

# REPORT FROM AFRICA IN MADRID GENERAL CONFERENCE

BY

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- Health care delivery in Africa and indeed many developing world is facing a lot of challenges
- and laboratory services is not an exception.
- There are 52 countries in Africa
- with a population of about 1.1 billion.

# MAP OF AFRICA SHOWING THE 52 COUNTRIES



# List of African countries by Population (2015)

Country/Territory	Population		Rank (Population)		Sex ratio	Rank (Sex ratio)		Density (per sq km)	Rank (Density)	
	2014	2015	World	Africa		World	Africa		World	Africa
Nigeria	178,516,904	183,523,432	7	1	103.78	182	55	198.67	68	9
Ethiopia	96,506,031	98,942,102	13	2	100.09	127	36	89.60	114	17
Egypt	83,386,739	84,705,681	15	3	100.87	146	43	84.58	119	19
Democratic Republic of the Congo	69,360,118	71,246,355	19	4	98.71	94	20	30.38	178	40
South Africa	53,139,528	53,491,333	25	5	94.54	31	1	43.81	166	33
United Republic of Tanzania	50,757,459	52,290,796	26	6	100.08	126	35	55.33	151	29
Kenya	45,545,980	46,748,617	30	7	99.53	113	29	80.55	123	20
Algeria	39,928,947	40,633,464	33	8	102.18	167	52	17.06	198	47
Uganda	38,844,624	40,141,262	34	9	100.54	141	40	166.54	73	11
Sudan	38,764,090	39,613,217	35	10	100.65	144	41	21.28	190	42
Morocco	33,492,909	33,955,157	39	11	98.18	87	18	76.04	128	22
Mozambique	26,472,977	27,121,827	47	12	96.06	48	4	33.84	174	38
Ghana	26,442,178	26,984,328	48	13	98.77	95	21	113.13	95	15
Madagascar	23,571,962	24,235,390	51	14	99.42	111	27	41.28	168	34
Cameroon	22,818,632	23,393,129	54	15	100	125	34	49.20	156	32

# List of African countries by Population (2015) Cont'd

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	2014	2015	World	Africa		World	Africa		World	Africa
Angola	22,137,261	22,819,926	55	16	98.45	90	19	18.30	195	45
Côte d'Ivoire	20,804,774	21,295,284	59	17	103.62	180	54	66.04	141	26
Niger	18,534,802	19,268,380	60	18	101.76	161	51	15.21	203	48
Burkina Faso	17,419,615	17,914,625	62	19	99.16	106	25	65.38	143	27
Malawi	16,829,144	17,308,685	63	20	100.7	145	42	146.09	79	12
Mali	15,768,227	16,258,587	66	21	101.71	159	49	13.11	211	50
Zambia	15,021,002	15,519,604	70	22	99.42	110	26	20.62	191	43
Zimbabwe	14,599,325	15,046,102	71	23	97.92	82	14	38.51	171	37
Senegal	14,548,171	14,967,446	72	24	96.52	54	6	76.08	127	21
Chad	13,211,146	13,605,625	73	25	100.39	136	38	10.60	213	51
Rwanda	12,100,049	12,428,005	74	26	95.54	41	3	471.87	24	3
Guinea	12,043,898	12,347,766	75	27	100.41	137	39	50.22	154	30
South Sudan	11,738,718	12,152,321	76	28	100.22	131	37	18.86	194	44
Tunisia	11,116,899	11,235,248	78	29	98.05	85	16	68.67	137	25
Somalia	10,805,651	11,122,711	81	30	99.06	104	24	17.44	196	46
Benin	10,599,510	10,879,828	83	31	99.49	112	28	96.61	110	16
Burundi	10,482,752	10,812,619	84	32	97.67	73	10	388.47	29	5
Togo	6,993,244	7,170,797	103	33	97.47	68	9	126.28	86	13
Eritrea	6,536,176	6,737,634	107	34	99.8	118	31	57.29	149	28

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	2014	2015	World	Africa		World	Africa		World	Africa
Sierra Leone	6,205,382	6,318,575	109	35	98.79	97	22	88.08	116	18
Libya	6,253,452	6,317,080	110	36	98.06	86	17	3.59	223	55
Central African Republic	4,709,203	4,803,082	121	37	96.95	60	7	7.71	216	52
Congo	4,558,594	4,671,142	123	38	99.97	124	33	13.66	208	49
Liberia	4,396,873	4,503,439	126	39	101.62	157	48	40.44	169	35
Mauritania	3,984,457	4,080,224	130	40	101.48	155	46	3.98	220	54
Namibia	2,347,988	2,392,370	142	41	94.61	33	2	2.90	229	57
Lesotho	2,097,511	2,120,116	144	42	97.99	83	15	69.84	136	24
Botswana	2,038,587	2,056,370	147	43	101.75	160	50	3.54	224	56
Gambia	1,908,954	1,970,081	149	44	97.87	81	13	174.42	71	10
Guinea-Bissau	1,745,798	1,787,793	150	45	98.87	99	23	49.49	155	31
Gabon	1,711,294	1,751,199	151	46	101.2	151	45	6.54	217	53
Swaziland	1,267,704	1,285,519	154	47	97.83	79	12	74.03	133	23
Mauritius	1,249,151	1,253,581	156	48	97.14	64	8	614.50	18	2
Djibouti	886,313	899,658	159	49	100.89	147	44	38.78	170	36
Réunion	885,328	895,099	160	50	96.2	49	5	356.61	36	6

# List of African countries by Population (2015) Cont'd

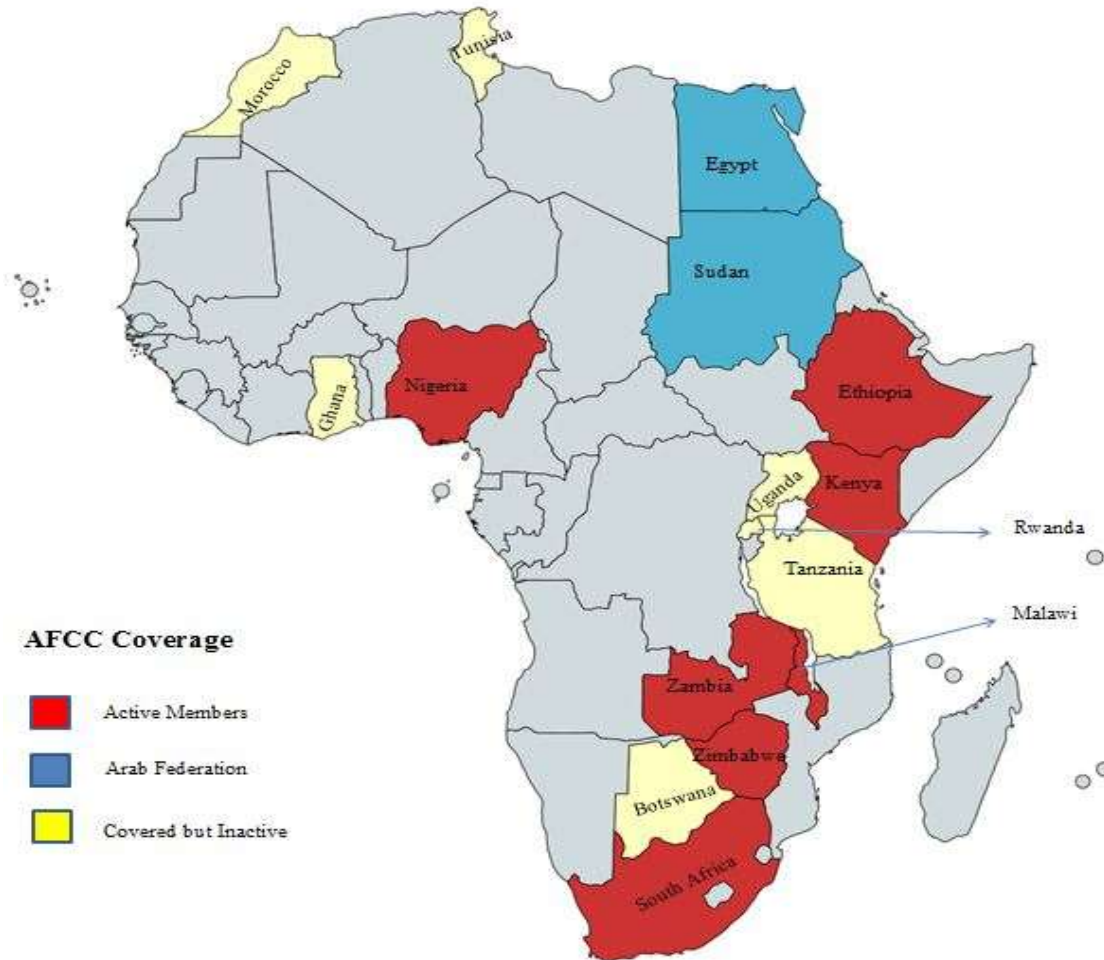
Country/Territory	Population		Rank (Population)		Sex ratio	Rank (Sex ratio)		Density (per sq km)	Rank (Density)	
	2014	2015	World	Africa		World	Africa		World	Africa
Equatorial Guinea	778,061	799,372	163	51	104.83	188	56	28.50	181	41
Comoros	752,438	770,058	165	52	101.6	156	47	413.79	26	4
Western Sahara	585,646	604,298	167	53	110.46	194	57	2.27	230	58
Cape Verde	503,637	508,315	172	54	99.79	116	30	126.04	87	14
Mayotte	228,070	233,993	186	55	99.87	120	32	625.65	17	1
Sao Tome and Principe	197,882	202,781	187	56	97.68	75	11	210.35	60	7
Seychelles	93,306	93,754	200	57	102.76	169	53	206.05	64	8
Saint Helena	4,120	4,124	229	58	-	-	-	33.80	175	39
<b>Total</b>	<b>1,138,229,191</b>	<b>1,166,239,306</b>			<b>100.09</b>			<b>38.46</b>		

Source [United Nations Department of  
Economic and Social Affairs](#)

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# COUNTRIES WITH IFCC PRESENCE





# Two events took place in Africa in recent times

- One directly involves the IFCC and it took place in Zambia with the introduction of External Quality Assurance (EQA) program.
- The second event was the workshop in Uganda (between 18<sup>th</sup> and 24<sup>th</sup> September 2015) during which the reports of LabSkills initiative of Royal College of Pathologist of Britain in conjunction with other organizations in Africa were presented. I represented the IFCC at this workshop and I delivered a key note address as the President of AFCC.



**IFCC**

International Federation  
of Clinical Chemistry  
and Laboratory Medicine

# Randox International Quality Assurance Scheme (RIQAS)



- Health facility laboratories in the public and private sectors, enrolled in the program with the approval of the Zambian Ministry of Health (MoH).
- The program started in 2014.
- Twenty one (21) laboratories registered to participate.
- Randox laboratories through IFCC was sending EQA materials to these laboratories through the Biochemical Society of Zambia (BSZ).
- Laboratories involved were uploading results of quality control materials online for the co-ordinator from IFCC (Dr Renze Bais) to review.
- Some laboratories were not able to upload results promptly .

# Randox International Quality Assurance Scheme (RIQAS)

- As a result of poor performance a meeting was held in Lusaka to discuss the way forward.
- Observations were:
  - Zambia has 21 out of 270 plus laboratories registered for participation in the EQA program.
  - Only 6 consistently performed as expected in the 12 months covered.
  - Nchanga South Mine Hospital in Chingola in particular was noted to have consistently performed well.
  - University Teaching Hospital (UTH) also performed reasonably well..

# Randox International Quality Assurance Scheme (RIQAS)

- MoH was happy that IFCC and BSZ were supporting the RIQAS program in Zambia.
- MoH is fully aware of the importance of the EQA program for the laboratories to attain international accreditation according to the ISO 15189 standards.
- RIQAS has therefore, added value to the Strengthening of Laboratory Management towards Accreditation (SLMTA) program that MoH is implementing.

# Labskill Africa Initiatives:

- LabSkills Africa is a health systems strengthening initiative, aimed at building the capacity and improving the standards and the quality of laboratory services in sub-Saharan Africa through skill training, knowledge transfer, leadership development and mentoring.

# Labskill Africa Initiatives:

Developed by the Royal College of Pathologist (RCPATH) in partnership with

- 1.College of Pathologist of East, Central and Southern Africa (COPECSA),
- 2.British Division of the International Academy of Pathology (BDIAP) and
- 3.East, Central and Southern Africa Health Community (ECSA-HC),

The initiative has been piloted in 20 public sector laboratories in Kenya, Uganda, Tanzania, Zambia and Zimbabwe. In total, these laboratories serve a combined population of 110 million and perform more than 1.7 million tests annually.



# Labskill Africa Initiatives

- Over 30 months, LabSkills Africa trained about 100 pathologist, biomedical scientist and laboratory technologist in the areas of leadership, quality management, personal development, planning and technical bench skills.
- Throughout the process, the participating laboratories and their staff have been supported and mentored by highly skilled and experienced volunteers drawn from the UK, Africans in Diaspora such as those in North America and Australia



# The LabSkill Africa pilot focused on seven key tests

- Rapid HIV Antibody
- Rapid Malaria Test
- Hemoglobin/ Hematocrit Determination
- Urinalysis
- Malaria Smear Testing
- TB Smear Microscopy
- Peripheral Blood Film

# The overall objectives of the Labskills Africa

- The LabSkills Africa initiative has the following key components:
- Development and delivery of a Laboratory Leadership and Quality Management Course activity.
- Development and delivery of a Laboratory Technical Skills Improvement Course
- Implementation of a 5 Laboratory Improvement Projects
- Volunteer mentors
- Establishment of a Laboratory Improvement Network

# CHALLENGES BEING EXPERIENCED BY THE REGION (AFRICA)

- THE most disturbing challenge is that only few countries are members of IFCC . There are 52 countries in Africa and only about 14 have featured in our list as members or potential members. Out of these only about six are actively involved or represented. Some however belong to the Arab Federation. Other problems of Africa which cut across most of these countries can be broadly grouped into:
  - Inadequate of trained laboratory personnel,
  - Lack of infrastructure and consumables.
  - Inadequate provision of laboratory support to strengthen health care delivery services

# INADEQUATE LABORATORY PERSONNEL

- Limited number of skilled personnel
- Lack or inadequate training programme
- Lack or inadequate training facilities
- Trainees who go abroad do not return
- Trainees who return lack facilities to apply what they learnt
- Poor pay means no job satisfaction (brain drain)



# Infrastructural and equipment challenges

- Inadequate laboratory space
- Lack of basic equipment
- Donated equipment not useful
- Many are non-functional and outmoded
- No expert technical support
- No spare parts

# Infrastructural and equipment challenges

- Lack of consumables
- May be expensive
- Manufactured abroad and delay in procurement
- Storage problem because of lack of power or refrigeration
- Lack of or erratic supply of pipe borne water
- Lack of or erratic supply of electricity

# Challenges related to the provision of laboratory services

- In Nigeria there is usually no provision of laboratory services at the primary healthcare level.
- In most secondary care level settings there is a laboratory which provide tests of very few parameters. Only Teaching and specialist hospitals proved reasonable service
- National quality control programmes are not readily available in developing countries to ensure accuracy of results.
- The supply of reagents and kits are irregular

# Challenges related to the provision of laboratory services

- Erratic power supply also creates problem for the storage of reagents.
- Autopsies are not widely practiced in African countries for several reasons, including cost, cultural barriers and lack of both facilities and trained personnel.
- There is also a lack of forensic pathology expertise and practice in most developing countries. Therefore the cause and manner of death may often not be as thoroughly investigated as expected.

# WAY FORWARD FOR AFRICA

- After identification of various problems and challenges, the next step will be for us in Africa to start providing solutions to the problems in any way possible.
- The two projects I sighted are examples of initiatives that can be expanded and sustained to gradually bring Africa out of the health challenges.

# WAY FORWARD FOR AFRICA

- Similar programs like RIQAS and Labskills can be initiated in many more countries in Africa, which will be strategically located to serve as a support for different regions.
- For instance a similar program in Nigeria, Ghana and Burkna Fasco and Cameroun will easily spread across the West Africa subregion in the spirit of ECOWAS.
- Also in doing so we can easily partner with West African College of Physcians to realize this vision for West Africa. Strategically located countries can also be identified in North and Central Africa while the strengthening of those started in East Africa is protected.



# WAY FORWARD CONT'D

- **Supporting materials in form of teaching aids should be made available**
  - SOPs, job aids and charts on sample processing, reporting/uploading results, viewing results online, getting feedback and corrective action, and
  - Interpretation of EQA results

# Proper Coordination of Activities (Centre)

- Dispatch of materials
- Receipt of EQA materials from central store,
- Testing of samples
- Uploading of results,
- Retrieval and feedback,
- Corrective actions where necessary.

## WAY FORWARD CONT'D

- **Involvement of equipment suppliers/vendors to provide Africa with appropriate support with regard to type and specification of equipment. Need to fabricate more PCOT material for Africa. Such equipment should be standardized per level of care.**
- **Reagents and kits supply should be improved upon and part of the training should include in long term for technology transfer so that some the reagents can be produced locally in some locations in Africa to certify immediate requirement and prevent repeated shortage (stock outs) that is currently the order of the day.**

# WAY FORWARD CONT'D

- As part of standardization all laboratories that will participate in EQA should use standardized equipment to do a panel of core assays such as Albumin, sodium, potassium, creatinine, ALT, AST, glucose, bilirubin both total and direct, urea, uric acid, cholesterol, triglycerides and hCG.

# SUPPORT RQUIRED FROM IFCC

- WHO partnership with the African Federation in the EQA plans to reduce cost
- Linkage with regional and international organizations that can partner with AFCC activities in various regions.
- Provision of experts and sponsorship of them for training of personnel locally
- Mobilizing corporate members as was done for randox to provide materials for training and letting them know that there is potential market for them if Africa is empowered.
- Supporting and training more hospital toward accreditation.



- THANKS FOR YOUR ATTENTION