The gift of inspiration: fictional heroes

Abi Rimmer talks to doctors whose role models have come from books, television, and film

Have you ever read a depiction of a doctor in a novel, or seen one on screen, and thought, "I want to be like them," Or perhaps you thought, "That's the kind of doctor I don't want to be." We asked doctors, students, and patients to think about the fictional doctors who have inspired and influenced them. We hope these light hearted reflections conjure thoughts of your own favourites and we encourage you to share them on social media using #docspiration.

Jack McKee Fiona Godlee, editor in chief, *The BMJ*

The Doctor was filmed in 1991 but still feels relevant today. In it, William Hurt plays heart surgeon Jack McKee who takes his elevated position in life for granted. He models emotional detachment and expects it in those around him. Then throat cancer forces him to confront his own mortality and the realities of being a patient in his own institution. On the way, he discovers how much can be gained by opening up to others.

The BMJ has carried many personal stories over the years from doctors unpleasantly surprised by their experiences as patients. But we shouldn't kid ourselves that doctors are ever patients in the way that non-doctors are. We have knowledge and networks that help us navigate for ourselves and our families.

These days *The BMJ* is more wary of such doctor-as-patient stories, preferring stories from "real" patients. But still, the classic final scene—in which McKee gives his trainees hospital gowns and leaves them to experience 72 hours as patients—is not only wonderful cinema but makes a crucial point: that doctors have to work to understand the patient perspective—what it's like to feel frightened, embarrassed, vulnerable, and ill.

Miranda Bailey Karen E Lasser, professor of medicine and public health, Boston University Schools of Medicine and Public Health

Miranda Bailey from the US television series *Grey's Anatomy* is a strong and principled African-American surgeon. She helps save the life of a white supremacist and opens a free clinic. She is chief of surgery, a mentor to other women, and a mother. In my training I met few female surgeons. I was accepted to a prestigious medical school where the department of surgery required female students to wear skirts or dresses during their rotation. When I was a medical student, a male vascular surgeon reprimanded me when a lock of my hair fell into the surgical field. Bailey would not have tolerated such patronising behaviour towards women. My daughters, ages 13 and 14, are considering becoming surgeons based on the strong impression this character has made on them.

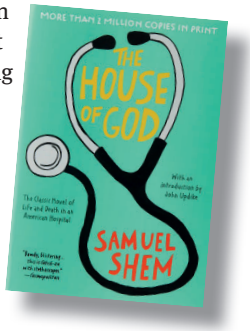
Stephen Strange Partha Kar, consultant endocrinologist and national specialty adviser, diabetes, NHS England

Becoming a doctor was always a childhood dream. Combined with this dream was a desire to be a superhero—the world forever sparkling with Marvel comics bought from a corner shop in sleepy Darjeeling. And then I came across the Supreme Sorcerer [Dr Strange]—the man was a doctor and a superhero. Maybe there was hope for me. Maybe I could fly, have quasar rays to throw, and be a doctor too.

Created by the amazing minds of Stan Lee and Steve Ditko (although Lee credits Ditko for the idea) and first appearing in 1963, the Supreme Sorcerer was a superhero with magical powers who protected the Earth against mystical threats. Originally a brilliant yet egotistical neurosurgeon who, after an accident, travels the world and learns about the mystical arts and becomes the Supreme Sorcerer. What is possibly not to like?

The Fat Man Dame Clare Gerada, medical director, NHS Practitioner Health Programme

The *House of God* was published about the same time as I started at medical school. It follows a group of interns in their first year of training. It describes the dehumanising effects of residency training—the long hours, bullying, and lack of any attention to the needs of the junior doctors (plus ca change). The interns are supervised by "The Fat Man" who provides them with "The Laws of The House of God," a set of (outwardly) irreverent survival techniques. There are 13 in total, many as relevant today as when first written.



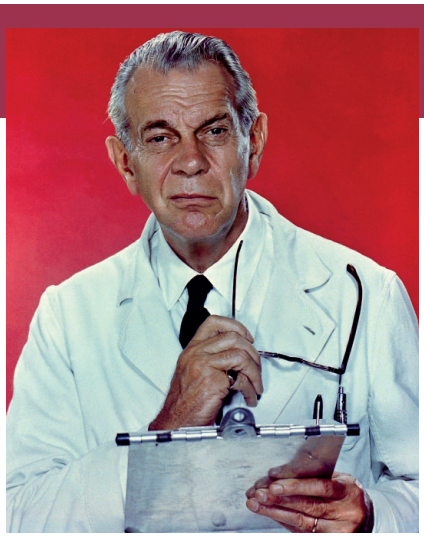
My favourite resonates with the need to care for oneself, and is "At a cardiac arrest, the first procedure is to take your own pulse." Others such as, "the delivery of medical care is to do as much nothing as possible" counters the increasing over-medicalisation of care we see.

We should all have an internalised Fat Man to help us survive a career in medicine.

Leonard Gillespie Chuka Nwokolo, treasurer, Royal College of Physicians

The *Dr Kildare* television series created by Frederick Faust caught the imagination of audiences worldwide in the 1960s. The young, handsome, newly qualified Kildare was the star with a kind hearted and often naive interpretation of illness. He inspired many people, but for me the older wiser chief of medicine, Leonard Gillespie (portrayed by actor Raymond Massey), was my hero.

He taught his young apprentice about the wider aspects of caring, using his knowledge of the natural history of



disease and the human condition. He hoped to mould his young colleague into a better version of himself. This interaction between older and younger physicians endures and helps ensure that doctors remain focused on patients.

Benjamin Franklin "Hawkeye" Pierce Omar Khorshid, president of the Australian Medical Association

Hawkeye Pierce, from the television series *M*A*S*H*, was the wise cracking, irreverent, compassionate, and talented doctor who inspired my early career.

His ability to tackle any surgery, from bullet wounds and blast burns to broken bones, his disregard for petty bureaucracy, his popularity with the nurses, and his

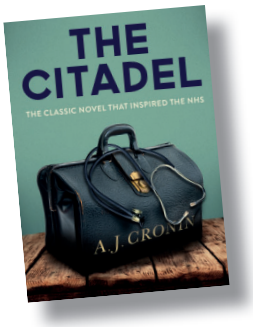
surgical precision despite the shouts of "incoming" at the 4077th were the stuff of dreams for a young medical student.

Yet, as I've grown into my surgical career I think more about the care, consideration, and compassion he had for every one of his patients—that has stayed with me, long after the show said goodbye.

Actor Alan Alda is also inspirational, using his stage and screen skills to help scientists communicate their work to the public—something that is vital in these times of a pandemic, fake news, and conspiracy theories.

Andrew Manson Mala Rao, professor of public health, Imperial College London

I first read *The Citadel* by A J Cronin as a 14 year old schoolgirl in India, and, as in the words of August Wilson, this book "opened a world I entered and never left."



The hero, Andrew Manson, starts off as an idealistic newly qualified doctor, and his career story is told against a backdrop of poverty, lack of sanitation, and ill health; the corrupting influence of privatised medicine, power, and prestige. Manson is no saint, but his humanity, ethics, and commitment towards his patients, and enthusiasm for new knowledge, see him overcome these challenges and personal tragedies to return to his most cherished values. His story inspired me to become a doctor, a public health specialist, and a passionate advocate for universal access to healthcare globally, and to challenge professional prejudice such as racism in medicine.

Doctor Who Kevin Fong, professor of public engagement, University College London

I drew inspiration from the first doctor I ever knew anything about. It wasn't his bedside manner—he had next to none—but he was kind in his own way and believed in helping people.

In the 1970s we were only the second Chinese family to move into our town. We looked around for professional role models, but back then nobody prominent, in fact or fiction, looked much like us.

So this particular doctor—strange and thoroughly out of place—struck a chord. He never felt like he belonged, but importantly he never tried to either. He was proud of being different and so celebrated his uniqueness. And when things got tough he survived by reinventing himself, carrying just a little bit of his former self on into the next episode of his life. As an 8 year old, sitting on—and sometimes behind—the sofa I decided that this was the way you should live your life.

Abi Rimmer , *The BMJ*

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PATIENT PERSPECTIVE

John Carter Paul Wicks, a caregiver to a person with motor neurone disease

If I'd had the misfortune to be in a car crash, mugging, or falling helicopter incident I'd like to be treated by John Carter (portrayed in the television show *ER* from 1994-2009 by Noah Wyle). He's authentic and disciplined, and with his childhood experience of losing a sibling to leukaemia has empathy for being on the other side of the doctor-patient relationship. Despite privileged origins he repeatedly returned to frontline work in the emergency room and for Médecins Sans Frontières. Like too many medical colleagues he was injured by one of his patients, the consequences of which led to a hidden battle with substance misuse. My mum also liked him more than George Clooney.

Gregory House Ann Gregson, trustee, Lyme Disease UK

It's not uncommon for patients with late Lyme disease and other chronic illnesses to long for a consultation with a doctor like Gregory House. A doctor brimming with curiosity and eagerness to diagnose their patient, enthused by the challenge of complex, multisystemic symptoms. A doctor who wants to put all the pieces of the puzzle, and their patient, back together. A doctor who listens to their patient and who believes their patient when they describe their symptoms, however unusual or bizarre. A doctor who knows that test results can be misleading and not to jump to an ill fitting, easy diagnosis or to psychologise the patient's physical symptoms. A doctor who knows that no patient wants a diagnosis of a particular disease, only the correct one that results in effective treatment and recovery. A doctor who knows that patients want the truth and that it's OK to admit, "I don't know."

Did a TV or literary doctor inspire you in your career? Please share your examples on social media using #docspiration

Christina Pagel: "Think, 'Would my mum understand this?' Unless your mum is a leading doctor—then pick someone else"

Chris Smith: "As a virologist and broadcaster, I've had about 20 years to practise for this moment"

Meet the medical media faces of the pandemic

They're beamed into living rooms on a weekly basis to try to help the public decipher the ever changing picture of the pandemic. **Jessica Powell** finds out what it feels like to be a go-to covid commentator

"R numbers," "flattening the curve"—if you'd asked the public what these terms meant a year ago, you'd most likely have drawn a blank. But now they're as much a part of British conversation as the weather.

But as press and television coverage has been flooded with medical lingo, complex data, and many, many graphs (including the now oft-quoted "next slide, please"), confusion has crept in. That's where a dedicated group of medical experts—who've spoken to journalists week in, week out in a bid to strip out the jargon and guide the public through advances and advice—have come in.

So, what's it been like to be behind the camera and the microphone?

We need more women in science on TV

Christina Pagel is professor of operational research at UCL and director of the UCL Clinical Operational Research Unit. She's regularly been called on by Channel 4, Sky, and the BBC and does a weekly briefing through Independent SAGE

"It's been a baptism of fire talking to the press during the pandemic. I've never done it before, but now I'm on the TV or radio sometimes four or five times a week. Before all this, I was like, 'Why would anyone want to talk to me?' But then I saw people on TV who really didn't know what they were talking about, saying things that were wrong or dangerous. And I thought, 'At least I'm not going to do that.'

"Operational research is a branch of applied mathematics and I'm often asked to make sense of data for the public. It's important to explain what the data are showing but also what they're not showing—what we don't know.

"The difficulty with covid-19 is that it's not dangerous enough to really scare people but it is dangerous enough to kill a lot of people. If this was Ebola, no one would be wanting to go to the pub.

"Many people deny how serious covid-19 is and think if we didn't have these restrictions, life would be normal. But living in a world where a virus is rampaging isn't a normal world. There isn't some magic bullet that's going to make it go away. It sucks. But I feel strongly that pretending something is better than it is isn't helpful.

"One thing that's frustrated me about the media coverage is the narrative of lockdown versus herd immunity. It's a fringe idea but presented as an alternative. There is a way to control covid-19 that avoids lockdown, but the countries that have succeeded have done it with good border control and contact tracing.

"My advice if you're approached about speaking to the media is to say yes. Especially women. Women tend to set a higher bar for themselves before considering themselves expert enough. But women in science on the TV or radio are positive role models.

"You have to be quite responsive—I often get asked to go on a show a couple of hours before it's live. Write down the points you want to make in case you get flustered. And avoid jargon. Think, 'Would my mum understand this?' Unless your mum is a leading doctor—then pick someone else."

Talking on TV is like walking a tightrope

Chris Smith is a medical consultant specialising in clinical microbiology and virology at Cambridge University, as well as founder of the Naked Scientists, which has a BBC radio programme. During the pandemic, he has, among other appearances, answered the public's covid-19 questions on BBC 5Live's *Colin Murray's Coronavirus Call-In*.

"Never in the history of broadcasting have we had so much airtime devoted to a virus. As a virologist and broadcaster, I've had about 20 years to practise for this moment. During the pandemic, I've worked on broadcasts not just in the UK but also Australia, China,

Linda Bauld: "I've tried to communicate if you want to motivate behaviour change, don't engage in the blame game"

Mark Porter: "I see my role in the media to be a conduit—getting the right information from the right experts"

and New Zealand. So, it's been a horrible time but an exhilarating time, too.

"When all this began, BBC 5Live rang and said, 'There's no sport, so how about we do a coronavirus programme?' People were tuning in on a Saturday expecting to hear football and they got me and Colin Murray talking about covid-19. But some of those shows took 500 phone calls. I'm proud of them.

"One thing I don't like about media coverage of the virus is some journalists constantly going for the political angle. The political climate we've created in the UK makes it very hard for the government to react to new information without it coming over as a sign of weakness or doing a U turn.

"As a society we ought to be more understanding that knowledge changes. We should be encouraging people to change their minds in response, not castigating them.

"Talking on TV is, I imagine, a bit like walking a tightrope. When you're staring down your webcam lens and you think, 'There are millions of people looking at me,' you just have to not look down.

"People get nervous about talking to the press. But most journalists are incredibly grateful for support. They're not out to trap you. And doctors should remember they're good at talking to the public because it's what they spend their lives doing. They've already got the skills."

Engaging in the blame game is damaging

Linda Bauld is professor of public health at the University of Edinburgh. She's a regular contributor on radio and TV, particularly in Scotland, and has been called on by the likes of the *Times* and the BBC during the pandemic

"For women, in particular, the social media environment is toxic. I get nasty messages after I appear in the media, but it's best to ignore it. We have a serious job to do.

"I'm a behavioural scientist, so I often talk about how the public understand the evidence around coronavirus and how they interpret what they're being asked to do.

"I've seen a narrative developing about blaming the public for the spread of the virus and that's very damaging. There's been a lot of finger pointing at young people. And when the testing system was overstretched the line was, 'Who are all these people getting a test when they don't need one?' But the government had been saying for months that if you think you've got symptoms, get a test. I've tried to communicate if you want to motivate behaviour change, don't engage in the blame game. It's totally ineffective.

"There's definitely a sense of responsibility that comes with talking to the press. But I haven't felt stressed by that, just exhausted. Here in Scotland there's not that many academics engaging with the press so it's very time consuming, continually reading new studies, keeping up with the latest statistics, and preparing for interviews.

"I'd encourage more clinically qualified experts to step up—the public trusts them. But it's also good to recognise your boundaries. I've realised I just can't do late night TV. And some people are good at writing, others are better oral communicators, so work to your strengths."

Candour is missing from a lot of the coverage

Mark Porter is an NHS GP and through his roles as anchor of BBC Radio 4's *Inside Health*, medical correspondent at the *Times*, and columnist for *Saga Magazine* he's been tackling the nation's coronavirus concerns.

"There's been a celebration of science during the pandemic which has been great to watch. We've heard lots of new voices in the media—men and women from across the country—talking about their work, whether it be epidemiology, virology, or intensive care. They've given some amazing interviews.

"As a GP, I'm not an expert in covid-19. But I see my role in the media to be a conduit—getting the right information from the right experts. Plus, among my patients I've got old, young, media sceptics, medical sceptics, and every political view. They ask me what they often think are stupid questions, but their concerns reflect the nation's, so I put those 'stupid' questions to the experts.

"One thing missing from a lot of coverage, including from experts, is candour. It's all right to say, 'I don't know.' If you're put on the spot, never wing it.

"It's confusing for the public listening to debates around covid-19. There are naysayers, doomsdayers, and there's the politics involved. I try to keep my message simple: what happens over the next few months will be determined by you and your community. If you're sensible, we'll get through this. If not, no amount of central policy is going to work. The power is with the individual."

Jessica Powell, journalist, Devon jessicapowell.freelance@googlemail.com

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ORIGINAL RESEARCH
Retrospective observational study

Does medicine run in the family? Evidence from three generations of physicians in Sweden

Maria Polyakova,[1 2] Petra Persson,[2 3 4] Katja Hofmann,[3] Anupam B Jena[2 5 6]

Objective To examine occupational heritability in medicine and changes in heritability over time, with Swedish population wide administrative data that allowed mapping family trees of physicians spanning up to three generations.

Design Retrospective observational study.

Setting Individual level administrative registry data from Sweden.

Participants Physicians born in 1950-90 and living in Sweden at some time during 2001-16 (n=47 400).

Main outcome measures The proportion of individuals with a completed medical degree with at least one parent who also trained in medicine, and the change in this proportion across birth cohorts. Additional analyses were conducted among other relatives (grandparents, aunts and uncles, and siblings) and for individuals with a law degree.

Results For 27 788 physicians, where the educational background for both parents was known, 14% had a parent who was also a physician and 2% had two parents who were physicians. The proportion of physicians with at least one physician parent increased significantly over time, from 6% for physicians born in 1950-59 to 20% for physicians born in 1980-90 (P<0.001). The same pattern of increasing occupational heritability was not seen for individuals with law degrees.

Conclusions In recent cohorts of physicians in Sweden, one in five had a parent who was also a physician, more than triple the proportion seen for physicians born three decades earlier. A similar pattern was not seen in lawyers, suggesting that increasing occupational heritability in medicine does not reflect intergenerational persistence of high paying degrees alone. Rather, for physicians in Sweden, medicine might increasingly run in families.

Introduction and methods

Parents' occupations might influence the career choice of their offspring through information, opportunities, and economic means. High degrees of occupational heritability in selective disciplines, such as medicine, could constrain socioeconomic mobility and negatively influence efforts to increase socioeconomic diversity in the workforce. In medicine, having physicians from a limited socioeconomic pool could affect patient health because research has reported the importance of similar socioeconomic and personal characteristics between physicians and patients for patient outcomes.[1-5] The extent to which medicine runs in families is, however, not known.

To assess the importance of these concerns in medicine, we identified individuals who completed training in medicine, and mapped family trees of these individuals spanning up to three generations. We analysed how the proportion of physicians with at least one relative who also trained as a physician changed over time.

We used individual level administrative registry data from Sweden. The dataset included educational records reported by educational authorities for 1990-2016, and individual level characteristics such as sex, year, and country of birth. The data included precise family linkage information for all individuals born in 1950 or later who were alive and lived in Sweden between 2001 and 2016, and for their deceased relatives.

We defined an individual as a physician if they ever completed training in medicine according to the educational records of 1990-2016.[8] For our secondary analyses, we similarly defined an individual as a lawyer if he or she ever completed training in law according to educational records.

Primary statistical analysis

Our study population included all physicians born between 1950 and 1990 who were alive and lived in Sweden at some time between 2001 and 2016. For our primary analysis, we restricted the study population to physicians where the parental educational background was available for both parents. For each birth cohort, we computed the proportion of physicians with at least one parent, sibling, aunt or uncle, or grandparent who was also a physician. For each type of relative, we restricted the study population to physicians with at least one relative (of that type) whose educational background was available.

We computed the proportion of physicians with a physician relative for each birth cohort and for all birth cohorts combined. We also pooled individuals by 10 year birth cohorts: 1950-59, 1960-69, 1970-79, and 1980-90. We performed two sided hypothesis tests of equality for the proportion of physicians with a physician relative between the birth cohorts 1950-59 and 1980-90.

Finally, we investigated the differences between men and women for the proportion of physicians with at least one parent who also trained as a physician. We used 95% confidence intervals (P<0.05) as a threshold for statistical significance.

Secondary analysis

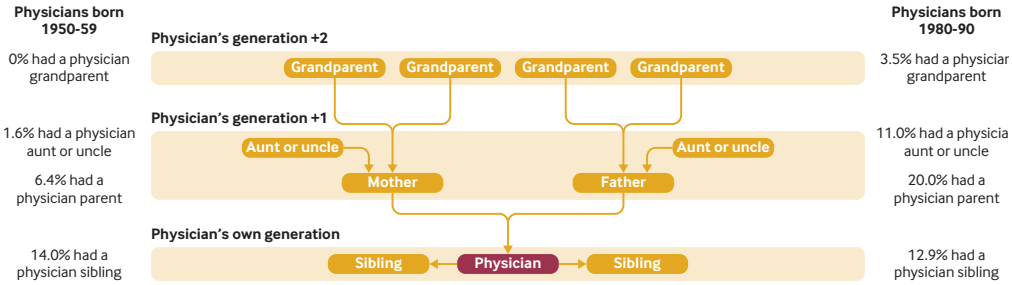
We replicated our main analysis on a sample of lawyers to investigate whether any trends in occupational heritability among physicians were specific to the profession or reflected growing intergenerational persistence of high paying, high status occupations and degrees.

WHAT IS ALREADY KNOWN ON THIS TOPIC

- Intergenerational persistence in educational achievement is well documented
- Occupational heritability in selective disciplines, such as medicine, has received comparably less attention, despite concerns about socioeconomic diversity in the physician workforce and growing evidence that physician diversity might affect patient outcomes

WHAT THIS STUDY ADDS

- In recent cohorts of physicians in Sweden, one in five physicians had a parent who was also a physician, more than triple the proportion seen for physicians born three decades earlier
- A similar pattern was not found among lawyers, suggesting that increasing occupational heritability in medicine does not reflect intergenerational persistence of high paying degrees alone but rather that medicine might increasingly run in families



Overview of occupational heritability in medicine for physicians born in 1950-59 and 1980-90. Four types of relatives spanning three generations were considered: siblings, parents, aunts and uncles, and grandparents of the physician. For each type of relative, the study population of physicians was restricted to individuals with at least one relative whose educational background was known. For the statistics on parents, the study population was restricted to physicians where the educational background for both parents was known

Results

Our study population included 47 400 individuals with a medical degree, born in 1950-90, and living in Sweden at some time during 2001-16. The educational background for both parents was available for 27 788 (59%) physicians. Among all physicians in the study population, 61% were born in Sweden, 23% were born in other European countries, and 12% were born in Asia. For physicians whose parental education was available for both parents, the percentage of individuals born outside of Sweden was lower.

The proportion of physicians with at least one parent who had also trained as a physician increased over time. The table and figure show the trends in occupational heritability in medicine, according to decade of birth. The proportion of physicians with at least one physician parent increased over time, from 6% for physicians born in 1950-59 to 20% for physicians born in 1980-90 (P<0.001; table). We found a similar trend for individuals with two parents who were physicians. Whereas 1% of physicians born in 1950-59 had two parents who were physicians, this increased to 4% for physicians born in 1980-90 (P<0.001).

Occupational heritability among physicians

	Years of birth					1950-59 *v* 1980-90, P value*
	All	1950-59	1960-69	1970-79	1980-90	
Educational background available for both parents (No)	27788	5660	5522	7440	9166	
At least one parent was a physician (%)	14.0	6.4	9.5	15.9	20.0	<0.001
Both parents were physicians (%)	2.5	0.9	1.0	2.7	4.2	<0.001
Educational background known for at least one sibling (No)	29066	7046	5786	7352	8882	
At least one sibling was a physician (%)	13.6	14.0	13.7	14.1	12.9	0.05
Educational background available for at least one aunt or uncle (No)	18360	568	3538	6558	7696	
At least one aunt or uncle was a physician (%)	8.9	1.6	5.8	8.6	11.0	<0.001
Educational background known for at least one grandparent (No)	18061	508	3240	6512	7801	
At least one grandparent was a physician (%)	2.4	0	0.5	2.1	3.5	<0.001

Overview of occupational heritability in medicine for physicians in the study population, born in 1950-90, by decade of birth. The four types of relatives were: parents, siblings, aunts or uncles, and grandparents. For each type of relative, the study population was restricted to individuals with at least one relative whose educational background was known. For the analysis involving parents, the study population was restricted to physicians where the educational background for both parents was available.
*P value for a two sided *t* test for difference in means between individuals with a medical degree born in 1950-59 and 1980-90.

We found that of 29 066 physicians with at least one sibling whose educational background was known, 14% had a sibling who was also a physician. Among 18 360 physicians with at least one aunt or uncle whose educational background was available, 9% had an aunt or uncle who was a physician. For 18 061 physicians with at least one grandparent whose educational background was known, 2% had at least one grandparent with a medical degree. Except for siblings, the proportions of physicians with these more distant relatives who were physicians increased over time.

We adapted our analysis to lawyers, a similarly high skilled discipline. In contrast with medicine, the proportion of lawyers with at least one parent who had also trained as a lawyer was constant over time.

Discussion

In recent cohorts of physicians in Sweden, one in five had a parent who was also a physician, a significant increase from physicians born three decades earlier. This finding suggests an increasing number of physicians are from a concentrated group of physician families. A similar pattern was not seen for lawyers, suggesting that occupational heritability in medicine does not reflect intergenerational persistence of high paying, high prestige occupations and educational degrees alone.

Our findings do not imply that occupational heritability in medicine is distinct from socioeconomic heritability. In medicine, however, the concern about socioeconomic diversity in the physician workforce has been highlighted from an equity and diversity perspective, and also because of growing evidence that physician diversity and the similarity in personal and socioeconomic backgrounds between patients and physicians might affect patient outcomes.[1-5] Our analysis showed an increasing number of physicians from families with other physicians, rather than an increasing proportion of physicians from families with more diverse economic and educational backgrounds.

Our study had several limitations. Although we examined one country, Sweden consistently ranks at the top of the OECD countries for intergenerational social mobility.[11] Thus Sweden represents a case study of occupational herit ability in medicine in one of the most socioeconomically mobile societies. Data were missing for parental education for some physicians born outside of Sweden. Our analysis did not identify the mechanism for the increasing occupational heritability in medicine.

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