**Medical Insider COPD Podcast Season 4 Episode 3**

**Low- and middle-income countries: Their influence on global COPD guidelines**

Richard Russell (00:06)

This podcast is intended for healthcare professionals outside the United Kingdom and the United States of America only. Welcome to the Medical Insider COPD by Boehringer Ingelheim, a podcast offering a breath of fresh air to clinicians treating COPD across the globe. My name is Dr. Richard Russell. I'm a Consultant Chest Physician at Lymington New Forest Hospital in the United Kingdom, a Senior Clinical Researcher at the University of Oxford, and I'm the Editor-in-Chief of the *International Journal of COPD*. I'm delighted to be your moderating host for this season of Medical Insider COPD podcast. I'm here to bring you news and insights in COPD right from the source, directly to you. So, thank you for joining us today. Be sure to subscribe and follow Medical Insider COPD podcast to ensure you do not miss any of the exciting podcasts in this series, and indeed, the ones we've done in the past.

Richard Russell ([01:09](https://www.rev.com/transcript-editor/Edit?token=Hdx7Xl1GjXVhal5cnuvLkKm1PQNVWDknrgdmYFdsKyNqqLlfJiRqiumV1tKIV6BgwDYARQZ6jzfzqNLGCXNH4LokJPg&loadFrom=DocumentDeeplink&ts=27.94)):

Today we will delve into a publication, which I believe is really interesting, worth reading and actually may change your practice. It's entitled, ‘Diaphragmatic Movement at Rest and After Exercise: A Non-Invasive and Easy to Obtain Pragmatic Measure in COPD’. We're also going to look into an interesting emerging topic in social media, that's travel and COPD because we are now beginning to travel again. But first, I'm absolutely delighted to introduce today's guest. He's here with me today to discuss the topic of COPD and the impact of COPD guidance and strategies on low and middle income countries. No one is better in the world to discuss this than Professor Eric Bateman from the University of Cape Town in South Africa. Welcome to the Medical Insider COPD podcast Eric, please introduce yourself to the audience.

Eric Bateman ([01:55](https://www.rev.com/transcript-editor/Edit?token=9O56SJjhSYB5J9FQQoFHubg1YoTprlx-efoRnEo8Mspp-GtRhMVNWu91Shy2EIGvSE2876eIWc8H5echYDG8gOiZcJU&loadFrom=DocumentDeeplink&ts=86.19)):

Hello. Yes, it's a great pleasure to take part. I'm Eric Bateman from the University of Cape Town, I'm a Chest Physician and I've practiced here for almost all of my practice years.

Richard Russell ([02:06](https://www.rev.com/transcript-editor/Edit?token=RBh2iop1H2byLx0c3rhlNDm3xFeE25d6XycOxJ_HDgMgddcYSxLbpr-qzw9V09S53gjZj-GosNp6dzIOlYUibniOBDU&loadFrom=DocumentDeeplink&ts=99.1)):

Eric, you've inspired me over the years. You've been someone who's done many, many clinical trials and done them in Africa, which is really important. You've also contributed enormously to global guidelines. Let's get into this, let's try and understand the impact and implementation of COPD guidance and strategies in low- and middle-income countries, LMICs. Perhaps we could understand though the impact of COPD in LMICs. Can you tell us a little about that?

Eric Bateman ([02:37](https://www.rev.com/transcript-editor/Edit?token=O8xXFUE9DENIdRtv48x4-3bAfQQ2ebMf9tu-lqUAQW379l47wWyErzQFB1UnF6Ds7WcGp4hJlHmtv13ej4OxSAInmiE&loadFrom=DocumentDeeplink&ts=132.1)):

Well, COPD is a global problem and no different in LMICs, in fact in many the prevalence is even higher than developed countries. What is different are the phenotypes or the contributory factors in the development of COPD in LMICs. For example, tobacco smoking may be considerably lower as it is in Africa compared to say Europe or North America. But on the other hand, the impact of developmental issues, lung growth, childhood infections and of course, industrial and domestic exposures during later life, all of these make a difference. And in particular, chronic respiratory infections and tuberculosis is the main one that is often associated with the development of airflow obstructions. So, when we look at COPD in an LMIC, we really need to be aware of the local flavour or phenotypes of the disease.

Richard Russell ([03:35](https://www.rev.com/transcript-editor/Edit?token=Vyo5dm_mzJORljixJgZiSDjIsCmbPnOyMZGpy6EhXfImAu9ENl-W1phtBMX-kmgS5xcQ8wBEjtSljxbSyYnU6BgPJX4&loadFrom=DocumentDeeplink&ts=196.71)):

So, we now come to COPD guidance and strategies. And particularly we think of the GOLD Strategy in this way. Does the GOLD strategy have traction in LMICs?

Eric Bateman ([03:45](https://www.rev.com/transcript-editor/Edit?token=zODIIiL2thblEGwrSJxB-e4pL7BhkNUmAzYnlna6ebszIIFPQgDeMgfkbKTQlG9h3xPjB1kbWixDxcqqiFFYIod4fjg&loadFrom=DocumentDeeplink&ts=209.01)):

The GOLD Strategy and other global strategies are viewed with great respect. It's recognised that they're compiled by committees comprising experts, who survey the literature continually and attempt to place them in perspective for the practicing physician. But clearly the local practice circumstances are very different and they cannot simply be adopted and implemented in such countries. So, a process of localisation has to take place, either officially through a government agency or through a professional society, and then they need to be looked at through the lenses of affordability first of all, and access to medications. And that process can be very severe and limiting upon implementation of what the global guideline might recommend.

Richard Russell ([04:39](https://www.rev.com/transcript-editor/Edit?token=jpLVglofjyxHu9EWaBbPZpBqo-z5wwve4n_LFgRP9iUON661DtP34P8hrGEQ7-avxKqZnHBYdpkxYcDntQXy3DmkWhU&loadFrom=DocumentDeeplink&ts=265.16)):

Can you give us any particular examples whereby perhaps global strategy has not directly followed or has been limited in its ability to be followed in LMICs?

Eric Bateman ([04:](https://www.rev.com/transcript-editor/Edit?token=F9zAnFthJmWuvWQqNz9KdZxKEVYtcZ39SrESkO63sifRoiciU8nyMeMMG-HxlNJRKZz44oIuRIAFoK6SnICJ9bQkh-8&loadFrom=DocumentDeeplink&ts=276.72)49):

Well, as you're aware there's been a strong move, based on good evidence towards optimal sustained bronchodilation. That is using, if possible, two long-acting bronchodilators together to get the best results. And we even now have evidence that mortality can be impacted in COPD, which is a great step forward. But the reality in LMICs is that many are still stuck in the paradigm of a short-acting bronchodilator or perhaps the theophylline and may have progressed to a long-acting beta agonist with an ICS. And I guess that would be true for most LMICs at this point. So, there's a time lag between the recommendations that come from latest research and what filters through first to local guidelines and later are sought in terms of procurement and implementation. So, there is a timeline. ~~F~~or example, LABA/ICS is still widely used in our country and other countries and is the recommended combination treatment, which is quite contrary to what our current understanding is and may even be harmful. It is not the best buy.

Richard Russell ([06:04](https://www.rev.com/transcript-editor/Edit?token=UWvEQ3YxmXvqqXSNVdJqvhDo-RDOn4eCI4k3awitFw3TXClqvancF6TGV3grkM4Z0_DRNld_3WTlQSudml0CpQeaEWk&loadFrom=DocumentDeeplink&ts=353.09)):

You've mentioned the individual difficulties sometimes with implementation and the reasons for that, you also use the word perspective earlier on, I think that's really important. And let me ask you this, do you think the people that write guidance and the guideline groups consider enough of this perspective of LMICs and do LMICs have an adequate voice in the guidance?

Eric Bateman ([06:26](https://www.rev.com/transcript-editor/Edit?token=ZtGRA2t65NIb4wj5DyP9g4V5jHy7ei_1XG3AXCfm3wEbcVm0R5HZwzhe-iJGvU9BExyiX7ZRaFlivh2KZ9BpXqOhZFE&loadFrom=DocumentDeeplink&ts=377.45)):

Well, that's a difficult question and so, I'd have to say yes and no. First of all, there is a shortage perhaps of people who are at the cutting edge of new research in LMICs, so they don't necessarily qualify immediately for inclusion, however they could make a very substantial contribution. But I don't want to minimise the successes of the guideline groups like GOLD because they do try and consider these other circumstances. And for that reason, they may, for instance, continue to suggest alternatives that may not be the optimal alternatives, such as LABA/ICS, in a position which the evidence doesn't really fully support. And I believe that sort of approach defers to the realities in LMICs.

Richard Russell ([07:20](https://www.rev.com/transcript-editor/Edit?token=gkKQ7m9wMyKsv8VV-s3x5VSTncqHQKcCeM27Jq-UlWgUGHzfJtEPvp38gWRPTsSR1BBbDobjYnsYot0iUy6QravuFFg&loadFrom=DocumentDeeplink&ts=435.07)):

You've mentioned some of the barriers, and I think perhaps can we delve into that little bit more? It seems to me that in the post-COVID world, in the more digital world, we're talking today over many thousands of miles in real time, that actually perhaps lack of access to knowledge and education is not so much of an issue. So, is that a problem or are the issues of implementation more structural, and perhaps then how do we overcome some of these?

Eric Bateman ([07:47](https://www.rev.com/transcript-editor/Edit?token=vjglfG_JE_Ys075_Xp-54t__b44Yi6KPu9ytS6jkhwHaGDxghlgP6vth20aLuc-mXrSqGxhV9F0O7hdayP42aqhVmKY&loadFrom=DocumentDeeplink&ts=462.71)):

Yes. I believe it's the latter. I think it's more structural, it's the circumstances or the barriers to implementing what we know to be sound knowledge. As you've mentioned, the world has shrunk in terms of knowledge, what is important are the local factors that prevent this knowledge from being implemented. And it begins with political will, prioritisation of COPD amongst other chronic diseases, which is always an issue in LMICs, where there's a heavy burden of trauma, of tuberculosis, of HIV and other chronic diseases, diabetes, etc. So, it has to take its place amongst that, that's a massive barrier. Thirdly, it's the one of affordability, which of course is linked with priority because we seem to find money for COVID vaccines but don't necessarily find it for COPD. So, we need to ask ourselves what in society makes COPD a less worthy recipient or target for our medication dollar?

Richard Russell ([08:49](https://www.rev.com/transcript-editor/Edit?token=E-rzT-v9bMplzPhDaGt6xe0-B1fyIl7M6QiN_BO90p5-c8DkBbl_LKT1NJGh-XEleozdThM_5CebfXti08_G8iBjams&loadFrom=DocumentDeeplink&ts=531.59)):

And actually, I think you perhaps mean society is global actually as much as it is national or even based upon a larger area such as Africa, would you agree?

Eric Bateman ([08:59](https://www.rev.com/transcript-editor/Edit?token=rDb-qo9DRP_ti0pF8SAg_iPJIHbJ_IR_uV0wDMQmODUnmHx9YJPQZxe--BuJKXDQX77pP1USp5qzUUOePdTWxmjX8qk&loadFrom=DocumentDeeplink&ts=543.86)):

Yes, indeed. I think lobbying and perception of risk and danger is a massive factor. And that's something we need to overcome in chronic respiratory disease management.

Richard Russell ([09:09](https://www.rev.com/transcript-editor/Edit?token=eDUYTBTkum7UkIng55ab-xJH6xP0bVlW6hiUxtYL0oD0GeOShu40ASs2HgbrEj15Di4ZbeXCuOIcI6OQqRhDkacY7pI&loadFrom=DocumentDeeplink&ts=556.26)):

Let's talk specifically about use of medication. You've mentioned the role of optimal bronchodilatation. You've also mentioned the role of medications containing inhaled corticosteroids. Are there any particular issues that you'd raise that we need to be aware of for perhaps use of inhaled corticosteroids in LMICs?

Eric Bateman ([09:29](https://www.rev.com/transcript-editor/Edit?token=pHpgBHknxAnSBH-7hBALuQoDqdtWXcjGRCOoej46hxdvqBt0zIpJASs9eC7wJMXUZs2ek3tuiPACV8YRcPqjTtjD7sY&loadFrom=DocumentDeeplink&ts=574.57)):

Well, the big concern in LMICs is that because of the different phenotypes of COPD, some are very susceptible to respiratory infections, and not least of all reactivation or reinfection with tuberculosis. And there's a clear relationship between both an oral and inhaled corticosteroids and risk of these infections. And this can only worsen the prognosis of some patients with COPD. And this is relatively new knowledge, I think maybe 15 years ago, we wouldn't have been so concerned about an inhaled corticosteroid in COPD. But certainly, in a setting in which I practice in an LMIC, I'm now very cautious about using an inhaled steroid in a patient whose previous tuberculosis status I have no knowledge about. And one needs to bear in mind, and I speak for Africa but parts of Southeast Asia it's probably also true, that 10 or 15% of the population may have had some encounter with mycobacterium tuberculosis and has a potential for reactivation. So, this and other risks associated with inhaled steroids should be taken into account before one considers it as entirely safe.

Richard Russell ([10:40](https://www.rev.com/transcript-editor/Edit?token=l9h-skQAQxPllcI59WZJvSRvt0M2bC-SCuriuwS-GG56yUk8fybIwV7Ifi3zPDlw2awlkFHbAgiE6p9NwQ11FYIzoqE&loadFrom=DocumentDeeplink&ts=652.76)):

I agree. Let's come onto something which is a little more avant garde perhaps, or certainly at the cutting edge of where we are going with medicine. And that's the concept of precision medicine, the concept of individualised care. And we've talked about steroids, we've already discussed on this podcast, the role of eosinophils in the use of inhaled corticosteroids and defining when we use them. Do you think that would ever be, or could ever be applicable in LMICs?

Eric Bateman ([11:04](https://www.rev.com/transcript-editor/Edit?token=xySlzxuMUHg7Lx7Wb_shzt_ccinqt1rfIeewllIyOYi6MhbO1iZj5O-FaPJTckKxOb_lDOgrXp5kGecamkd-OLmhwSw&loadFrom=DocumentDeeplink&ts=696.98)):

Well, I think individualisation, I prefer the term, reminds us to be a good clinician you need to be dealing with the patient in front of you. And as I've already said, people practicing in LMICs are well aware of the need to characterise patients carefully, particularly those who are more infection prone versus those who perhaps have a more dry form of COPD. And that calls for a different choice of medicine, and that of course, is individualised medicine. In relation to eosinophil examination, I think one needs local data because the causes of eosinophillia are many, particularly in certain parts of the world, in LMICs. And so, we really need data as to when eosinophils become a trigger to selecting patients for inhaled corticosteroid treatment. I think the big problem with eosinophils are that they're currently not a point of care examination where you'll get the results straight out while you have your pen to paper, so that you can make that decision. If we are going to move in that direction and if it does hold up as a useful means of deciding who needs a steroid, I think we need a change in technologies, so that we can have an immediate readout. So, I think we have somewhere to go in LMICs, and I don't see it being widely practiced. It will indeed in some of the specialist practices, but at primary care level, it's probably a little way away.

Richard Russell ([12:30](https://www.rev.com/transcript-editor/Edit?token=yCMKzlzAK1q6Yml2kKWBK0KWv2x4lFhYGT2i_WC8ZI5AQDMMPbpl1fbQhsM7Ee3LXQqLU2slGHOI-HvHZvODeulH__s&loadFrom=DocumentDeeplink&ts=818.19)):

Before we come on to the next part of the podcast, which is discussing an important and new paper, I'm going to put you on the spot Professor Bateman, and ask you for your key takeaways from today, what would you like us to take away? And what would you like our listeners to take away and maybe understand and implement in their practice?

Eric Bateman ([12:49](https://www.rev.com/transcript-editor/Edit?token=2K9HvsRqF67ORsauibmNbLNMbklFcdH8_TXKhUR67IIiWpwmhXA1uVoL-Gi6vtlh58piCjd8Ua8cvjPKE1QMsBCwa5Q&loadFrom=DocumentDeeplink&ts=837.66)):

Well, I think practitioners in LMICs are appreciative of and follow the lead of the developers of the global guidelines, because they are after all the best synthesis of emerging knowledge and those views are taken very seriously. However, I think one must appreciate that there is a gap, there's both an evidence gap and a credibility gap between the applicability of that in LMICs. So, localisation has to take place by experts who know the context. And I would say combined with that is the potential for involving more people from LMICs in global guideline development, so that their voice can be heard. Thirdly, I think that we need to be cautious about promoting inhaled corticosteroids as a first or even second-line treatment in COPD. There should be a process of phasing this out in favor of LABA/LAMA, and that's what we should be heading for. And lastly, I think that I would like to see the Global Initiative looking towards lobbying for access to medications in LMICs and making these key lifesaving drugs affordable. We now know that we can influence the mortality of COPD, not just the symptomatology, and this gives us a rationale and a justification for pushing hard for better access to medications.

Dr. Richard Russell ([14:12](https://www.rev.com/transcript-editor/Edit?token=3cxw6UxCzDQ2nLI2tHaEyQdmozqueTsgqqcI36nQEtWE7Y2wKzpEmO3i5ouai35WARbT3SzBlsG11e8_VqiXwhdzLTM&loadFrom=DocumentDeeplink&ts=934.58)):

Professor Eric Bateman, thank you very much for joining today on the Medical Insider COPD podcast. It's been a great pleasure and, again, inspirational. Thank you.

Eric Bateman ([12:22](https://www.rev.com/transcript-editor/Edit?token=C9A2_COw97LuV27aHFGHZ1czow8cIDnIyaiRJz7glezPceBHsBm3P3Jc15BTM0dR5Z2YyzCpJMtXwfsglDabxdyTAS8&loadFrom=DocumentDeeplink&ts=943.68)):

Thank you.

Richard Russell ([14:27](https://www.rev.com/transcript-editor/Edit?token=pbGV0UpYwgWT6nUMxBXtMQo6YU5GOSBVlRjqE39fCBnjmgPcARQ63wfguOtQxQ4IUrsBJaT12DnyH2mjt_SJtM7BUQ0&loadFrom=DocumentDeeplink&ts=3.87)):

Now let's delve into a new and interesting paper that I actually think will make you think about your practice in COPD and may help us prognosticate for our patients. It's by Mekov et al. from Bulgaria, and it's published in the *International Journal of COPD* on the 5th of May 2022, so hot off the press, Volume 17, page 1041 to 50. It's entitled ‘Diaphragmatic Movement at Rest and After Exercise: A New Noninvasive and Easy to Obtain Pragmatic Measure in COPD’.

So, what's this all about? Ultrasound of the diaphragm has been known for some time, looking at diaphragm thickness to be prognostic in intensive care. This group looked at diaphragm movement to ask the question, is diaphragm movement then prognostic in COPD? So, what they did was very simple. They measured diaphragm movement before and after a six-minute walk test and then followed the patients for a year. Their primary outcome was exacerbation of COPD, moderate or severe, or death. Ninety-six patients were analysed and followed up, 64 had the primary outcome, so a good number. Indeed, three died. The mean FEV1 of these patients was 56% predicted, so moderate to severe COPD. The primary outcome endpoint was increased if you had a lower FEV1, if you're older and you had a poor quality of life. So, no surprises there.

But it was also predicted if your pre-exercise diaphragm movement was less than 55 millimeters. This was a hazard ratio of 1.98, so twice as common. This was a 20 versus 63% change over one year. And indeed, it was significantly different for both moderate and severe exacerbations individually as well as the composite. This is strongly predictive of exacerbation. And actually, if you put this together with FVC, CAT Score, and diaphragm movement in a multivariate analysis, the actual hazard ratio increased to 5.45 and predicted 86% of people that would have an exacerbation or would even die.

So, what are the conclusions? Ultrasound of diaphragm may actually be useful and easy to measure. Why is it important? Maybe because of skeletal muscle dysfunctional weakness, maybe because of hyperinflation. And the big question is, can we through rehabilitation actually improve diaphragm function and therefore change prognosis?

Richard Russell ([17:02](https://www.rev.com/transcript-editor/Edit?token=1YFkrI0hM5bjIOQ81SfnxwqwQSNeWMug6Ax2qmSsOQr732fOLey6cR82RBrIYWtXldf-rIukT8Jl5kSmvrODqUGpA2w&loadFrom=DocumentDeeplink&ts=3.61)):

I hope you've enjoyed the podcast so far. We're going to finish today with a quick look at what's going on in social media for our COPD patients. Well, we're beginning to travel again, or at least think about it. COVID is seeming to decrease a little bit and the shackles are coming off. So, what are COPD patients saying now about travel? Well, of course they're concerned about COVID and commentators such as COPD Athlete, and also the mycopdteam.com have got advice for patients and indeed, are having patients advise each other. COPD Athlete on Twitter is also recommending how to travel. So, what are the issues that patients are talking about? Well, clearly, they're breathless and they're concerned about breathlessness and indeed another hot topic is the need for oxygen. They've got tips about going to difficult countries where oxygen may be a problem. How to have oxygen on a plane, and indeed how to travel with your oxygen. The threads and comments on mycopdteam.com are that of the weather, not too hot, not too cold. How airports can be hard work getting to the airplane perhaps rather than getting on it. And indeed, the issues sometimes with getting appropriate travel and health insurance, depending on the country you're going to. They also talk about how they want to avoid altitude on holiday and the need to be appropriately vaccinated, particularly in these COVID times. So, what do we need to do? We need to be able to give good advice. Help people plan pragmatically and sensibly, and they need to think and plan themselves. And I think also be able to give them advice with regards to health insurance, and indeed maybe offer some advice on who to choose because there's huge variety out there, and this can be a significant and enormous cost.

Richard Russell (18:47)

Thank you for joining me on the Medical Insider COPD Podcast today. I think it's been a fascinating discussion from Eric Bateman, learning about low and middle-income countries and the impact of guidance on them. And our need to understand their context. Please look out for the forthcoming Medical Insider COPD podcasts, and do not forget to subscribe so you can access all of our material, both the future and the past material we have for you. And whatever you do, remember, let's put our patients first and treat them all as individuals and improve their lives with COPD.