

Suppl. Table 1 Characteristics of selected studies for GLP1 pooling

Author	Country	(yr) Age	Men	(yr) TH	Model	DC	DE	Study type	Intervention	Comparison	GLP1 CE
Watkins JB 2006[39]	USA	53	50	30	CDM	NM	NM	Single study	Exen	SU	CE
Watkins JB 2006[39]	USA	53	50	30	CDM	NM	NM	Single study	Exen	TZD	CE
Watkins JB 2006[39]	USA	53	50	30	CDM	NM	NM	Single study	Exen	Ins	CE
Watkins JB 2006[39]	USA	53	50	30	CDM	NM	NM	Single study	Exen	Placebo	CE
Ray JA 2007[58]	UK	58.9	55.7	35	CDM	3.5	3.5	Single study	Exen	Ins	CE
Minshall ME 2008[38]	USA	56	63	30	CDM	3	3	Multi-study	Exen	SU	CE
Woehl A 2008[60]	UK	59	56	40	DES	3.5	3.5	Multi-study	Exen	Ins	not CE
Brandle M 2009[42]	Switzerland	58.9	55.7	35	Not clear	2.5	2.5	Single study	Exen	Ins	CE
Mittendorf T 2009[56]	Germany	58.9	55.7	10	IMS	5	5	Single study	Exen	Ins	CE
Lee WC 2010[70]	USA	56.7	51.9	35	IMS	3	3	Single study	Lira	Exen+SU	CE
Sinha A 2010[35]	USA	NM	NM	Life	CDC	3	3	Multi-study	Exen	SU	not CE
Sinha A 2010[35]	USA	NM	NM	Life	CDC	3	3	Multi-study	Exen	DPP4i	not CE
Beaudet A 2011[41]	UK	58	53.3	50	IMS	3.5	3.5	Single study	Exen	Ins	CE
Goodall G 2011[47]	Spain	57.3 7	54.1	35	IMS	3	3	Single study	Exen	Ins	CE
Ivanova A 2011[66]	Bulgaria	NM	NM	20	IMS	NM	NM	Single study	Lira	Ins+SU	CE
Lee W 2011[85]	USA	56.1	49.4	35	IMS	3	3	Single study	Lira	SU+TZD	CE
Petrova G 2011[71]	Bulgaria	NM	NM	20	IMS	5	3	Single study	Lira	Exen+SU	Lira CE
Valentine W 2011[72]	Switzerland	56.7	51.9	40	IMS	3	3	Single study	Lira	Exen	CE
Valentine W 2011[72]	Denmark	56.7	51.9	40	IMS	3	3	Single study	Lira	Exen	CE
Valentine W 2011[72]	Norway	56.7	51.9	40	IMS	4	4	Single study	Lira	Exen	CE

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Author	Country	(yr) Age	Men	(yr) TH	Model	DC	DE	Study type	Intervention	Comparison	GLP1 CE
Valentine W 2011[72]	Finland	56.7	51.9	40	IMS	3	3	Single study	Lira	Exen	CE
Valentine W 2011[72]	Netherland	56.7	51.9	40	IMS	4	1.5	Single study	Lira	Exen	CE
Valentine W 2011[72]	Austria	56.7	51.9	40	IMS	3.5	3.5	Single study	Lira	Exen	CE
Davies MJ 2012[29]	UK	55.8	54.2	Life	IMS	3.5	3.5	Single study	Lira	SU	CE
Davies MJ 2012[29]	UK	55.3	52.9	Life	IMS	3.5	3.5	Single study	Lira	DPP4i	CE
Gaebler JA 2012[40]	USA	57.3	51.3	20	TAM	none	none	Multi-study	Exen	TZD	dominant
Gaebler JA 2012[40]	USA	57.3	51.3	20	TAM	none	none	Multi-study	Exen	Ins	dominant
Gao L 2012[37]	China	NM	NM	30	UKPDS	3	3	Multi-study	Lira	SU	CE
Guillermin AL 2012[30]	USA	52.5	51.7	35	IMS	3	3	Single study	Exen	DPP4i	dominant
Guillermin AL 2012[30]	USA	52.5	51.7	35	IMS	3	3	Single study	Exen	TZD	dominant
Lee WC 2012[31]	USA	55.3	52.9	35	IMS	3	3	Single study	Lira	DPP4i	CE
Samyshkin Y 2012[59]	USA	57.9	53.3	35	IMS	3	3	Single study	Exen	Ins	CE
Fonseca T 2013[46]	Spain	54.7 5	57	35	IMS	3	3	Multi-study	Exen	Exen	EQW CE
Fonseca T 2013[46]	Spain	54.7 5	57	35	IMS	3	3	Multi-study	Exen	Ins	EQW CE
Mezquita Raya P 2013[32]	Spain	55.3	52.9	Life	IMS	3	3	Single study	Lira	DPP4i	CE
Mezquita Raya P 2013[32]*	Spain	NM	NM	Life	IMS	3	3	Single study	Lira	Lixi	CE
Kiadaliri AA 2014[54]*	Sweden	64.7	57.5	35	SIHECM	3	3	Single study	GLP1	Ins+DPP4i	CE
Kiadaliri AA 2014[54]*	Sweden	NM	NM	35	SIHECM	3	3	Single study	GLP1	Ins	CE
Steen Carlsson K 2014[36]*	Sweden	57	NM	Life	IHE	3	3	Multi-study	Lira	SU	CE
Steen Carlsson K 2014[36]*	Sweden	56	NM	Life	IHE	3	3	Multi-study	Lira	DPP4i	CE

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Author	Country	(yr) Age	Men	(yr) TH	Model	DC	DE	Study type	Intervention	Comparison	GLP1 CE
Tzanetakos C 2014[65]	Greece	55.3	52.9	Life	IMS	3.5	3.5	Single study	Lira	Ins+DPP4i	CE
Zhang Y 2014[61]	USA	54.4	NM	NM	Markov	NM	NM	Multi-study	GLP1	Ins+SU	dominant
Zhang Y 2014[61]	USA	54.4	NM	NM	Markov	NM	NM	Multi-study	GLP1	Ins	dominant
Deng J 2015[62]*	China	51.7 4	49	40	Cardiff	3	3	Multi-study	Exen	Ins	CE
Huetson P 2015[50]*	Norway	57.2	46.1	45	IMS	4	4	Single study	Lixi	Ins	CE
Perez A 2015[33]	Spain	NM	NM	Life	IMS	3	3	Single study	Lira	DPP4i	CE
Bruhn D 2016[28]	USA	55.6	47.3	50	IMS	NM	NM	Multi-study	Albi	Ins	CE
Bruhn D 2016[28]	USA	54.5	47.6	50	IMS	NM	NM	Multi-study	Albi	DPP4i	CE
Davies MJ 2016[43]	UK	56.8	56.3	40	IMS	3.5	3.5	Synthesis based	IDegLira	Ins	CE
Gordon J 2016[48]	Sweden	59.8	50	Life	Cardiff	3	3	Single study	Exen	Ins	CE
Roussel R 2016[34]	France	55.3	52.9	Life	IMS	3	3	Multi-study	Lira	DPP4i	CE
Roussel R 2016[34]	France	55.8	54.2	Life	IMS	3	3	Multi-study	Lira	SU	CE
Zhang X 2016[73]*	China	52.3	57.2	30	IMS	3	3	Hospital data base	Lira	Exen	Lira CE
Dilla T 2017[86]	Spain	55.7 9	46.4	Life	IMS	3	3	Synthesis based	Dula	Lira	Dula CE
Ericsson A 2017[45]*	Sweden	57.2	NM	40	SIHECM	3	3	Multi-study	IDegLira	Ins	CE
Ericsson A 2017[45]*	Sweden	57.2	NM	40	SIHECM	3	3	Multi-study	IDegLira	Ins+GLP	CE
Hunt B 2017[68]	Netherland	56.8	56.3	Life	IMS	4	1.5	Single study	IDegLira	Ins	CE
Hunt B 2017[75]	Italy	NM	NM	Life	IMS	3	3	Single study	Lira	Lixi	CE
Hunt B 2017[51]	USA	NM	NM	50	IMS	3	3	Synthesis based	IDegLira	Ins+GLP	IDegLira dominant
Hunt B 2017[79]	USA	58.8	50.3	50	IMS	3	3	Single study	IDegLira	Ins	CE

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Author	Country	(yr) Age	Men	(yr) TH	Model	DC	DE	Study type	Intervention	Comparison	GLP1 CE
Hunt B 2017[74]	UK	NM	NM	not clear	IMS	3.5	3.5	Single study	Lira	Lixi	Lira CE
Kvapil M 2017[55]	Czech Republic	56.8	56.3	Life	IMS	3	3	Multi-study	IDegLira	Ins	CE
Kvapil M 2017[55]	Czech Republic	56.8	56.3	Life	IMS	3	3	Multi-study	IDegLira	Ins+GLP	CE
Lasalvia P_2017[64]	Columbia	NM	NM	5	Markov	5	5	Multi-study	Dula	Ins	CE
Lasalvia P_2017[64]	Columbia	NM	NM	5	Markov	5	5	Multi-study	Dula	Ins+GLP	dominant
Mezquita-Raya P 2017[76]	Spain	NM	NM	Life	IMS	3	3	Single study	Lira	Lixi	Lira CE
Psota M 2017[57]	Slovakia	NM	NM	Life	IMS	5	5	Synthesis based	IDegLira	Ins	CE
Barnett AH 2018[27]	UK	NM	NM	Life	CDM	3.5	3.5	Single study	Lira	DPP4i	CE
Drummond RS 2018[44]	UK	58.3	NM	1	Excel sheet	none	none	Single study	IDegLira	Ins	CE
Ericsson A 2018[67]*	Sweden	59.3	NM	40	SIHECM	3	3	Multi-study	Lira	Ins+GLP	Lira CE
Ishii H 2018[53]	Japan	56.8 3	71	Life	CDM	2	2	Single study	Dula	Ins	CE
Vega-Hernandez G 2017[87]	UK	55.3	52.9	Life	CDM	3.5	3.5	Synthesis based	Lira	SGLT	CE
Chakravarty A 2018[78]	USA	NM	NM	1	DAM	none	none	Synthesis based	GLP1	SGLT+SU	not CE
Lee WC 2011[85]	USA	56.1	49.4	35	IMS	3	3	Single study	Lira	TZD	CE
Chuang LH 2016[69]	UK	54.9	61.1	40	Cardiff	3.5	3.5	Synthesis based	Exen	Dula	Exen CE
Chuang LH 2016[69]	UK	54.9	61.1	40	Cardiff	3.5	3.5	Synthesis based	Lira	Exen	Exen CE
Chuang LH 2016[69]	UK	54.9	61.1	40	Cardiff	3.5	3.5	Synthesis based	Exen	Lixi	Exen CE
Basson M 2018[88]	France	56.7	51	Life	CDM	4	4	Synthesis based	Dula	Exen	Dula dominant
Tzanetakis C 2018[77]	Greece	57.9	53	Life	Cardiff	3.5	3.5	Multi-study	Exen	Ins+GLP	CE

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Author	Country	(yr) Age	Men	(yr) TH	Model	DC	DE	Study type	Intervention	Comparison	GLP1 CE
Tzanetakos C 2018[77]	Greece	57.9	53	Life	Cardiff	3.5	3.5	Multi-study	Exen	Ins+GLP	CE
Gu S 2017[63]	China	50.6	54	40	Cardiff	3	3	Multi-study	Exen	Ins	CE
Hunt B 2017[52]	UK	NM	NM	Life	IMS	3.5	3.5	Synthesis based	Lira	Exen	Lira CE
Hunt B 2017[74]	UK	NM	NM	Life	IMS	3.5	3.5	Synthesis based	Lira	Lixi	Lira CE

Cardiff, Cardiff diabetes model; CDC, centre for disease control diabetes model; CDM, centre for outcomes research diabetes model; CE, cost-effective; DAM, a short-term decision analytic model; DC, discount rate for cost; DE, discount rate for effectiveness; DES, discrete event simulation model; Dula, dulaglutide; Exen, exenatide; IHE, IHE cohort Model; IMS, IMS core diabetes model; Ins, insulin; Lira, liraglutide; Lixi, lixisenatide; NA, not applicable; NM, not mentioned; SU, sulfonylurea; SIHECM, Swedish institute for health economics cohort model for T2DM; TAM, the archimedes model; TH, time horizon; TZD, thiazolidines; UKPDS, United Kingdom prospective diabetes study outcomes forecast model

*societal perspective

Suppl. Table 2 Estimation of ICER and INB along with variances of individual studies

Author	Status	Threshold	ICER	INB	INB Variance
DPP4i					
Sinha A 2010 ¹	HIC	56,924	-122,835	-6,058	75,890,095
Davies MJ 2012 ²	HIC	34,905	-341	3,063	30,570,369
Guillermin AL 2012 ³	HIC	56,206	-8,767	18,452	75,890,095
Lee WC 2012 ⁴	HIC	54,486	27,286	5,267	75,890,095
Mezquita Raya P 2013 ⁵	HIC	31,253	-24,800	1,529	36,623,523
Steen Carlsson K 2014 ⁶	HIC	58,024	76,906	-11,643	4316,649,739
Perez A 2015 ⁷	HIC	46,880	21,307	12,007	71,890,710
Bruhn D 2016 ⁸	HIC	51,771	-43,238	3,077	96,823,864
Roussel R 2016 ⁹	HIC	37,833	-183	6,373	55,403,868
Barnett AH 2018 ¹⁰	HIC	29,382	3,427	1,172	24,524,439
Sulfonylurea					
Watkins JB 2006 ¹¹	HIC	62,757	40,165	23,848	122,837,107
Minshall ME 2008 ¹²	HIC	62,757	58,628	9,166	122,837,107
Sinha A 2010 ¹	HIC	56,924	3,17,565	-22,285	122,837,107
Davies MJ 2012 ²	HIC	34,905	7,465	5,664	32,946,884
Gao L 2012 ^{13#}	UMIC	33,967	18,745	-13,142	32,946,884
Steen Carlsson K 2014 ⁶	HIC	58,024	90,550	-18,393	6536,773,623
Roussel R 2016 ⁹	HIC	37,833	59,464	2,692	58,155,006
Insulin					
Watkins JB 2006 ¹¹	HIC	62,757	16,317	61,502	88,454,188
Ray JA 2007 ¹⁴	HIC	57,955	49,311	6,421	71,051,822
Woehl A 2008 ^{15*}	HIC	54,241	-52,702	-9,817,555 *	
Brandle M 2009 ¹⁶	HIC	6,411	3,155	1,731	1,252,907
Mittendorf T 2009 ¹⁷	HIC	43,638	16,120	10,207	10,320,030
Beaudet A 2011 ¹⁸	HIC	51,239	-608	6,025	65,913,089
Goodall G 2011 ¹⁹	HIC	52,359	30,697	15,538	114,625,014
Gaebler JA 2012 ²⁰	HIC	56,206	-29,766	20,237	88,454,188
Samyshkin Y 2012 ²¹	HIC	56,206	13,776	9,349	88,454,188
Fonseca T 2013 ²²	HIC	46,880	85,553	-3,005	7,16,18,226
Kiadaliri AA 2014 ²³	HIC	57,999	17,780	10,055	114,625,014
Zhang Y 2014 ²⁴	HIC	52,610	2,32,435	-2,287	88,454,188
Deng J 2015 ^{25#}	UMIC	12,988	-13,417	50,027	225,494,973
Huetson P 2015 ²⁶	HIC	65,072	8,904	5,518	108,749,867
Bruhn D 2016 ⁸	HIC	51,771	22,492	674	83,559,689
Davies MJ 2016 ²⁷	HIC	44,356	-17,720	5,602	8,355,829
Gordon J 2016 ²⁸	HIC	58,156	229	37,072	58,259,834
Ericsson A 2017 ^{29#}	HIC	34,877	657	56,161	58,259,834
Hunt B 2017 ³⁰	HIC	25,489	-13,961	17,367	58,259,834
Hunt B 2017 ³¹	HIC	1,03,419	1,30,232	10,468	343,975,971
Kvapil M 2017 ^{32#}	HIC	83,957	29,845	17,472	181,158,025

Lasalvia P 2017 ^{33#}	UMIC	15	15	0	484
Psota M 2017 ^{34#}	HIC	42,049	21,800	6,628	28,498,717
Drummond RS 2018 ³⁵	HIC	29,382	8,703	1,059	8,355,829
Ishii H 2018 ³⁶	HIC	49,844	1,423	14,631	475,568,935
Tzanetakos C 2018 ^{37#}	HIC	61,183	7,747	24,557	8,775,698
Gu S 2017 ^{38#}	UMIC	13,980	-19,310	63,393	334,276,472
Insulin plus SU					
Ivanova A 2011 ³⁹	UMIC	50,282	51,412	-272	419,525,884
Zhang Y 2014 ²⁴	HIC	52,610	-8,71,813	-15,431	419,525,884
Insulin plus DPP4i					
Kiadaliri AA 2014 ²³	HIC	57,999	37,028	2,097	88,921,118
Tzanetakos C 2014 ⁴⁰	HIC	55,573	-9,45,378	5,755	88,921,118
Insulin plus GLP1					
Ericsson A 2017 ^{29#}	HIC	34,877	4,977	14,358	192,144,724
Hunt B 2017 ⁴¹	HIC	1,03,419	-26,03,362	20,638	419,525,884
Kvapil M 2017 ^{32#}	HIC	83,957	-9,954	2,202	243,085,724
Lasalvia P 2017 ^{33#}	UMIC	15	-0	1	419,525,884
Ericsson A 2018 ⁴²	HIC	58,156	4,888	41,072	192,144,724
Lira versus Lixi					
Mezquita Raya P 2013 ⁵	HIC	31,021	-20,858	3,466	36,302,276
Hunt B 2017 ⁴³	HIC	40,834	2,750	4,570	83,143
Hunt B 2017 ⁴⁴	HIC	29,571	6,386	2,060	24,111,296
Mezquita-Raya P 2017 ⁴⁵	HIC	31,021	-9,698	3,585	36,952,568
Hunt B 2017 ³²	HIC	44,356	3,745	3,505	57,040,382
Lira versus Exen					
Lee WC 2010 ⁴⁶	HIC	56,206	49,482	3,072	93,021,094
Petrova G 2011 ⁴⁷	UMIC	85,847	26,783	5,983	115,625,622
Valentine W 2011 ⁴⁸	HIC	45,728	6,324	6,031	57,365,156
Valentine W 2011 ⁴⁸	HIC	9,042	-7,915	-480	5,476,184
Valentine W 2011 ⁴⁸	HIC	8,336	15,223	-988	3,766,955
Valentine W 2011 ⁴⁸	HIC	72,668	12,173	10,165	156,246,556
Valentine W 2011 ⁴⁸	HIC	85,561	16,747	12,256	263,436,969
Valentine W 2011 ⁴⁸	HIC	83,325	25,567	9,483	162,201,874
Zhang X 2016 ⁴⁹	UMIC	14,622	4,119	3,939	39,894,261
Chuang LH 2016 ⁵⁰	HIC	44,378	-33,830	1,741	7,903,929
Tzanetakos C 2018 ^{37#}	HIC	61,183	-3,095	2,193	5,460,098
Hunt B 2017 ⁵¹	HIC	44,356	11,924	957	56,913,980
IDegLira versus Insulin					
Davies MJ 2016 ²⁷	HIC	44,356	-17,720	5,602	8,355,829
Ericsson A 2017 ^{29#}	HIC	34,877	657	56,161	58,259,834
Hunt B 2017 ⁴¹	HIC	25,489	-13,961	17,367	58,259,834
Hunt B 2017 ³¹	HIC	1,03,419	1,30,232	10,468	343,975,971

Kvapil M 2017 ^{32#}	HIC	83,957	29,845	17,472	181,158,025
Psota M 2017 ^{34#}	HIC	42,049	21,800	6,628	28,498,717
Drummond RS 2018 ³⁵	HIC	29,382	8,703	1,059	8,355,829
Thiazolidines					
Watkins JB 2006 ¹¹	HIC	62,757	-1,046	76,564	88,579,917
Gaebler JA 2012 ²⁰	HIC	56,206	-26,564	21,520	88,579,917
Guillermin AL 2012 ³	HIC	56,206	-4,298	14,763	82,907,146

* As the study has huge INB and no other similar study its variance was not considered from other studies.

Countries with GDP based thresholds

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