

REVES 26
University of New Castle
Edinburgh, May 28-30, 2014

**Projections and operational
scenarios on ageing and health**

Roberto Ham-Chande
El Colegio de la Frontera Norte

The diversity of old-age dependency

- Health care
- The impasse of retirement pensions
- Long-term care
- Intergenerational socioeconomic relations

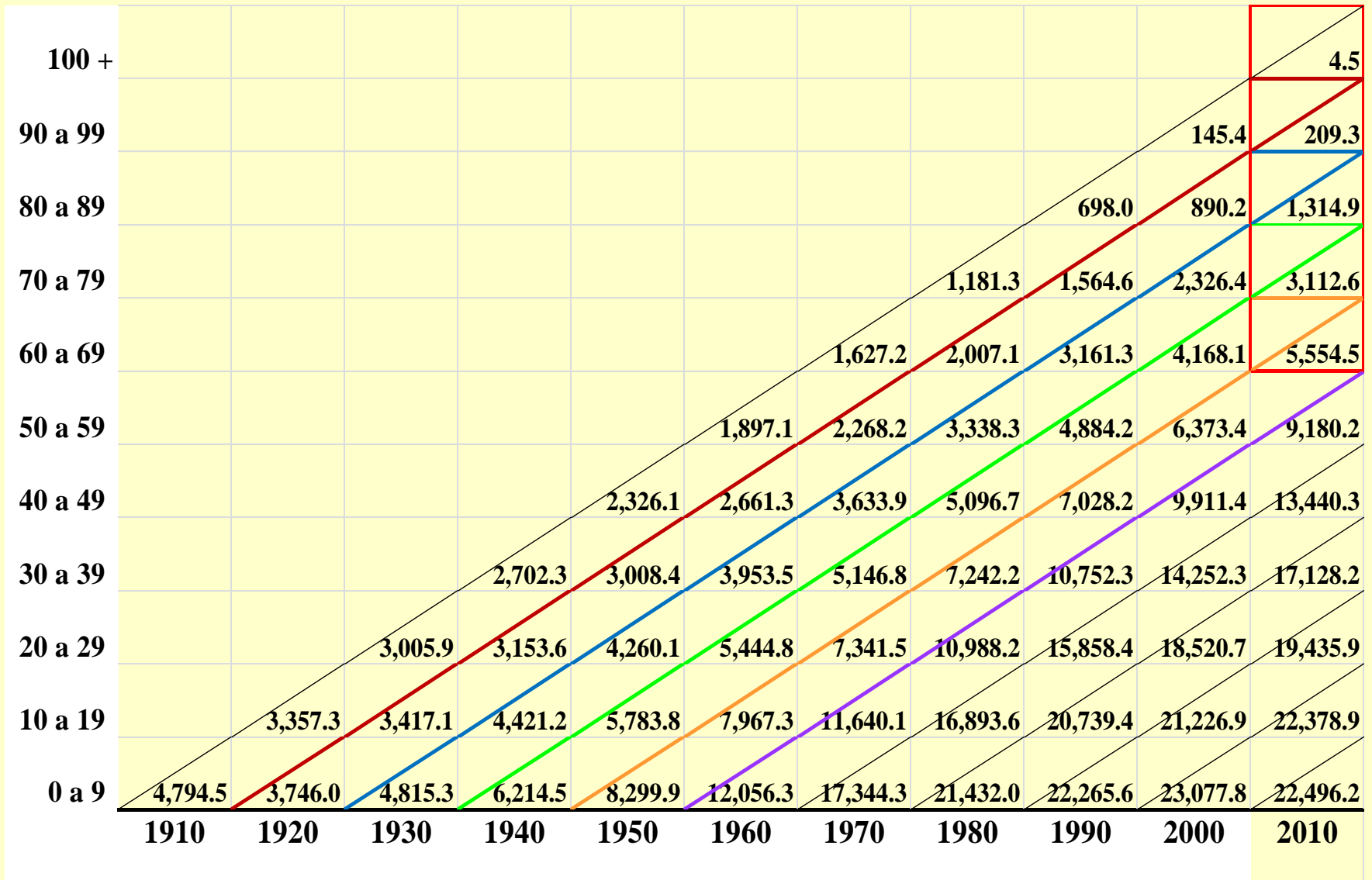
Planning for old-age dependency

- Public policies and programmes
- Costs and financing
- PROJECTIONS AND SCENARIOS
- Collaboration with INGER

10-year birth cohorts and survival to 60+

100 o más											4.5	9.4	20.5	38.9	63.9
90 a 99										145.4	209.3	334.0	513.4	801.6	1,230.1
80 a 89								698.0	890.2	1,314.9	1,770.2	2,386.8	3,513.0	5,021.5	
70 a 79						1,181.3	1,564.6	2,326.4	3,112.6	4,211.6	6,216.6	8,729.8	10,903.9		
60 a 69					1,627.2	2,007.1	3,161.3	4,168.1	5,554.5	8,100.7	11,228.5	13,881.4	15,207.8		
50 a 59				1,897.1	2,268.2	3,338.3	4,884.2	6,373.4	9,180.2	12,623.7	15,452.7	16,721.5	18,266.4		
40 a 49			2,326.1	2,661.3	3,633.9	5,096.7	7,028.2	9,911.4	13,440.3	16,393.1	17,620.9	19,163.4	19,034.5		
30 a 39		2,702.3	3,008.4	3,953.5	5,146.8	7,242.2	10,752.3	14,252.3	17,128.2	18,416.4	19,967.6	19,761.2	19,391.1		
20 a 29	3,005.9	3,153.6	4,260.1	5,444.8	7,341.5	10,988.2	15,858.4	18,520.7	19,435.9	21,132.7	20,854.2	20,401.5	20,134.5		
10 a 19	3,357.3	3,417.1	4,421.2	5,783.8	7,967.3	11,640.1	16,893.6	20,739.4	21,226.9	22,378.9	22,094.7	21,570.1	21,248.8	20,786.8	
0 a 9	4,794.5	3,746.0	4,815.3	6,214.5	8,299.9	12,056.3	17,344.3	21,432.0	22,265.6	23,077.8	22,496.2	22,005.2	21,650.1	21,154.9	20,797.1
	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050

The **past** by cohorts of today's P60+



Prospectives by cohorts of P60+

100 o más	4.5	9.4	20.5	38.9	63.9
90 a 99	209.3	334.0	513.4	801.6	1,230.1
80 a 89	1,314.9	1,770.2	2,386.8	3,513.0	5,021.5
70 a 79	3,112.6	4,211.6	6,216.6	8,729.8	10,903.9
60 a 69	5,554.5	8,100.7	11,228.5	13,881.4	15,207.8
50 a 59	9,180.2	12,623.7	15,452.7	16,721.5	18,266.4
40 a 49	13,440.3	16,393.1	17,620.9	19,163.4	19,034.5
30 a 39	17,128.2	18,416.4	19,967.6	19,761.2	19,391.1
20 a 29	19,435.9	21,132.7	20,854.2	20,401.5	20,134.5
	2010	2020	2030	2040	2050

Models and hypothesis on mortality

- Mortality projections
- Which are the models and parameters of mortality for MX and LA? (ALAP)
- Survival scenarios to 60+ and health expectancies
- Causes of death and E(60+) scenarios

Proyecciones de población

CAPTURA DE DATOS:

Población Inicial

Mortalidad

Fecundidad

Saldos Netos Migratorios

Razón de sexo al nacer

FUENTE

Censo INEGI

Proyecciones CONAPO 2005

Proyecciones CONAPO 2005

Proyecciones CONAPO 2005

Propio

Ingresar año base:

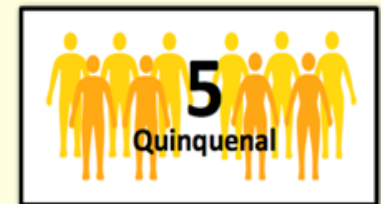
Ingresar año final:

Ingresar tipo de población:

PROYECCIONES DE POBLACIÓN:



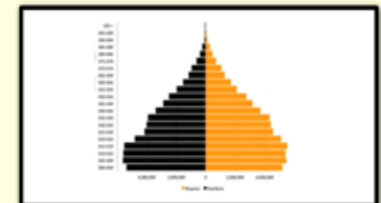
Por edad desplegada y



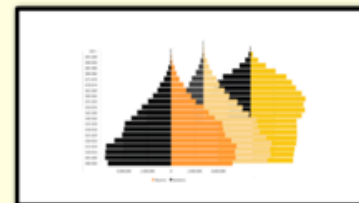
Por grupos de edad quinquenal y



Por grupos de edad decenal y sexo



Pirámides poblacionales



Proyección por año



ESCENARIOS

Módulo de Escenarios



Ayuda



Salir

Población proyectada: México 2010



Seleccionar los años con el siguiente intervalo De A

Regresar

Población Total) por grupos quinquenales de edad.

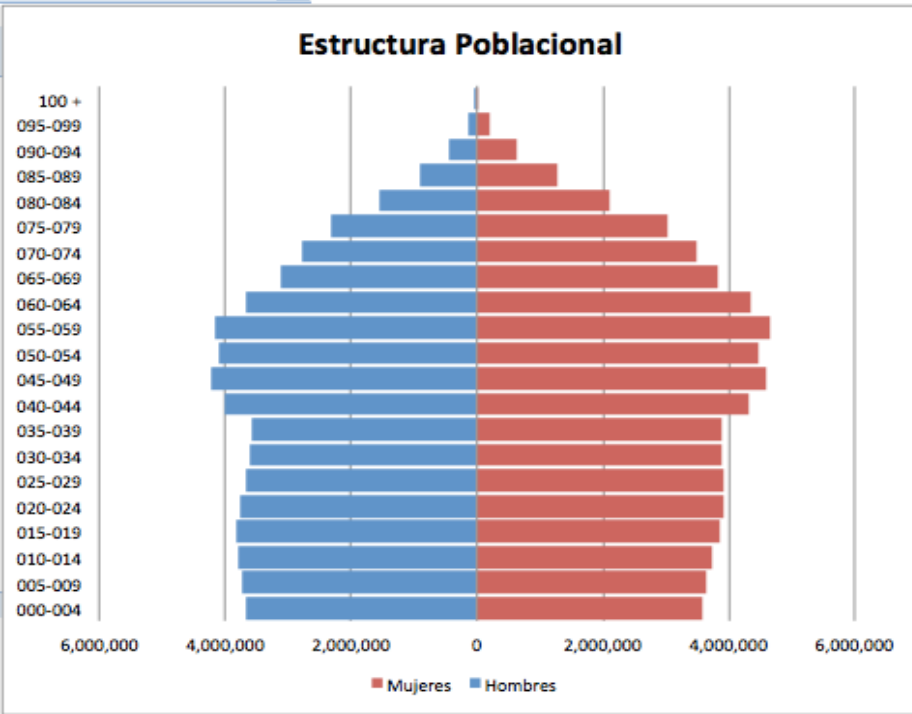
Población Total Grupos de Edad	Años Proyección									
	2010	2015	2020	2025	2030	2035	2040	2045	2050	
000-004	10,575,974	9,656,634	9,742,791	9,643,971	9,302,646	8,787,202	8,292,670	7,909,303	7,598,214	
005-009	11,055,233	10,275,143	9,372,446	9,470,550	9,385,435	9,060,679	8,562,297	8,082,687	7,711,041	
010-014	10,967,373	10,803,689	10,048,966	9,155,919	9,260,604	9,183,473	8,869,202	8,382,244	7,912,990	
015-019	11,049,884	10,485,169	10,364,427	9,652,989	8,775,507	8,890,776	8,826,891	8,530,563	8,063,448	
020-024	9,901,790	10,438,088	9,896,222	9,832,759	9,169,882	8,311,367	8,439,582	8,392,223	8,118,174	
025-029	8,718,296	9,424,561	9,967,463	9,446,161	9,429,876	8,803,542	7,960,634	8,099,144	8,064,908	
030-034	8,413,430	8,416,974	9,118,138	9,667,761	9,163,596	9,178,874	8,576,580	7,745,070	7,890,635	
035-039	8,263,422	8,209,026	8,219,269	8,918,738	9,474,643	8,985,276	9,021,512	8,435,908	7,613,615	
040-044	7,080,147	8,091,136	8,049,019	8,067,488	8,766,825	9,328,364	8,853,202	8,905,002	8,333,295	
045-049	6,061,534	6,917,890	7,923,407	7,894,338	7,922,462	8,621,899	9,188,364	8,728,680	8,794,037	
050-054	5,225,301	5,888,569	6,737,587	7,734,584	7,720,496	7,760,299	8,459,077	9,029,754	8,588,955	
055-059	4,045,574	5,027,634	5,681,664	6,521,082	7,505,513	7,510,150	7,564,909	8,261,459	8,835,696	
060-064	3,237,074	3,825,840	4,773,377	5,414,492	6,239,520	7,204,435	7,232,666	7,306,667	7,998,394	
065-069	2,434,531	2,974,909	3,532,625	4,431,072	5,050,062	5,850,034	6,782,007	6,837,909	6,934,825	
070-074	1,975,124	2,139,536	2,628,134	3,143,323	3,969,488	4,550,888	5,307,889	6,185,148	6,271,041	
075-079	1,307,767	1,623,025	1,765,943	2,189,888	2,643,512	3,367,415	3,889,833	4,577,981	5,370,021	
080-084	841,507	975,928	1,216,760	1,339,504	1,681,538	2,054,579	2,646,906	3,087,771	3,677,737	
085-089	479,017	544,699	636,766	806,033	900,930	1,149,112	1,426,627	1,865,023	2,203,684	
090-094	169,421	250,922	286,862	343,143	442,775	504,639	656,950	832,720	1,109,120	
095-099	67,336	63,389	94,391	110,381	135,796	179,457	209,456	279,895	364,062	
100 +	19,111	4,844	7,649	9,358	12,961	14,100	20,999	22,941	34,725	
Total	111,888,846	116,037,605	120,063,909	123,793,535	126,954,065	129,296,560	130,788,252	131,498,091	131,488,618	

Consulta: pirámides de población, selección de año 2050

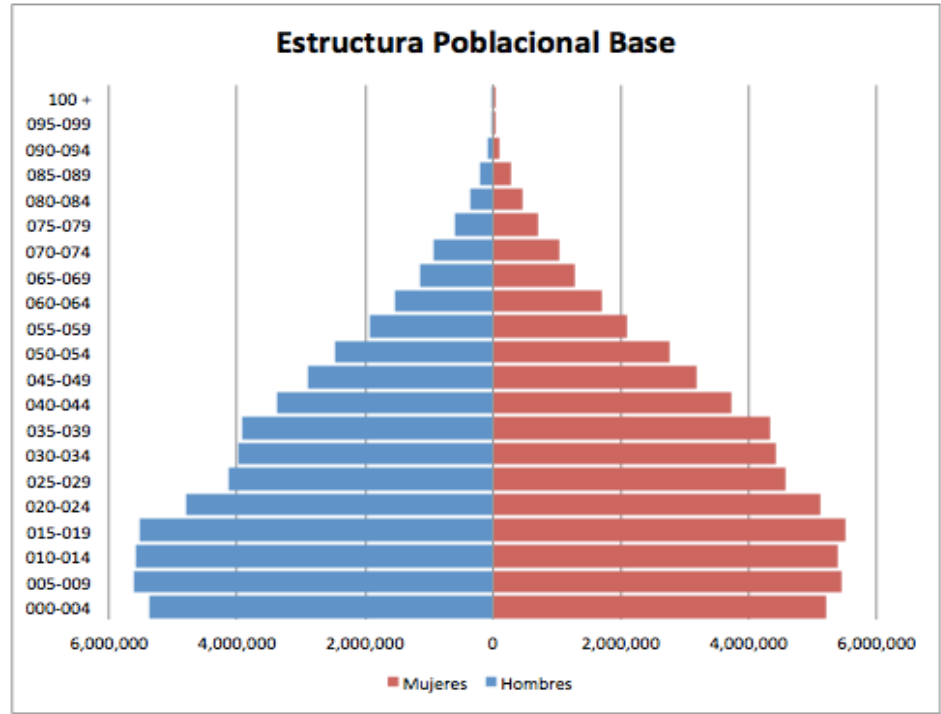
Población proyectada: México 2010

Pirámides de Población (Población Base y Población Proyectada)

Año: 2050



2010



Scenarios of health conditions and costs

- Demographic projections as the launching pad
- Projecting incidences and prevalences (IMGER)
- Cost estimates (INSP, IMSS)
- Allocating resources

Proyecciones de Escenarios



CAPTURA DE DATOS:

Capturar Escenario

PROYECCIONES DE ESCENARIO:



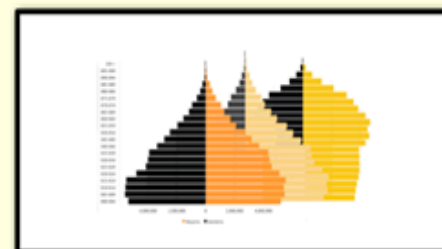
Por edad desplegada y sexo



Por grupos de edad quinquenal y sexo



Por grupos de edad decenal y sexo



Proyección por año



Regresar

Proyecciones de Población de Escenario: México 2010 de Dificultad para caminar



Regresar

Seleccionar los años con el siguiente intervalo De A

Población (Total) de escenario por grupos quinquenales de edad

Total	Años <input type="text" value="5"/>								
Grupos de Edad <input type="text"/>	2010	2015	2020	2025	2030	2035	2040	2045	2050
000-004	37,511	33,733	34,109	33,824	32,707	30,932	29,178	27,810	26,715
005-009	58,815	54,665	49,927	50,447	49,994	48,262	45,608	43,055	41,077
010-014	57,196	56,356	52,452	47,709	48,268	47,878	46,258	43,728	41,277
015-019	62,009	58,834	58,247	54,303	49,279	49,955	49,615	47,976	45,363
020-024	61,175	64,669	61,403	60,945	56,945	51,543	52,379	52,114	50,444
025-029	67,814	73,546	78,067	74,050	73,992	69,340	62,420	63,585	63,371
030-034	88,700	88,527	96,184	102,264	97,141	97,449	91,348	82,116	83,771
035-039	115,452	114,812	114,629	124,623	132,832	126,075	126,657	118,758	106,864
040-044	142,572	163,648	163,191	163,288	177,832	189,430	179,661	181,165	170,286
045-049	176,025	199,270	231,035	229,220	230,954	251,632	268,823	255,085	258,225
050-054	234,270	265,625	300,991	349,891	349,613	351,659	384,287	409,479	389,796
055-059	268,074	333,906	378,832	432,322	501,829	502,467	506,642	554,195	591,661
060-064	313,801	370,324	463,507	527,997	605,543	705,142	708,490	716,708	786,002
065-069	335,285	409,285	486,112	609,685	699,572	803,921	943,293	949,153	965,294
070-074	395,459	432,917	526,230	640,056	798,201	926,031	1,067,503	1,265,335	1,270,480
075-079	339,136	421,133	459,928	569,736	688,851	878,159	1,019,255	1,194,907	1,412,675
080-084	272,279	312,949	392,332	431,756	543,887	661,539	856,427	999,400	1,189,142
085-089	192,622	219,845	256,066	324,231	363,665	463,814	576,673	754,039	894,002
090-094	82,500	122,699	140,004	168,157	216,228	247,724	322,033	409,025	544,495
095-099	35,642	33,492	49,669	58,117	71,279	94,329	110,153	147,360	191,569
100 +	9,347	2,369	3,738	4,568	6,331	6,883	10,254	11,199	16,949
Total	3,345,684	3,832,602	4,396,655	5,057,186	5,794,944	6,604,164	7,456,958	8,326,191	9,139,458

Proyección de población 60+ con diabetes 2

Hombres	2005	2010	2015	2020	2025	2030
60-64	158,925	190,342	233,959	293,289	352,683	403,194
65-69	139,898	166,364	200,166	247,339	311,816	377,026
70-74	95,288	113,589	135,549	164,010	204,179	259,192
75-79	59,796	71,372	85,216	102,245	124,869	156,886
80-84	33,572	39,880	47,652	57,257	69,516	85,909
85-89	13,464	16,775	19,962	24,060	29,383	36,247
90+	9,347	10,176	12,273	14,899	18,423	23,103
Total	510,289	608,499	734,777	903,100	1,110,870	1,341,558

Mujeres	2005	2010	2015	2020	2025	2030
60-64	285,380	342,491	420,894	526,144	632,027	726,240
65-69	206,246	246,030	296,358	365,885	459,667	554,780
70-74	167,986	200,431	239,775	290,385	361,082	456,639
75-79	87,842	104,147	124,361	149,644	183,010	229,742
80-84	49,383	57,661	68,349	82,202	100,226	124,163
85-89	28,742	34,789	40,611	48,583	59,449	73,708
90+	18,352	19,139	22,221	26,347	32,187	40,277
Mujeres	843,931	1,004,688	1,212,568	1,489,190	1,827,647	2,205,549

Total	1,354,220	1,613,187	1,947,345	2,392,290	2,938,517	3,547,107
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Costos anuales directos de la atención hospitalaria y ambulatoria en la población de 60+ con DM por grupo de edad, según la experiencia del IMSS (\$8,709 y \$607)
(Millones de pesos)

grupo de edad	2005	2010	2015	2020	2025	2030
60-64	4,139	4,964	6,101	7,634	9,174	10,522
65-69	3,225	3,842	4,626	5,713	7,188	8,681
70-74	2,453	2,926	3,497	4,233	5,266	6,669
75-79	1,375	1,635	1,953	2,347	2,868	3,602
80-84	773	909	1,081	1,299	1,581	1,957
85-89	393	480	564	677	828	1,024
90+	258	273	321	384	472	590
Total	\$12,617	15,029	18,142	22,288	27,377	33,047

Elaboración propia de acuerdo a proyecciones de CONAPO 2005-2030, prevalencias de ENASEM 2003 y costos por servicio de atención en salud presentados de acuerdo al IMSS, presentados por Arredondo en 2001.