

Contents lists available at [ScienceDirect](http://ScienceDirect.com)

Clinical Microbiology and Infection

journal homepage: www.clinicalmicrobiologyandinfection.com

Original article

Inequality dynamics in the workplace among microbiologists and infectious disease specialists: a qualitative study in five European countries

A. Huttner^{1,6}, M. Cacace^{2,6}, L. d'Andrea², C. Skevaki³, D. Otelea⁴, F. Pugliese², E. Tacconelli^{5,*}

¹ Infection Control Program, Geneva University Hospitals, Switzerland

² Knowledge and Innovation, Rome, Italy

³ Institute of Laboratory Medicine and Pathobiochemistry, Molecular Diagnostics, Philipps University Marburg, University Hospital Giessen and Marburg GmbH, Germany

⁴ National Institute for Infectious Diseases, Bucharest, Romania

⁵ Division of Infectious Diseases, Department of Internal Medicine 1, University of Tübingen, Germany

ARTICLE INFO

Article history:

Received 8 July 2016

Received in revised form

14 September 2016

Accepted 18 September 2016

Available online xxx

Editor: L. Leibovici

Keywords:

Clinical microbiology

Discrimination

Gender

Inequality

Infectious diseases

Profession

ABSTRACT

Objective: To explore the social, cultural, psychological and organizational factors associated with inequality in the workplace among clinical microbiologists (CM) and infectious disease (ID) specialists in European hospitals.

Methods: We analysed data from 52 interviews and five focus groups involving 82 CM/ID specialists selected from university, research or community hospitals in five countries, one each in Northern, Western, Eastern, Southeastern and Southwestern Europe. The 80 hours of recordings were transcribed, and the anonymous database coding process was cross-checked iteratively by six researchers.

Results: Inequality affects all the institutions in all the countries we looked at, denying or reducing access to professional assets with intensity and form that vary largely according to the cultural and organizational context. Discrimination is generally not explicit and uses disrespectful microbehaviours that are hard to respond to when they occur. Inequality affected also loans, distribution of research funds and gender and country representation in boards and conference faculty. Parenthood has a major impact on women's careers, as women are still mainly responsible for family care. Responses to discrimination range from reactive to surrender strategies.

Conclusions: Our study offers an effective model for diagnosing discriminatory behaviours in a medical professional setting. Knowledge of inequality's drivers could help national ID/CM societies in collaboration with major European stakeholders to further reduce such discrimination. The effect of discrimination on the quality of healthcare in Europe needs further exploration. **A. Huttner, CMI 2016;•:1**

© 2016 The Authors. Published by Elsevier Ltd on behalf of European Society of Clinical Microbiology and Infectious Diseases. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Meritocracy is a fair and appealing concept on which to base the assignment of responsibility and reward achievement. Meritocracy is not the sole criterion coming into play, however, even in professional environments where merit is supposed to be the only

factor that matters. In scientific settings or medical organizations, inequality dynamics (rooted for instance in gender, nationality, sexual orientation, disability or religious belief) do play a role, even if to a variable extent, in determining advancement and recognition [1–3].

Gender discrimination has been the most studied among the discrimination focuses in European and US universities [1–4]. The She Figures 2015 project, a collaboration between the Scientific Culture and Gender Issues Unit of the Directorate-General for Research of the EU Commission and the Helsinki Group, showed that women are generally more likely than men to work part-time and/or to have 'precarious contractual arrangements' in medical

* Corresponding author. E. Tacconelli, Raum 925, Ebene 3 Gebäude Nord, Ofried-Müller-Straße 12, 72076 Tübingen, Germany.

E-mail address: evelina.tacconelli@med.uni-tuebingen.de (E. Tacconelli).

⁶ The first two authors contributed equally to this article, and both should be considered first author.

<http://dx.doi.org/10.1016/j.cmi.2016.09.015>

1198-743X/© 2016 The Authors. Published by Elsevier Ltd on behalf of European Society of Clinical Microbiology and Infectious Diseases. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Please cite this article in press as: Huttner A, et al., Inequality dynamics in the workplace among microbiologists and infectious disease specialists: a qualitative study in five European countries, *Clinical Microbiology and Infection* (2016), <http://dx.doi.org/10.1016/j.cmi.2016.09.015>

settings (https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/she_figures_2015-leaflet-web.pdf). The gender pay gap persists in research: in 2010, women's average gross hourly earnings were 18% lower than those of men in scientific research and development. Interestingly, in a survey from 26 US medical universities, Pololi et al. [5] reported that 22% of faculty in academic medicine had experienced racial/ethnic discrimination and that the combination of higher leadership aspirations with lower feelings of inclusion and relationships might lead to discouragement with academic medicine.

Aspiring to ensure that the working environment of clinical microbiology (CM) and infectious disease (ID) specialists conforms to the highest meritocratic standards, the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) has been promoting a research programme for several years through its Parity Commission on the extent and characteristics of discrimination within this population. In 2011 the Parity Commission carried out a quantitative online survey [6] that included 1274 CM/ID professionals and researchers all over Europe in order to explore the extent of gender and geographical discrimination across Europe. The majority of participants (68%) reported that discrimination occurs in their professional environment, while a quarter had personally experienced it. Specialists from Southwest Europe experienced the majority of the discriminatory events, indicating a north–south divide. Furthermore, although the majority of the European CM/ID workforce is female, the proportion of women among full professors was 26% in ID and 46% in CM. Participation in high-level decision-making committees was significantly (>10 percentage points) different by gender and geographic origin. Yearly gross salary varied significantly across European countries and sometimes by gender within the same country. More than one-third of respondents reported that committees of international CM/ID societies and speakers at international conferences are not evenly balanced between the sexes.

To further explore discrimination dynamics and provide a model to study drivers of inequality among medical specialties in European hospitals, a qualitative study was conducted in eight hospitals.

Methods

Overall approach

A qualitative approach was applied using the intersectionality method, whose approach has been developing since the 1980s (<http://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1052&context=uclf>), to cope more effectively with inequality-related issues [7]. Its key assumption is that different markers of cultural differences (i.e. social categories) intersect 'to shape individual realities and lived experience' (<http://www.intergroupresources.com/rc/Intersectionality%20primer%20-%20Women%20of%20Color%20Policy%20Network.pdf>). Some key consequences stem from this assumption, pertaining to: (a) the cumulative impact of the different determinants of inequality; (b) the varying relations between inequality factors in time and space [8]; (c) the need for a multilevel approach able to capture inequality dynamics at the global, local, organizational and individual level [9]; (d) the focus on the biographical dimension, where these factors actually interact [10]; and (e) the possibility to identify many recurrent models of inequality, which are similar in different contexts [11]. Accordingly, the study used in-depth interviews and focus groups as information sources. Because 'qualitative research results are not arrived at by means of statistical procedures or other means of quantification' [12], results are not usually expressed in numerical terms.

Sample selection

The study was carried out in eight different hospitals located in five countries, each belonging to one of the five World Health Organization–defined European regions (Western, Northern, Eastern, Southwestern and Southeastern Europe; Table 1) and previously included in the 2011 ESCMID survey. Sample size was defined *ex ante* in the range of 25 to 50 interviewees and 30 to 40 focus group participants (Table 2). As for the interviewees, an effort was made to involve those potentially at risk of discrimination on a variety of grounds (gender, age, ethnicity, sexual orientation, religion, etc.), particularly focusing the attention on gender-based discrimination, which emerged overwhelmingly in the ESCMID survey as the most widespread in the medical sector in Europe. Sampling was thus conducted according to a nonrandom, purposive sampling technique [13,14], so that women's presence was privileged (male informants account for 26.8%). As for the participants in the focus groups, different kinds of managerial and leadership positions were considered, including heads of CM/ID departments/units; heads of medical divisions/sectors; managers/heads of units/offices in charge of services like nursing, human resources and teaching activities; managers of the central administrative staff; and members of the hospital executive board. The study was publicized at European Congress of Clinical Microbiology and Infectious Diseases 2013 and during ESCMID educational events, and members expressed interest in it on a voluntary basis (country contact persons).

Countries were selected in order to ensure representativeness among the five European regions. Box 1 provides a glossary for the study's terminology. During fieldwork, two researchers visited each country for 4 to 6 days to conduct interviews (average duration 1 hour) with seven to 13 individuals at each location and discuss the issues with four to ten managers in each of the focus groups (average duration 2 hours). All interviews were audiorecorded with permission. Informants worked at regional, teaching/research or university hospitals in CM or ID departments.

Phases

Preparatory work for the qualitative study took place over 8 months in 2013 and included the selection of countries, hospitals and contact persons in each of the five European regions as well as defining the research questions and developing the technical tools required. The researchers conducted a Skype interview with each contact person to identify inequality issues, explain how to select participants and set up the focus group with balanced representation from both disciplines, to include, whenever possible, women and other groups at risk of discrimination and to assist in carrying out the study.

Fieldwork was carried out between January and September 2014, and data were processed using an Access database (version 15.0; Microsoft, Redmond, WA, USA) between November 2014 and March 2015.

Data processing

All interviews and focus groups were recorded and transcribed. Informants' anonymity was assured by referring only to the European region, an assigned record number, whether they were part of a focus group and gender, resulting in an alphanumeric code—e.g. NE/FG-23-F—applied to the extracts of interviews. Reporting focused on recurrent scenarios reported independently several times in a variety of contexts.

Transcript coding was mostly driven by the results of the 2011 survey in terms of research questions, conceptualizations and

Table 1
Distribution of countries among regional areas

Region	Countries
Western Europe (WE)	Austria, Belgium, France, Germany, Ireland, Luxembourg, Netherlands, Switzerland, United Kingdom
Northern Europe (NE)	Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Sweden
Eastern Europe (EE)	Belarus, Bulgaria, Czech Republic, Georgia, Hungary, Moldova, Poland, Romania, Russia, Slovakia, Ukraine
Southwestern Europe (SWE)	Italy, Malta, Portugal, Spain
Southeastern Europe (SEE)	Albania, Bosnia and Herzegovina, Croatia, Greece, Macedonia, Serbia and Montenegro, Slovenia, Turkey

theoretical interpretations (<http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1033&context=icis2008>). Cross-checking of the coding process was iteratively performed by the six researchers involved (three women and three men) throughout the research process [15,16].

Results are reported according to five key areas: (a) resistance to parity: the social, cultural, psychological and organizational factors associated with inequality; (b) how inequality factors combine to produce cumulative effects; (c) how these factors limit or deny access to professional assets; (d) how some specific features of the CM/ID sector affect the perception of inequality; and (e) how those affected react and what coping strategies they employ.

Results

Overall, eight hospitals evenly distributed across five European regions were selected. In line with some informants' requests, hospitals and countries are not specified here. To ensure transparency and credibility, details have been provided to the Editor. Table 2 provides details on informants; transcriptions are provided in the online Supplementary Material.

Resistances to parity

The informants expressed repeatedly that a major issue of discrimination is that it is generally not explicit but hidden in vague, disrespectful, hard-to-prove microbehaviours and inappropriate use of language, particularly jokes and banter, which may seem innocuous. However, manifest discrimination was also reported. A male informant provides a good example:

[When I was in the other hospital] there was the head of internal medicine trumpeting the fact that he never wanted to have a woman in his ward. Firstly, because they get on his nerves; secondly, because he said that every time you have to discuss with them, they begin to cry and to view any remark as offending them personally; thirdly, because women become pregnant. Partially I found this attitude here too [in the hospital where I am presently working]. (SWE-519-M)

Many informants described frequent microinequities (ephemeral and hard-to-prove events, frequently unintentional and unrecognized by the perpetrator; <http://ombud.mit.edu/sites/default/files/documents/micro-affirm-ineq.pdf>) that individually appeared too petty to dispute.

The exclusion of women can be done in so many ways. It has been all the time actually. Also in meetings. [When you talk] they start to play with the phone or whatever. . . . We had a meeting with the boss and I talked with him for 30 seconds; and then he said: 'She is giving a monologue.' And I was really offended. Because I had spoken for 30 seconds, more than I was allowed to, as a woman. . . . The hidden limit. . . . Yes, subtle means. (NE-615-F)

It is still considered acceptable to have this somewhat sexist jokes, even if you are present. (NE-372-F)

The interviewed reported that those who do respond to such microbehaviours are deemed to have no sense of humour, to be taking something innocuous too seriously or to be hypersensitive. This attitude was reported to occur among patients as well as colleagues and superiors.

So it may happen that, instead of saying 'doctors,' they [men or the bosses] call the women doctors 'young ladies' or 'girls,' said in a witty manner. It is definitely inappropriate. (SWE-710-M)

When you have an outpatient clinic, you might be asked to go and fetch your own patients whereas the nurse might do that for the male intern, or you have to change your own paper on the examination bench. The nurses might change that for the guy, but then when you're female you're expected to change it by yourself. Just little things like that. (NE-377-F)

This has to do with our attitude as women, because in the end we always think that the others should recognize what we do instead of demanding recognition, because we do not have this more masculine way to have relationships and to interact. . . . I give him [the director of the hospital] much trouble, but he is not afraid of me, while he is afraid of a male colleague who has threatened to make a case of bullying. (SWE-513-F)

There was also consensus about the presence of inequities that play a major role in work–life balance. Many informants reported that the burden of care for children is still shouldered mainly by women and parenthood has a major impact on women's careers. Although parenthood is seen as a woman's choice, often a hard choice between two important aspects of one's identity, in some regions (e.g. EE) old ideologies perpetuate the idea of the woman's homemaking duties being primary.

Women here are raised to have an education, to have a job. But the main job for them is to have a family and take care of kids. So in our mentality, taking care of the family is more important than the job. (EE-594-F)

Almost everywhere, however, informants reported that family care is ultimately viewed as a woman's responsibility, as this woman from Northern Europe stresses:

I think that if you look in my country as a whole, there's quite a huge difference about how many days you take at home with the children. It's much more the women that are home than the men. (NE-387-F)

Indeed, informants indicated that the idea that women lack ambition and are satisfied with achieving a lot less than their male counterparts is still widespread, and that taking time off to have children definitely affects careers. Human resources' policies for

Table 2
Informants by type, gender and region

Region	Interviews			Focus group			Total		
	F	M	Total	F	M	Total	F	M	Total
SEE	9	2	11	—	4	4	9	6	15
EE	8	1	9	3	2	5	11	3	14
SWE	6	1	7	5	0	5	11	1	12
WE	10	3	13	7	3	10	17	6	23
NE	8	4	12	4	2	6	12	6	18
Total	41	11	52	19	11	30	60	22	82

EE, Eastern Europe; NE, Northern Europe; SEE, Southeastern Europe; SWE, Southwestern Europe; WE, Western Europe.

BOX 1

Definitions of terms

Meritocracy: a system of government or other administration (such as business administration) wherein appointments and responsibilities are objectively assigned to individuals on the basis of their merits—credentials, education, abilities and achievements—determined through evaluations or examinations.

Discrimination: the treatment or consideration of, or distinctions in favour of, or against, a person based on the group, class or category to which that person belongs rather than on individual merit. It involves intentional and unintentional behaviours, resulting in exclusion or restricted access to opportunities available to another group.

Inequality: the observable and measurable effects of discriminatory practices and habits, resulting in worse conditions for some professionals despite parity with their peers in ability.

Professional assets: any tangible or intangible resource which is considered important or indispensable in pursuing one's own professional objectives and advancing one's career.

parental leave for both parents and flexible, part-time working conditions mitigate the most extreme current consequence, which is to delay the career path of the main parent. Overall, however, it was reported that there is not enough affordable child care provided, or part-time posts, to enable the main parent to return to work easily. While informants felt that part-time work and parental leave for men as well as women can alleviate some of the time-related aspects, they noted that part-time work has its own drawbacks: it further reduces the time available for research, and there are frequent reports of part-timers expected to work well beyond their allotted working hours. Moreover, it may carry a stigma:

I think working part-time is a thing that hampers progression in your career, in general. . . . Apparently people think: 'OK, part-time means no ambition.' Which is not true. At least, in many cases it is not true, in some cases it is true, but I think that's an issue which is addressed in a wrong way. (WE-108-F)

According to some informants, limited resources also prevent women from returning to work full time, both from a child care cost

perspective and because some hospitals cannot finance those positions from their tight budgets.

That's the problem at the moment. It was not my choice to work 80% of time. . . . At the moment for me there was no possibility to come back and work at 100%. . . . I must wait until the hospital will provide the money for a full-time contract. (WE-45-F)

A change in attitudes among young professionals was observed, however, with a greater willingness among men to take parental leave and share child-rearing responsibilities. This trend was observed especially in Western and in Northern Europe.

There is a lot of women and also men as well who work part-time [to stay with the family]. . . . So I think that generations are changing. Men and women take their responsibility for the social side and the parental side. (WE/FG-693-F)

It seems that younger couples try to share much more equally. I don't know if that's true for every aspect of life. But also many of my male colleagues leave early one or two days a week to go pick up the kids at the day care centre. (NE-430-M)

Also men are more and more saying that 'this is my child as well, I want to be involved.' So I think there is a big change in the mental setting, in the mind-sets regarding these issues. But if you look at the population as whole, it's still women who reduce their work hours [for family care]. (NE-830-F)

Besides gender, resistances to parity are also due to other sources of discrimination present in the workplace.

There was a lady from Iran who was studying here, and she was wearing a veil. Teachers had problems with that and they did not know how to handle the situation. They found it difficult to approach her so they sometimes took some distance. (WE-135-M)

I have a physical disability [not clarified in order to conceal identity]. I had problems when I went to interviews with people that didn't know me, when they met me for the first time. They liked the way I presented myself in the letter, then they liked the way I illustrated my way of working during the interview, and then I got the reaction back. Most of the times the reaction was: 'You have the best interview. We like the way you work. But we chose someone else.' . . . I couldn't show what I could do. (WE-146-F)

There was a situation that particularly struck me, that of a senior colleague of clearly homosexual orientation. Despite being very prepared, he was marginalized by the group leader. . . . I always was impressed by how he was treated. He was placed in the ward, kept out of any possibility to publish and teach. He remained a researcher for many years and never became associate professor, though he was very prepared and would have had many career opportunities in academia. (SWE-518-M)

Cumulative effects

Inequality dynamics emerge from the study as often characterized by 'cumulative effects' in two different ways. The first, in an intersectional perspective, is when there is a convergence of several discriminatory factors on the same individuals, as in the excerpts below.

I was doing well; no one ever complained about me. But I had to work and be quiet. It is so. I felt I had to do twice in order to be considered like the others. Yes, I had to prove twice because, first

and foremost, I was considered too young. But anyone who saw me could say: '1) Ah! You are young; 2) you are a foreigner, 3) you are a woman. So, why fret so much?' I always had the feeling that I had to prove that I was anyhow able to do these things as all the other people. (SWE-534-F)

I experienced this trouble [because of my religious faith] especially during my education period in the university. . . . This is connected to being a woman. Men having the same identity or ideas do not suffer the same condition. The appearance of men with my same identity is not different from the appearance of the other men. This is not the case with women. I attract the attention. This causes problems and conflicts. (SEE-269-F)

It is also important to notice a second cumulative process. Indeed, the combination of microinequities may produce macro effects in terms of, for example, professional recognition, career advancement or access to research. The connection between microinequities and systemic effects is difficult to perceive, manifesting itself clearly only in its final effects, as illustrated below.

I am shocked when I look around. Even if I think that things are going well, that people are not discriminated. . . . When you look around, there are always more men than women in leadership positions. There would be very subtle mechanisms. And sometimes women themselves participate in the mechanism. (NE-69-F)

Professional assets and organizational factors

To better understand how the cumulative action of microinequities of different kinds may produce systemic effects, we analysed the allocation of professional assets within the

organization (Table 3). Participants frequently articulated shortage of female speakers at conferences and distribution of research funds. Many hospitals suffer a shortage of office space with unequal distribution of resources. The ongoing pay gap (both for women and for expatriates) is exacerbated by salary negotiations (NE/WE), which tend to favour local male professionals, as they are often more assertive. Informal networks produce distortions that can affect everybody in the organization. However, women and minority groups are most often excluded. Another factor influencing the decision of women to shift from full-time to part-time work is the lack of affordable child care services. This element, already mentioned above, deals with maternity as a woman's personal affair. In fact, working part-time is an alternative strategy to manage child care duties, sometimes chosen to avoid spending most of one's salary on expensive services.

Research funds

The clinic gives research leaves and sums of money every year which can be allotted to the doctors. [Two years ago] of 17 females and six males who applied, there were one female and three male doctors who received the leave. Of course, there were reasons for this. They gave them to the projects that were the best. That was the answer. . . . I was really upset. (NE-616-F)

Conferences

There will be next week a symposium on antibiotics. . . . All men speakers. Three days, all men speakers! (WE-76-F)

Table 3

Examples of professional assets analysed within clinical microbiology and infectious diseases departments

Category	Asset
Physical	<ul style="list-style-type: none"> • Office/laboratory space and supplies. • Medical equipment. • Computer equipment.
Economic	<ul style="list-style-type: none"> • Common room, comfortable furniture. • Salary. • Research funds, grants, scholarships, awards. • Travel funds.
Career position	<ul style="list-style-type: none"> • Rewards for being on boards/committees. • Rewards for specific tasks/functions. • Participation in decision-making bodies. • Control over personnel and resources. • Benefits (e.g. parking space, meal subsidy).
Time	<ul style="list-style-type: none"> • To perform research. • To take leave and sabbaticals. • Parental leave, flexible working hours for parents. • For ongoing education and professional development.
Networking	<ul style="list-style-type: none"> • Participation in internal and external decision-making networks. • Inclusion in national or international expert groups. • Social, political religious or other kinds of affiliation. • Performed to facilitate finding a job; obtaining invitations to conferences and invitations to undertake research (also internationally); and submitting papers to journals.
Professional recognition	<ul style="list-style-type: none"> • Invitation to speak at conference or seminars. • Increased responsibility. • Involvement in scientific publications. • Nomination for awards. • Promotion to senior specialist. • Media presence.
Information	<ul style="list-style-type: none"> • Good communication with superiors and managers. • Access to necessary data to perform duties. • Transparency within the organization.
Human resources Services	<ul style="list-style-type: none"> • Assignment of assistants, secretarial services or other kind of personnel (e.g. trainees, interns). • Affordable child care in hospital or locally. • Administrative assistance.

Office space

In my clinic there are two men and they have two separate rooms. The other four female doctors are in one room. So, males have more opportunities than me [to do research]. (SEE-297-F)

Pay gap

We tried to equalize the salaries between male and female senior consultants. You don't get to become a senior consultant if you don't fulfil some requirements. So it would be very odd that female senior consultants would all the time be less qualified than the males, so that they have something less in their salary. And it has been like this for years. And every time we address it, it is said, 'But no, there are reasons for this.' (NE-621-F)

If you look at society, the total of society, it's more common for women to take parental leave and also to reduce their work hours because by law you can reduce it to 75% until the child is 7 years old. The employer cannot say no if you want to work 75% or somewhere in between until the child is 7. I think that the main argument is that the man makes more money generally. We still have an inequality in salary. . . . Of course, if you look at it in the long run, the retirement funds are going to be affected a lot if you're away for a long time during your professional life, because you accumulate delays. (NE-373-F)

I am also a little bit active here in our local union, and we have some problems with the doctors coming from abroad and working here. They earn a lower salary from the beginning. We've been working a lot to get them the same salary as everyone else here. . . . It is linked with salary negotiation. Because if you come here and you don't know our system, it's not so easy to say 'I want more.' They come here and are satisfied. They maybe take more than they take in their own country. We are trying to work against that. If you come here from abroad, you would have the same privileges as everyone else. (NE-390-M)

Informal networks

The director of the institute belonged to an old boys' club. He also had this attitude that I would call as 'humiliation'—humiliating the employees to try to get the results he wanted. (SWE-515-F)

Also in the research field there are a lot of things that are political. If you are associating with someone, it's good for you. . . . In getting funds, in being supported, for doing something. . . . I think that it is a problem of political discrimination. But I don't think that there is something we can do. I mean, if you are good, this is my perception, it is very difficult to be excluded. But if you are, let's say, at middle range, it can happen that you are excluded and others will be preferred, although they are not better than you. This is for getting funds, research projects and publications. (EE-756-F)

Child care

In the ward, the approach is a little like, 'If she gets pregnant, she disappears for a year.' This is also due to the fact that there are no external aids for women who take a maternity leave; thus new mothers are forced to take a year. (SWE-519-F)

If the child care was better and more affordable. . . . I saw maybe if you make child care less expensive, if you make it more affordable, maybe more women would work full-time. (WE-20-F)

Many participants remarked on the competitive elements of research. Clinical work often negatively impacts research activity, particularly restricting the time available. This applies especially to parents (mainly to women) and those working part-time. As those who undertake research are more likely to be promoted, this *de facto* disadvantages women. In addition to access to professional assets, other organizational factors emerged. Informality is one of them. Some hospitals are not transparent in their promotion policies. Inequality and diversity policies are often completely lacking.

There are not clear procedures allowing to say, 'This is the role to play; its features are these; let's get in the game,' or 'This task will be assigned on the basis of capacity or on the basis of these other criteria.' There is nothing which is formalized, even communication is not formalized. And when there is no communication, there is no transparency. (SWE/FG-698-F)

It was clear from the interviews that wide-ranging discretionary power exists, which can be dangerous in organizations. The potential for its abuse and the possibility of consciously and easily discriminating against people is lucidly illustrated by an informant:

I can see myself now, when I have more responsibilities, that I have a lot of power. I can facilitate and I could isolate. I don't do that. But if I want to, I can do that. And it is easy, it is an easy way of pressure, actually. And it is not something that you see. It is not so visible, but it is very effective. And this has been done repeatedly in this hospital. (NE-740-F)

Regional variation

Informants report that cultural differences also play a role. Even though reasons emerge from specific cases, in Northern and Western Europe men and women tend to share parental responsibilities more than elsewhere, even if problems do persist:

It seems that younger couples try to share much more equally. I don't know if that's true for every aspect of life. But also many of my male colleagues leave early one or two days a week to go pick up the kids at the day care centre. (NE-430-M)

However, the freedom to negotiate salaries appears to disadvantage the less assertive (mainly women and expatriates):

And also we see that there are differences in salaries between men and women. . . . I don't know if that's because the male doctors are better at negotiating, or it's the structure, or it's that we [women and men] still don't share equally on the parental leave. It's difficult to say. (NE-403-F)

I am also a little bit active here in our local union, and we have some problems with the doctors coming from abroad and working here. They earn a lower salary from the beginning. . . . It is linked with salary negotiation. Because if you come here and you don't know our system, it's not so easy to say 'I want more.' (NE-390-M)

In Southeastern, Southwestern and Eastern Europe, politics, nepotism and other forms of affiliation exert undue influence,

feeding other types of discrimination, which often worsen the forms of discrimination rooted in other determinants.

If your relatives are politically involved with a strong power of influence, you have an easier access to university, to higher positions. . . . Yes! In the hospital we have a person who is in the board of the institution and he has two children who both are in the same hospital, and they are both involved in the university activities. (EE-760-M)

Another factor that emerged is the presence or absence of parity and human resource policies, as illustrated by two opposite examples pertaining to work–life balance and coming from different regions:

We are lucky here. They [the hospital administrators] are abided by law not to make the salary less progressive because of parental leave. And so there are security nets. (NE-407-F)

Families have never been supported. And therefore logically women live with the guilt for any absence from work due to the illness [of their child]. . . . The paradox is that you feel the guilt towards the employer and not towards the children. (SWE-773-F)

Features of the CM/ID sector affecting inequality perception

The 2011 ESCMID survey confirmed that CM/ID is not an exception among medical sectors in terms of the size and impact of inequality.

It is however worth noting that some of the specific features of the sector, such as the relatively high prevalence of women specialists, the typically small size of CM/ID departments and the relatively low level of competition in accessing middle and top management positions, seem to mitigate the perception of inequality among CM/ID specialists, at least for those who are not pursuing an academic career.

Sometimes informants depicted their own department as a familylike, relaxed environment, where predominantly horizontal and face-to-face relationships left little room for inequality, especially in comparison with more competitive and hierarchically organized specialties such as surgery, cardiology or emergency medicine:

I would say that in infectious clinics there's not a lot of prestige or hierarchy. So we try to help each other. (NE-834-M)

If you come to my working environment tomorrow, you would see that we are working in a very happy environment. . . . We don't fight, we don't look badly to each other. (SEE-305-F)

BOX 2

Coping strategies

Strategy	Illustrative quotation
Reactive	Actually sometimes it happens that some male colleagues greet me saying 'Hello little girl.' But I answer them back saying something like, 'Hello old man.'
Adaptive	As time goes, they [superiors] get to know you. But then you must always make a double effort than males to prove that you are a capable doctor.
Withdrawal	I didn't want to work there [a more prestigious specialty] since I would not feel at ease or confident staying there.
Surrender	[regarding bullying] He did not react. . . . He does only what is necessary to do and then he goes home.

Some highlight the difference with the climate for women in more prestigious specialties:

All surgeons look at you. . . . 'Well, you are a woman, you will never be a good surgeon.' . . . When I was a student, there were not a lot of female students specializing in surgical specialties. They stopped sometimes their education to become general practitioners, to work in a consultation bureau or something like this. (NE-49-F)

Indeed, the specific characteristics of the CM/ID sectors appear to produce two main effects. The first is making inequality dynamics even more elusive and difficult to identify. As an informant notes:

It is always a veiled attitude. Nobody says 'since you are a woman,' as in fact women are the workforce here, but they never reach the seat of power. (NE-375-F)

The second effect is pushing those who are exposed to discriminatory mechanisms (and primarily women) away from the most coveted and competitive specialties. As an informant reports,

My dream as a young girl was to be a surgeon. But finally I found myself in infectious diseases. . . . Afterwards I liked it, because it was a clinic. But maybe I was facilitated in my path by the fact that I chose something that others did not want to do. Actually, in surgery there was a strong presence of males, and so I chose to change specialty. (SWE-566-F)

Coping strategies

The last theme is the coping strategies devised by those who are exposed to discrimination. Responses can be divided into reactive, adaptive and surrender/withdrawal (Box 2). The interviewed underlined that unless backed up by effective, protective human resources policies, reacting through formal channels is extremely risky. Repercussions can include bullying and isolation. Even a report of collective action by a group of female doctors was said to have been costly. Reactive responses tend in fact to be those that often draw the accusation of an exaggerated response mentioned above. Informal reactive responses are also reported. Adaptive responses involve trying to work twice as hard in order to cope somehow or trying to make oneself invisible in order to fit in (mimesis). Finally, as one respondent put it, she likes her job so much she puts up with discrimination and simply decides to ignore it. Other informants find the struggle too great and choose to leave permanently.

Reactive, formal response

When the surgeon hit me with an instrument during a surgical operation, I was stuck and terrified. Everybody was surprised. The surgeon and me then went to the head of department. It was a case. He forced him to apologize, of course. He wouldn't have reacted in that way if there had been a man involved. (WE-58-F)

Here, real cases of bullying are very, very few. Only two people have had the courage to sue their heads for harassment. It was not only harassment. It was more serious. Their life was just destroyed. And finally they gave up, they went away. This happened long time ago. Since this working environment is very small, it is easy to isolate someone. (SWE/FG-717-F)

Reactive, collective action

We spent one year and half in discussing that, as female doctors, we were not happy with our situation neither clinically nor academically. Then there was a big meeting that our department regularly organized, where people from all the other clinics are invited to come and listen about our research. And the thing was that at that meeting there wasn't one single female doctor as speaker. And then we decided to write a letter on it. . . . There was a revolt, but its costs were not so cheap. (NE-742-F)

Reactive, informal response

Actually sometimes it happens that some male colleagues greet me saying 'Hello, little girl.' But I answer them back saying something like: 'Hello old man.' (WE-496-F)

[A women ID specialist noticed that a scientific conference organized by the national society of infectious diseases included only male speakers.] So I sent an e-mail back and I wrote: 'What a male system!' And nothing else. I did it because I knew the secretary [of the society]. She is a lady and I know her. She sent me an e-mail: 'What a male world' or something like that. And the next week I got a phone call by the organizer. He is a friend. He told me: 'We are very ashamed. About the presence of men, we didn't notice it.' And then he said, 'If you want to make the introductory lecture, we will be happy.' I started laughing and then I said, 'Yes.' (WE-737-F)

Adaptive, mimetic response

In the past, when I was younger, I used to say: 'This is not fair.' I didn't expect such things [discriminatory behaviours]. I was honest, I told them what I thought. But in time, I learned to be silent, not to talk about it. Although I faced the problems, I did not mention anything about them. Because if I talk about the problems, they dislike me more. (SEE-336-F)

Adaptive response entailing working twice as hard

As time goes, they [the heads] get to know you. But then, you must always make a double effort than males to prove that you are a capable doctor. (SEE-291-F)

Surrender/withdrawal

We have had two cases of bullying here. I cannot say for what reasons they occurred. One concerned a woman who was never involved in any activity like conferences or specific tasks. In the end she went away since she could not stand that situation anymore. In the other case, a man was concerned. He did not react, it started making only his own business. He does only what is necessary to do and then he goes home. (SWE-539-F)

Discussion

This study provides important insights into discriminatory patterns among CM/ID specialists in European hospitals. It shows

that, in addition to evidence of resistance to parity, the effects of discrimination are cumulative and negatively affect careers accordingly. A set of professional assets has been identified which CM and ID specialists require to perform their duties or to further their careers. Auditing access to these assets provides insights into discrimination mechanisms at workplace. The discussion with the participants of their personal experience of discrimination has revealed a range of coping strategies.

Our study shows that modern inequality appears to be generally vague, implicit and couched in disrespectful microbehaviours and inappropriate use of language. These microinequities combine to form recurring patterns of unacceptable behaviours that, as a whole, heavily disadvantage women or the members of minority groups in the medium and long term. Cognitive orientations play an important role in producing such microevents. Some attitudes and old ideologies, even among women, contribute to the perpetuation of gender discrimination, undermining (mainly women's) confidence and causing offence. The consequences significantly affect many areas of CM and ID working conditions including career path, involvement in research, patient care and contracts. Inequality affects all countries and institutions, but with an intensity and form that largely vary according to the cultural and organizational context. In parallel, response tactics range from reactive to surrender strategies. Nonetheless, although widespread, the phenomenon of discrimination in the CM/ID sector (as in other medical sectors) is nebulous. Inequality dynamics are subtle and difficult to detect, as they manifest themselves in myriads of apparently unrelated microevents, which are hard to respond to when they occur. A specific variable related to the medical setting, particularly relevant in the CM/ID sector, is what the specialists refer to as a 'flat career,' as there are only three postqualification levels: junior specialist, senior specialist and head of department. There is not much competition reported for middle management positions, which are seen as onerous both because they create an 'us vs. them' situation with colleagues and because administrative responsibilities are seen as increasingly burdensome.

However, competitive elements do emerge when research is involved, both in terms of being assigned projects and receiving funding. Importantly, the relative value of professional assets changes according to contextual factors (at the national, organizational and even departmental level), as does their availability over time. For example, in university hospitals, where competitiveness levels are particularly high, discriminatory mechanisms are more active and visible. The extension of impact on quality of research needs to be further explored.

As for regional variations, Northern and—to a lesser extent—Western European informants generally report a slightly more mature workplace attitude towards parity issues, with some human resource policies in place, whilst the political and healthcare systems of the southern and eastern countries are more conducive to discrimination. Nonetheless, the same patterns of gender discrimination in microinequities and access to assets were reported in every one of the five European countries studied. It is noteworthy that, in some countries, because of the still-controversial nature of the subject of the study, the involved institutions asked not to be named. In some cases we were even asked not to disclose the institution's country, which led to the total anonymization of the study.

The study has limitations. The sample, while appropriate for a qualitative study, was not randomly selected and does not allow extensive extrapolation of results. Even though five European regional areas are considered in the study, it was possible to include only one country per area. Considering the diversity and variety of national contexts, it would be opportune to widen the number of participating countries. Despite these shortcomings, the insights

gained provide a structure on which to base further discussion of the issues and human resources policies. The study's strengths are that it builds on the 2011 survey by exploring the issues in depth. It provides a framework and vocabulary for identifying occurrences of discrimination and takes the subjects' perception of it and their coping strategies into account.

Conclusions

Our study shows that inequality currently affects CM and ID departments in hospitals as well as research centres and provides information about its most recurrent drivers and patterns.

Describing the patterns of microinequities may raise awareness and encourage more mindful behaviour. If inequality is the pathology, the analysis of the relevant professional assets may be helpful to diagnose it, identify the groups more exposed to it and devise effective strategies to reduce its impact. This study could provide a model to study discrimination in medical environments. It also gives organizations a structure for developing much needed parity policies and provides the vocabulary to discuss the issues.

Inequality in European hospitals and universities will be hard to address, but national and international CM/ID scientific societies may be able to exert some influence, at least over the professional culture of the sector, starting from being aware of and removing the discriminatory mechanisms affecting the societies themselves. The first step is to develop a culture in which all individuals and leaders become mindful of personal behaviours and the social mechanisms producing and reproducing inequality and would progress to the cultivation of appropriate behaviour and microaffirmations.

Acknowledgements

The authors would like to express their gratitude to J. Zimmerman (ESCMID administrative office) in providing additional data and support of this work, and S. Hyde for editorial assistance.

Transparency Declaration

ESCMID provided an unconditional grant for the project. All authors report no conflicts of interest relevant to this article.

References

- [1] Landman S, Dandolu V. Complex manifestations of gender disparity in academic medicine. *Open Womens Health J* 2009;3:5–10.
- [2] Burgess DJ, Joseph A, van Ryn M, Carnes M. Does stereotype threat affect women in academic medicine? *Acad Med* 2012;87:506–12.
- [3] Pololi L, Cooper LA, Carr P. Race, disadvantage and faculty experiences in academic medicine. *J Gen Intern Med* 2010;25:1363–9.
- [4] Pololi LH, Evans AT, Gibbs BK, Krupat E, Brennan RT, Civian JT. The experience of minority faculty who are underrepresented in medicine, at 26 representative US medical schools. *Acad Med* 2013;88:1308–14.
- [5] Pololi LH, Krupat E, Civian JT, Ash AS, Brennan RT. Why are a quarter of faculty considering leaving academic medicine? A study of their perceptions of institutional culture and intentions to leave at 26 representative US medical schools. *Acad Med* 2012;87:859–69.
- [6] Tacconelli E, Poljak M, Cacace M, Caiati G, Benzonana N, Nagy E, et al. Science without meritocracy. Discrimination among European specialists in infectious diseases and clinical microbiology: a questionnaire survey. *BMJ Open* 2012;2:e001993.
- [7] Winker G, Degele N. Intersectionality as multi-level analysis: dealing with social inequality. *Eur J Womens Studies* 2011;18:51–66.
- [8] Collins PH. It's all in the family: intersections of gender, race, and nation. In: Narayan U, Harding S, editors. *Decentering the center: philosophy for a multicultural, postcolonial, and feminist world*. Bloomington: Indiana University Press; 2000.
- [9] Hankivsky O, Grace D, Hunting G. *Intersectionality-based policy analysis*. Vancouver: Institute for Intersectionality Research and Policy; 2012.
- [10] Hankivsky O, Cormier R. *Moving women's health research and policy forward*. Women's Health Research Network. Vancouver: Institute for Intersectionality Research and Policy; 2009.
- [11] Choo HY, Ferree MM. Practising intersectionality in sociological research: a critical analysis of inclusions, interactions, and institutions in the study of inequality. *Sociological Theory* 2010;28:129–49.
- [12] Strauss AL, Corbin JM. *Basics of qualitative research: grounded theory procedures and techniques*. USA: Sage Publications; 1990.
- [13] Morse J. Strategies for sampling. In: Morse J, editor. *Qualitative nursing research: a contemporary dialogue*. Thousand Oaks, CA: Sage; 1991. p. 127–45.
- [14] Marshall B, Cardon P, Poddar A, Fontenot R. Does sample size matter in qualitative research? A review of qualitative interviews in IS research. *J Comput Inform Syst* 2013;54:11–22.
- [15] Guba EG. Criteria for assessing the trustworthiness of naturalistic inquiries. *Educ Commun Technol J* 1981;29:75–91.
- [16] Morse JM, Barrett M, Mayan M, Olson K, Spiers J. Verification strategies for establishing reliability and validity in qualitative research. *Int J Qual Methods* 2002;1:1–19.