RESEARCH ARTICLE

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Impact of Physician Dual Practices on a Pediatric-Oncology Outreach-Program

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Abstract

Objective: Physician dual practices (PDP) can be defined as 'doctors combining clinical work in public and private health-sector.' This study explores the impact of PDP on a long-term pediatric-oncology outreach-program between large referral hospitals in the Netherlands, Indonesia and Kenya. **Methods:** This cross-sectional descriptive study used a self-administered semi-structured survey. The most senior doctor from each partner site was interviewed in June 2022. The survey contained 70 closed-ended and 7 open-ended questions and took 30-45 minutes to complete. Closed-ended questions were evaluated on 2-5 point rating scales. Informed consent was acquired and respondents endorsed the final report. **Results:** In the Netherlands an estimated 0-20% of senior doctors combine work in public and private-sector, while 60-80% do so in Indonesia and Kenya according to the respondents. In Indonesia and Kenya, most of doctors are involved in PDP to augment low government salaries. Impact of PDP on pediatric-oncology care is minimal in the Netherlands, but detrimental in Indonesia and Kenya: shortage of experienced doctors, limited supervision of junior staff, slow diagnostics and delays in chemotherapy administration ultimately lead to undermining of the quality of care and adverse patient outcomes. **Conclusions:** PDP adversely impact patient care at the Indonesian and Kenyan partner sites of a pediatric-oncology outreach-program. Strategies addressing PDP in resource-poor settings are required to improve treatment outcomes and survival of children with cancer.

Keywords: Physician dual practices- childhood cancer- outreach-program

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Introduction

Physician dual practices (PDP) can be defined as doctors combining clinical work in the public and private health-sector (McPacke et al., 2016; Hoogland et al., 2022). These physicians generally receive salaries to work in public hospitals and fee-for-services in private-practices (Ferrinho et al., 2004). Negative effects of PDP may be limited time, attention and interest for patient-care in public hospitals, because doctors can earn more in their private-practices. Consequently, PDP can lead to absenteeism and hindered entry and quality of healthcare delivery to poor patients who cannot afford private alternatives (Eggleston and Bir, 2006; Moghri et al., 2016;Garcia-Prado and Gonzalez, 2007; Socha, 2010; Garcia-Prado and Gonzalez, 2011).

A recent global overview of available literature found accounts of PDP in 81% of all countries. PDP-reports derive from 77% of high-income countries (HIC) and 82% of low and middle-income countries (LMIC). Its scale however is more common in LMIC than HIC. The impact PDP may therefore have on healthcare delivery to the general and poor population may differ across countries and is closely related to the organization of health-systems (Hoogland et al., 2022).

Around 90% of children with cancer reside in LMIC. Whether children can effectively be treated for cancer depends significantly on where children live. Childhood cancer survival approaches 80% in HIC and is commonly below 30% in LMIC (El Salih et al., 2022; WHO, 2021). Hospitals try to close this survival gap by participating in outreach-programs. Through these programs knowledge, skills and expertise can be shared between HIC and LMIC (El Salih et al., 2022; Ribiero et al., 2016).

Limited knowledge is available about the role PDP play in pediatric-oncology outreach-programs and how it might obstruct their joint strive for better childhood cancer survival. This study explores the impact of PDP on an outreach-program between three large public referral hospitals in Netherlands, Indonesia and Kenya.

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Materials and Methods

Setting

There is a long-term cooperation between Princess Máxima Center in Netherlands (HIC), Dr Sardjito Hospital in Indonesia (LMIC) and Moi Teaching and Referral Hospital in Kenya (LMIC). At the Dutch partner site, 600 children are annually diagnosed with cancer whose survival is 75%. At the Indonesian partner site, at least 180 children are diagnosed with cancer each year whose survival is 30%. At the Kenyan partner site, approximately 200 children are yearly diagnosed with cancer whose survival is also 30% (El Salih et al.,2022).

Study Design

This cross-sectional descriptive study examined the impact PDP have on a pediatric-oncology outreach-program. The following domains were explored and compared in the three participating outreach partner sites: prevalence of PDP, reasons for working in private and public-sector, positive and negative consequences, and its impact on pediatric-oncology care. The most senior doctor from each partner site was interviewed in June 2022, using a self-administered semi-structured survey. Each respondent was asked to solely report on the situation in their own country. The survey was created based on an extensive literature review. After disclosure of the purpose and content of the study, informed consent was acquired. All respondents received the same survey and were requested to fill it in at home or inside the hospital. The survey contained 70 closed-ended and 7 open-ended questions and took 30-45 minutes to complete. Closed-ended questions were evaluated on 2-5 point rating scales. The respondents endorsed the final report.

Results

During June 2022, the surveys were handed out to the most senior doctor from the Dutch, Indonesian and Kenyan partner site of the pediatric-oncology outreach-program. All three senior doctors (response rate 100%) returned the survey.

Prevalence of Physician Dual Practices

In the Netherlands an estimated 0-20% of senior doctors combine work in public and private-sector according to the Dutch respondent, while an estimated 60-80% do so in Indonesia and Kenya according to the respondents from these consecutive partner sites.

Reasons and Consequences of Physician Dual Practices

Table 1 illustrates the reasons and consequences of PDP on the health-sector according to the Dutch, Indonesian and Kenyan respondents. In the Netherlands, doctors work in the private-sector to offer less complex interventions that cannot all be dealt with in the public-sector. In Indonesia and Kenya, most doctors are involved in the private-sector to supplement low government salaries. In all three countries, doctors work in the public-sector for the following reasons: social responsibility, access to public resources, job or pension security, and ability to join a professional team or network.

Positive consequences of PDP are higher professional satisfaction according to the Dutch senior doctor, and additional income for doctors according to the Indonesian and Kenyan respondents. Negative consequences of PDP on the health-sector are minimal in the Netherlands, but significant in Indonesia and Kenya: demoralized and unmotivated staff in public hospitals, hindrance of Universal Health Coverage implementation, and limited access to care in public hospitals.

Impact of Physician Dual Practices on Pediatric-Oncology Care

Table 2 presents the impact of PDP on pediatric-oncology care according to the Dutch, Indonesian and Kenyan respondents. Impact of PDP on pediatric-oncology care is minimal in the Netherlands, but detrimental in Indonesia and Kenya: shortage of experienced doctors, limited supervision of junior staff, slow diagnostics and delays in chemotherapy administration ultimately lead to undermining of the quality of care and adverse patient outcomes.

In the Netherlands, PDP are not an issue, and therefore need not be prohibited according to the Dutch senior doctor. He explains that if PDP are clearly discussed and agreed upon formally, the experience of working in a private-practice may even be positive. In Indonesia, addressing the specialist shortage through pediatric-oncology training programs is preferred to an outright PDP ban according to the Indonesian senior doctor. In Kenya, PDP also do not have to be prohibited, but need to be addressed by building a culture of self-regulation and accountability according to the Kenyan senior doctor. Hereby, doctors should take responsibility for the care of patients in public hospitals and be held accountable by authorities if they do not provide necessary care.

Discussion

Although PDP are evidently a global practice, (McPake et al., 2016; Ferrinho et al., 2004; Egglestone and Bir, 2006; Moghri et al., 2016) knowledge on its impact on pediatric-oncology outreach-programs is scarce. Our study findings highlight PDP in three hospitals that are geographically and socio-economically diverse. More doctors are involved in PDP in Indonesia and Kenya, than in the Netherlands. In Indonesia and Kenya, doctors primarily work in the private-sector to augment low government pay. In all three settings, doctors work in public hospitals to meet societal expectations and benefit from shared responsibilities in professional networks. The impact of PDP on pediatric-oncology care is minimal in the Netherlands, but profound in Indonesia and Kenya. Nevertheless, both Indonesian and Kenyan doctors think innovative PDP regulation rather than prohibition is the best approach to mitigate the overriding negative impact of PDP on healthcare.

When weighing whether PDP positively or negatively impact health-systems, a tilt towards the negative consequences is the norm irrespective of the settings. All our respondents reported staff shortages and time

Table 1. Reasons and Consequences of Physician dual Practices on Health-Sector

	Netherlands	Indonesia	Kenya
Reasons For Working In Private Sector			
Low Government Salaries In Public Hospitals	-	X	X
High Workload In Public Hospitals	-	X	-
Poor Working Conditions In Public Hospitals (Inadequate Facilities, Shortages Of Drugs/Equipment)	-	X	-
Offer Of Less Complex Medical Interventions	X	-	-
Limited Recruitment Of Doctors For Public-Sector	-	X	-
Avoiding Mandatory Placement In Remote Public Health-Centers	-	X	-
Reasons For Working In Public Sector			
Recruitment Of Patients For Private Practice	-	-	-
Status And Prestige	-	X	-
Access To Information/ Schooling	-	X	X
Social Responsibility	X	X	X
Access To Public Resources	X	X	X
Job/ Pension Security	X	X	X
Professional Team/Network	X	X	X
Complex Patient Cases	X	-	X
Less Rules And Regulations	-	X	-
Positive Consequences			
Additional Income For Doctors	-	X	X
Higher Professional Satisfaction	X	X	-
Financial Burden Reduction On Governments To Retain High-Quality Doctors In Public Hospitals	X	-	X
High-Quality Doctors Share Knowledge/Skills In Public Hospitals.	-	X	-
Nice Change Of Working Environment	X	-	-
Negative Consequences			
Brain Drain (To Other Countries/ Private-Sector/ Urban Areas)	X	X	-
Staff Shortages In Public Hospitals	-	X	X
Corruption And Outflow Of Public Resources For Private Patients	X	X	-
Conflicts Of Interests	X	X	X
Limited Time/ Attention In Public Hospitals	X	X	X
Waiting Time/ Lists In Public Hospitals	-	X	X
Self-Gain Of Doctors	-	X	-
Demoralized And Unmotivated Staff In Public Hospitals	-	X	X
Hinders Implementation Of Universal Health Coverage	-	X	X
Lack Of Continuity Of Care In Public Hospitals	-	X	X
Limited Access To Care In Public Hospitals	-	X	X
Privileged Access Of Private Patients To Public Hospital Services	-	X	-
Inexperienced Staff Without Supervision Provides Care In Public Hospitals	-	X	X

X, Impacted by physician dual practices according to doctor report

constraints on the public-sector. This corroborates findings from literature interrogating the impact of PDP (Moghri et al., 2016; Garcia-Prado and Gonzalez, 2007; Socha, 2010; Garcia-Prado and Gonzalez, 2011). Ferrinho (2004) argues for instance that PDP enhance private-practices at the cost of public healthcare provision. This might be particularly true for highly specialized niches like pediatric-oncology where outcomes are highly dependent on access, quality and promptness of medical interventions (WHO, 2021; Ribiero et al, 2016) Limited work hours or absenteeism by public-sector doctors may culminate in prolonged waiting time for services in the public-sector (Tranparency International, 2006; Mostert et al., 2015). The latter may provide opportunity for doctors to cream skim affluent patients or those needing less complex interventions from public-sector 'wait lists' to their private-practices. This propagates inequity in access and increases the cost of care within the health-system negating the core principles of universal healthcare for all (Hoogland et al., 2022; Transparency International, 2006; Mostert et al., 2015).

Pediatric-oncology outreach-programs are purposed to narrow the inequity in survival gaps between HIC and LMIC through bidirectional exchange of knowledge, skills and expertise. The two critical elements in success and sustainability of such a program are firstly, patients' guaranteed access to quality treatment irrespective of their ability to pay and secondly, a devoted experienced workforce providing full-time

Table 2. Impact Physician dual Practices on Pediatric-Oncology Care

	Dutch hospital	Indonesian hospital	Kenyan hospital
Shortage of experienced doctors	-	X	X
Limited supervision of junior staff	-	X	X
Junior staff has difficulty applying complex treatment protocols	-	X	X
Junior staff waits for senior doctors' advice causing treatment delays	-	X	X
Lack of knowledge of protocol by junior staff	-	X	X
Protocol non-adherence	-	-	-
Ill trained personnel	-	-	X
Personnel with low motivation	-	-	X
Experienced doctors have limited time and attention for patients	-	X	X
Poor information provision to families by experienced doctors	-	X	X
Junior staff lacks expertise to provide parental education	-	X	X
Confusing information to patient and families by junior staff	-	X	X
Limited monitoring of patient care by experienced doctors	-	X	X
Understaffed facilities	-	-	X
Slow diagnostics	-	X	X
Delays in routine laboratory tests	-	-	-
Delays in pathology services	-	X	-
Delays in imaging	-	X	X
Delays in medical procedures (f.i. bone marrow/ lumbar punctures)	-	X	-
Delays in chemotherapy administration	-	X	-
Postponed radiotherapy	-	-	-
Postponed surgery	-	-	-
Delays in blood products administration	-	-	-
Delays in life-saving interventions	-	X	X
Prolonged time spent by patients in hospital	-	X	X
Limited surveillance of patients who completed treatment	-	-	X
Undermines access to care	-	-	X
Undermines quality of care	-	X	X
Adverse patient outcomes	-	X	X
Low childhood cancer survival	-	-	X

X, Impacted by physician dual practices according to doctor report

effort (El Salih et al., 2022; Ribiero et al., 2016). In our study, PDP resulted in experienced personnel shortages, junior staff under-supervision and service provision delays in the Indonesian and Kenyan hospitals hindering pediatric-oncology care. By contrast, care in the Dutch hospital was not affected.

While it is generally accepted, that all governments have to invest in regulation of PDP, the line between restrictive and accommodating interventions is thin. The current absence of social consensus on PDP regulation can partially be explained by the watered down media publicity and cost implications of banning PDP (Hoogland et al., 2022). Various authors proposed a need to intervene particularly in LMIC settings(McPacke et al, 2016;Hoogland et al., 2022; Garcia-Prado and Gonzalez, 2007;Garcia-Prado and Gonzalez, 2011). Optimum regulation depends on a nation's healthcare system (McPacke et al., 2016; Hoogland et al.,2022; Mostert et al., 2015). If monitoring systems, punishments, rewards, and proper government salaries are available, then public and private-sector can sufficiently be monitored to permit PDP (Hoogland et al., 2022; Mostert et al., 2015). But if these elements are absent, then PDP may lead to medical neglect of patients in the public-sector and should be prohibited (Hoogland et al., 2022; Mostert et al., 2015).

This study has several limitations. Caution with generalizability is needed as solely one representative of each partner site was interviewed. The effect of PDP on a single outreach-program between three countries on three continents is explored, which may not be representative for international collaborations in other world regions.

In conclusion, PDP are detrimental to pediatric-oncology care in LMIC particularly if left unregulated. It is evident that prevailing health-market dynamics in such settings place the private-sector in competition rather than complementary to the public-sector. Within pediatric-oncology outreach-programs PDP lead to undue competition for the two scarce yet invaluable resources of human expertise and time with cancer patients. An open debate about the role PDP play in pediatric-oncology

outreach-programs is required. Strategies addressing PDP need to be designed and tested within these programs in order to improve treatment outcomes and survival of children with cancer.

Author Contribution Statement

Study concept and design: GO, KH, IH, MS, SM; Data collection: PW, FN, GK; Data analysis and interpretation: GO, KH, IH, MS, SM; Drafted initial manuscript: GO, IH; Critical review and revision of manuscript: KH, PW, FN, MS, GK, SM; Approval of final manuscript as submitted: GO, KH, IH, PW, FN, MS, GK, SM .

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Ethical approval

This type of study does not require approval of a Medical Ethical Committee at our institutes.

Availability of data

Data can be obtained from the corresponding author upon reasonable request.

Conflict of interest

The authors declare that there is no conflict of interest.

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