

PAHO Regional overview of national capacity and good practices in the management of diabetes and its vision complications

Author name

Juan Carlos Silva MD MPH



EYE CARE

Diabetic → ***SERVICE*** ← ***You***



Available + Accessible + Affordable

Approach policy makers - 2009



PAN AMERICAN HEALTH ORGANIZATION
WORLD HEALTH ORGANIZATION



144th SESSION OF THE EXECUTIVE COMMITTEE

Washington, D.C., USA, 22-26 June 2009

Provisional Agenda Item 4.15

CE144/20 (Eng.)

11 May 2009

ORIGINAL: ENGLISH

PLAN OF ACTION ON THE PREVENTION OF AVOIDABLE BLINDNESS AND VISUAL IMPAIRMENT

Approach policy makers – 2014



**Pan American
Health
Organization**



**World Health
Organization**

REGIONAL OFFICE FOR THE **Americas**

53rd DIRECTING COUNCIL

66th SESSION OF THE REGIONAL COMMITTEE OF WHO FOR THE AMERICAS

Washington, D.C., USA, 29 September-3 October 2014

Provisional Agenda Item 4.9

CD53/11

11 July 2014

Original: Spanish

PLAN OF ACTION FOR THE PREVENTION OF BLINDNESS AND VISUAL IMPAIRMENT

REGIONAL ACTION PLAN 2014-2019

- Reduce blindness in adults- Diabetes
 1. Integrate DR into national diabetes programs
 2. Conduct national assessments on services for DR
 3. Create models for comprehensive DR care

Regional Guidelines

2010

EDITORES:

Dr. Fernando Barría von-Bischoffshausen (1) y

Dr. Francisco Martínez Castro (2)

(1) Comité de prevención de ceguera de la Asociación Panamericana de Oftalmología y

(2) SubComité de Retinopatía Diabética del programa Visión 2020LA de la Agencia Internacional para la prevención de ceguera

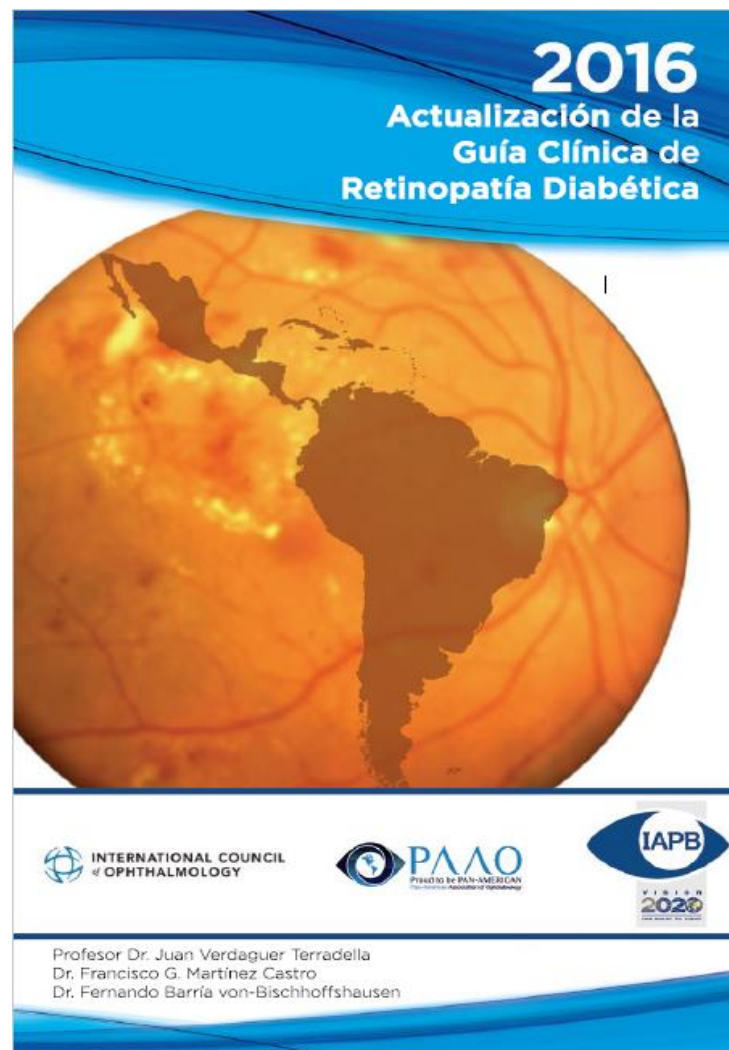
GUIA PRACTICA CLINICA DE RETINOPATIA DIABETICA PARA LATINOAMERICA:

DIRIGIDA A OFTALMÓLOGO Y PROFESIONALES DE LA SALUD

Organiza: PROGRAMA VISION 2020 IAPB para América Latina

1er Taller Quito, Ecuador, 15 y 16 de Abril del 2009

2er Taller Querétaro, México, 11 y 12 de octubre del 2010



National response

1. Generate evidence problem & progress
2. Normative - financing
3. Services organization and distribution
4. Monitoring outputs, progress, outcomes

1. Prevalence of DR

- RAAB:
- Recommended for areas with high diabetes prevalence
- Underestimate DR prevalence: a one-time random blood glucose level
- Simplified grading scale= No detailed information on different stages

Polack S, Yorston D, López-Ramos A, et al. Rapid assessment of avoidable blindness and diabetic retinopathy in Chiapas, Mexico. *Ophthalmology* 2012; 119:1033–40.

1. Prevalence of DR Chiapas

- Prevalence of bilateral blindness: **2.3%**
- Causes: cataract (63%), **DR (8% of blindness)**.
- Prevalence of diabetes was **21%**
- Prevalence of DR (in at least 1 eye) in diabetics was **38.9%**.
- Prevalence of sight-threatening DR (STDR; proliferative DR, referable maculopathy, or both) **21.0%**
- Polack et al. Rapid Assessment of Avoidable Blindness and Diabetic Retinopathy in Chiapas, Mexico, Ophthalmology Volume 119, Issue 5, Pages 1033–1040

1. Service response to DR

- TADDS
 - ARG, COR, MEX, PAR, PER,
 - ANI, BLZ, DOM, GUY, JAM, SAL, BAH, TRT

2. National Normative

- [1] National guidelines
- [2] Legislation mandating (example screening - costs covered)
- [3] Government policy: resolutions & plans
- [4] Data-collection or monitoring system to track progress

Colombia

Clinical Guidelines



Screening Program



Screening – Referrals

United States 5 years of follow-up:

- 28.9% of patients with diabetes were non-adherent to the retinal screening guidelines

Latin America?

- JaeJin An, Fang Niu, Adam Turpcu, Yamina Rajput & T Craig Cheetham (2018) Adherence to the American Diabetes Association retinal screening guidelines for population with diabetes in the United States, *Ophthalmic Epidemiology*, 25:3, 257-265, DOI:10.1080/09286586.2018.1424344

Screening – Referrals

- Questionnaire to physicians LA Congress on Diabetes.
- 34% of physicians reported ‘correct’ referral of T1DM patients for eye exam, LA guidelines.
- Preti RC, Saraiva F, Junior JAT, Takahashi WY, da Silva MER. How much information do medical practitioners and endocrinologists have about diabetic retinopathy? Clinics (Sao Paulo) **2007**; 62: 273–8.

Extend of Screening Latin America

- NEVER screened for DR
- 14.0% of people with T1DM
- 23.3% of people with T2DM

Mean time between diabetes diagnosis and DR screening ranged from **8 to 14 years**

- Chan JCN, Gagliardino JJ, Baik SH, et al. Multifaceted determinants for achieving glycemic control: the International Diabetes Management Practice Study (IDMPS). Diabetes Care 2009; 32: 227–33.

3. Operational plans for services

- Human resources
- Equipment supply and management systems
- Services organization and distribution
- Health information systems

3. Operational plans for services

- Diabetes
 - Health promotion & Public Education
 - Medical treatment
 - Medications
 - Laboratory tests
- Diabetic Retinopathy
 - Screening
 - Laser photocoagulation
 - Vitreoretinal surgery



Costa Rica

- Physicians: Primary Eye Care
 - Diabetics Protocol referrals
 - Ophthalmic examination or fundus photograph

- Care DR

Chile

- “Explicit Health Guaranties (AUGE/GES)”
diagnosis, treatment & follow up for DR.
Financial coverage
- 2010 Primary Eye Care Units (UAPO) fundus
exam x Diabetics
- 2013: Telemedicine in ophthalmology was
integrated to Primary Eye Care Units

4. Monitoring System

Tabla 15. Prevalencia de retinopatía diabética por departamentos. Colombia 2009-2014

| Departamento | Año 2009 | Año 2010 | Año 2011 | Año 2012 | Año 2013 | Año 2014 |
|--------------------|----------|----------|----------|----------|----------|----------|
| Antioquia | 23,28 | 23,00 | 12,18 | 18,90 | 24,32 | 25,65 |
| Atlántico | 6,60 | 10,54 | 7,54 | 7,73 | 11,91 | 16,04 |
| Bogotá, D.C. | 27,77 | 25,67 | 26,08 | 19,73 | 17,97 | 27,84 |
| Bolívar | 2,78 | 5,07 | 4,82 | 4,63 | 3,93 | 8,09 |
| Boyacá | 4,05 | 3,86 | 5,50 | 5,97 | 10,48 | 9,63 |
| Caldas | 1,63 | 4,11 | 4,82 | 7,14 | 11,59 | 16,35 |
| Caquetá | 4,38 | 6,82 | 7,17 | 5,74 | 7,85 | 14,39 |
| Cauca | 10,36 | 11,95 | 9,18 | 10,64 | 14,37 | 15,44 |
| Cesar | 4,31 | 2,29 | 3,63 | 2,63 | 3,11 | 6,12 |
| Córdoba | 4,30 | 2,01 | 2,29 | 3,04 | 7,54 | 13,76 |
| Cundinamarca | 6,94 | 8,30 | 14,92 | 19,79 | 21,89 | 29,54 |
| Chocó | 0,65 | 1,29 | 1,48 | 1,05 | 1,04 | 3,28 |
| Huila | 3,08 | 6,07 | 8,82 | 14,82 | 15,28 | 16,73 |
| La Guajira | 0,79 | 0,89 | 2,46 | 2,02 | 2,76 | 3,78 |
| Magdalena | 2,16 | 1,78 | 2,45 | 3,36 | 3,50 | 5,54 |
| Meta | 4,93 | 5,18 | 5,40 | 5,85 | 4,50 | 4,94 |
| Nariño | 4,53 | 5,07 | 8,62 | 14,23 | 13,80 | 20,34 |
| Norte de Santander | 11,82 | 9,45 | 19,44 | 33,90 | 34,47 | 20,36 |
| Quindío | 6,44 | 11,66 | 8,37 | 13,67 | 24,24 | 19,29 |
| Risaralda | 2,99 | 4,45 | 6,87 | 6,58 | 9,21 | 13,60 |
| Santander | 24,74 | 15,21 | 19,16 | 13,86 | 8,72 | 22,11 |
| Sucre | 3,79 | 2,58 | 6,48 | 8,28 | 8,32 | 7,22 |
| Tolima | 15,56 | 15,30 | 14,17 | 16,51 | 13,49 | 16,04 |
| Valle | 11,75 | 14,82 | 17,18 | 24,19 | 39,26 | 30,09 |
| Arauca | 2,07 | 1,63 | 8,86 | 11,94 | 6,29 | 15,15 |
| Casanare | 2,22 | 0,62 | 1,53 | 0,90 | 1,18 | 3,46 |
| Putumayo | 1,57 | 0,93 | 1,23 | 2,43 | 4,20 | 8,00 |
| San Andrés | 0,00 | 4,11 | 0,00 | 0,00 | 2,67 | 1,32 |
| Amazonas | 0,00 | 1,39 | 1,38 | 2,72 | 1,34 | 6,65 |
| Guainía | 2,66 | 0,00 | 2,57 | 2,53 | 0,00 | 2,45 |
| Guaviare | 0,99 | 1,95 | 0,00 | 1,89 | 4,65 | 3,67 |
| Vaupés | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 2,31 |
| Vichada | 0,00 | 0,00 | 0,00 | 1,50 | 2,92 | 0,00 |

Fuente: Elaboración propia a partir de los datos dispuestos en el cubo de RIPS, del MSPS y ENDS 2010. Consultado en mayo de 2016.

Tabla 31. Tasa de fotocoagulación y Cirugías de Vítreo y retina x 1.000.000 hab en personas con retinopatía diabética por departamento, 2014

| Departamento | Fotocoagulación | Tasa de fotocoagulación en población con retinopatía diabética | Tasa de fotocoagulación sobre población diabética | Vitrectomía | Tasa de vitrectomía sobre total de pacientes con retinopatía diabética | Tasa de vitrectomía sobre población diabética |
|--------------------|-----------------|--|---|-------------|--|---|
| Colombia | 5.341 | 567.056 | 1.498,67 | 8.691 | 922.727 | 2.438,67 |
| Antioquia | 1.075 | 657.061 | 2.250,05 | 1.905 | 1.164.373 | 3.987,31 |
| Atlántico | 307 | 787.232 | 1.685,85 | 315 | 807.746 | 1.729,78 |
| Bogotá, D.C. | 1.389 | 641.551 | 2.382,38 | 1.658 | 765.797 | 2.843,76 |
| Bolívar | 117 | 697.603 | 753,91 | 348 | 2.074.920 | 2.242,41 |
| Boyacá | 113 | 920.647 | 1.196,35 | 95 | 773.995 | 1.005,78 |
| Caldas | 153 | 949.196 | 2.092,70 | 298 | 1.848.761 | 4.075,98 |
| Caquetá | 5 | 73.674 | 141,46 | 43 | 633.598 | 1.216,56 |
| Cauca | 204 | 966.433 | 1.998,85 | 304 | 1.440.175 | 2.978,68 |
| Cesar | 60 | 964.867 | 788,04 | 138 | 2.219.194 | 1.812,50 |
| Córdoba | 140 | 604.367 | 1.106,60 | 324 | 1.398.679 | 2.560,99 |
| Cundinamarca | 419 | 537.453 | 2.112,71 | 509 | 652.897 | 2.566,52 |
| Chocó | 9 | 553.883 | 243,20 | 28 | 1.723.191 | 756,62 |
| Huila | 151 | 791.235 | 1.767,04 | 283 | 1.482.910 | 3.311,74 |
| La Guajira | 16 | 455.460 | 225,74 | 34 | 967.852 | 479,70 |
| Magdalena | 28 | 404.815 | 300,34 | 69 | 997.579 | 740,13 |
| Meta | 45 | 965.693 | 632,57 | 79 | 1.695.327 | 1.110,51 |
| Nariño | 132 | 376.666 | 1.022,68 | 235 | 670.580 | 1.820,68 |
| Norte de Santander | 80 | 292.369 | 797,38 | 157 | 573.774 | 1.564,86 |
| Quindío | 39 | 359.667 | 932,28 | 105 | 968.335 | 2.509,98 |
| Risaralda | 45 | 349.590 | 638,80 | 140 | 1.087.612 | 1.987,38 |
| Santander | 220 | 485.173 | 1.442,44 | 249 | 549.128 | 1.632,57 |
| Sucre | 60 | 985.435 | 952,20 | 146 | 2.397.893 | 2.317,01 |
| Tolima | 61 | 270.746 | 583,34 | 161 | 714.592 | 1.544,93 |
| Valle del Cauca | 440 | 320.210 | 1.288,76 | 977 | 711.013 | 2.861,64 |
| Arauca | 4 | 101.779 | 206,07 | 27 | 687.011 | 1.390,94 |
| Casanare | 10 | 824.963 | 379,08 | 20 | 1.649.927 | 758,17 |
| Putumayo | 14 | 513.149 | 548,05 | 29 | 1.062.952 | 1.135,25 |
| San Andrés | 0 | 0 | 0,00 | 3 | 2.993.141 | 530,34 |
| Amazonas | 2 | 399.146 | 354,49 | 3 | 598.718 | 531,73 |
| Guainía | 1 | 999.108 | 325,77 | 2 | 1.998.216 | 651,54 |
| Guaviare | 1 | 249.091 | 121,68 | 4 | 996.365 | 486,71 |
| Vichada | 1 | 999.018 | 187,76 | 3 | 2.997.053 | 563,27 |

Fuente: Ministerio de Salud y Protección Social. SISPRO. Consultado mayo de 2016

Conclusions

- Policies, services and \$ for Diabetes are fine in most countries
- DR is NOT seeing as part of comprehensive diabetes care
- Policies, services and \$ for DR screening working just in few countries

DR Barometer

Shifting the needle

