Aguascalientes, Aguascalientes, Mexico.
- Adriana Gonzalez-Lopez, L.D.N., Pediatric Endocrinology Service, Hospital del Niño DIF Hidalgo, Pachuca, Hidalgo, Mexico.
- Manuel Guajardo-Jaquez, M.D., Pediatric Endocrinology, Hospital de Especialidades AMMCI, Epidemiologia, Durango, Mexico.
- Brandon G. Illescas Vidrio, Sub-investigador, UNICAMO, Guadalajara, Jalisco, México.
- Laura Islas-Ortega, M.D., Pediatric Endocrinology Service, Hospital del Niño DIF Hidalgo, Pachuca, Hidalgo, Mexico.
- Marisela Jimenez-Sanchez, M.D., Hospital de Especializadas, Centro Medico Nacional La Raza, Mexico City, Mexico.
- Fernando J. Lavallo-Gonzalez, M.D., Endocrinology, Hospital Universitario Dr. Jose E. Gonzalez, Medical Faculty, Universidad Autónoma de Nuevo Leon, Monterrey, Nuevo Leon, Mexico.
- Claudia Lopez-Miramontes, Sub-investigador, UNICAMO, Guadalajara, Jalisco, México.
- Miguel A. Madero-Fernández del Castillo, M.D., Endocrinology, NutriEndo, Coahuila, Saltillo.
- Juan R. Madrigal-Sanroman, Endocrinology, Clínica EnDi, Mexico City, Mexico
- Ramon Madriz Prado, M.D., Endocrinology, Especialidades Medicas SEDENA, Mexico City, Mexico.
- Carlos Magis-Rodríguez, M.D., M.P.H. Ph.D., Centro Nacional para la Prevención y el Control del VIH y el Sida, Mexico City, Mexico.
- Angelica Martinez-Ramos-Mendez, M.D., Pediatric Endocrinology, Hospital Español, Mexico City, Mexico.
- Sigfrido Miracle-Lopez, M.D., F.A.C.E., F.A.C.P., Endocrinology Coordinator, Hospital Angeles de las Lomas, Huixquilucan, Estado de México, México.
- Miguel A. Mendoza-Romo, Endocrinology, Centro de Diabetes, San Luis Potosi, Mexico
- Ma. Tereza Muñoz-Magallanes, M.D., Endocrinology, Hospital de Especialidades Centro Médico de Occidente, Guadalajara, Jalisco, México.
- Ricardo S. Niño-Vargas, Computer Engineer, Information Technology Chief, Centro para la Prevencion y Atención Integral del VIH/SIDA de la Ciudad de Mexico, Mexico City, Mexico
- Araceli E. Peña-Uraga, Pediatric Endocrinology, ISSSTE Hospital Regional General Ignacio Zaragoza, Mexico City, Mexico.
- Emma L. Picasso-Rivera, M.D., Pediatric Endocrinology, Corporativo Hospital Satellite, Estado de Mexico, Mexico.
- Miguel A. Polanco Preza, M.D., Endocrinology Service, Hospital Civil de Guadalajara Fray Antonio Alcalde, Guadalajara, Mexico.
- Claudia Ramírez-Renteria, Consorcio Del Valle, Mexico City, Mexico
- Hugo G. Rangel Guerrero, M.D. IMSS Hospital General de Zona # 21, Tepatitlán de Morelos, Jalisco, Mexico.
- Aurora Rebolledo-Ramirez, M.D., M.P.H., Centro para la Prevencion y Control del VIH y el SIDA, Mexico City, Mexico

- Hector R. Rivero-Escalante, M.D., Pediatric Endocrinology, Centro de Endocrinología y Nutrición, Cancun, Quintana Roo, Mexico.
- Roberto I. Rodríguez-Moriél, M.D., Endocrinology, Magnamedica Torre Especialidades, Chihuahua, Chihuahua, Mexico.
- Ester Rodríguez-Sánchez, M.D., Hospital Rovirosa- Secretaria de Salud, Diabetes, Villahermosa, Tabasco, Mexico
- Alejandro Romero Zazueta, M.D., Endocrinology, Clínica de Endocrinología, Endocrinología, Culiacan, Sinaloa, Mexico.
- María E. Sainz de la Maza-Viadero, C.D.E., Ph.D., Clinica EnDi, Mexico City, Mexico.
- Blanca L. Sánchez Michel, M.D., Endocrinology, Nuevo Hospital Civil de Guadalajara Juan I Menchaca.
- Karla L. Sanchez-Ruiz, M.D., Diabetes Clinic Director, Secretaria de Salud del Estado de Durango, Durango, Mexico
- Leobardo Sauque-Reyna, M.D., Instituto de Diabetes Obesidad y Nutrición S.C., Endocrinología, Cuernavaca, Morelos, Mexico.
- Marcela Tavera-Hernandez, M.D., Pediatric Endocrinology, Centro Medico ABC Santa Fe / Hospital Angeles Lomas, Mexico City, Mexico.
- A. Denise Terriquez-Rodríguez Sub-investigador, UNICAMO, Guadalajara, Jalisco, México.
- Marta S. Tovar-Ugalde, Endocrinology, Centro Medico ABC, Mexico City, Mexico.
- Ana C. Uribe-Wiechers, M.D., Endocrinology, Clinica EnDi, Escuela de Medicina Instituto Tecnológico de Monterrey/ Centro Medico ABC, Mexico City, Mexico.
- Mayra Valadez-Capetillo, M.D., Pediatric Endocrinology, Hospital de Especialidades del Niño y la Mujer, Queretaro, Queretaro, Mexico.
- Marisol Valenzuela-Lara, M.D., M.P.H., Centro para la Prevención y Control del VIH y el SIDA, Mexico City, Mexico
- Julio C. Valenzuela-Montoya; M.D., Pediatric Endocrinology, Hospital De Gineco-Pediatría No. 31 IMSS, Mexicali, Baja California Norte, Mexico.
- Guadalupe Vargas-Barrera, R.N., Pediatric Endocrinology Service, Hospital del Niño DIF Hidalgo, Pachuca, Hidalgo, Mexico.
- Maricela Vidrio-Velazquez, M.D., Endocrinology, IMSS Hospital General Regional # 110, Guadalajara, Jalisco, Mexico
- Alicia E. Yopez-Rodríguez, M.D., Endocrinology, Corporativo Hospital Satélite, Estado de Mexico, Mexico.
- Carmenmari Zaballa-Lasso, RD, CDE, Nutrition, Clinica EnDi, Mexico City, Mexico