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Original Research Article

Impact of the decision to use healthcare facilities among farming households on labour productivity in Ogun State, Nigeria

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Abstract

Productivity of agricultural labour is central to the improvement of livelihoods of rural population. This study used an instrumental variable approach to examine the impact of healthcare facilities use on household labour productivity using distance to healthcare facilities as an instrument. A multistage sampling procedure was used in selecting 200 households comprising 96 users and 104 non-users of healthcare facilities. The result revealed that the agricultural productivity of users of healthcare facilities was ₦652.34 (USD 1.65) per man-day higher than non-users. The result further showed that age ($p < 0.1$), sex ($p < 0.05$), contact with health extension worker ($p < 0.01$), incapacitation due to illness ($p < 0.05$) and distance to healthcare facilities ($p < 0.01$) significantly influenced the decision to use healthcare facilities while membership of cooperative society ($p < 0.05$), area cultivated and use of health care facilities ($p < 0.1$) significantly influenced labour productivity. The study concluded that increased distance to healthcare facilities reduces its utilisation while being member of cooperative society and utilisation of healthcare facilities increases labour productivity. This study recommended that health extension workers need to intensify their efforts in educating the households on the need to use healthcare facilities when they are sick; this is expected to improve the healthy time of the households which will invariably increase their productivity.

Keywords: healthcare; labour; productivity; treatment; outcome; instrument

INTRODUCTION

Agriculture continues to occupy an important niche in the development of any growth-driven economy across the globe. Aside from the primary function of food provision, it is a relevant source of livelihood for most of the three-quarters of the world's poor who dwell in rural areas, particularly in Asia and Africa (Woodhill et al., 2020; Castaneda et al., 2018). African countries are predominantly engaged in agriculture as an economic activity with more than half of their populations involved directly or indirectly. Increasing agricultural productivity has been the world's primary agenda to ensure increased food supply to feed the growing population (Obalola et al., 2020). Agricultural productivity growth is essential for welfare improvement and poverty reduction, especially among rural households (Jayne and Sanchez, 2021). No country has been able to sustain a rapid transition out of hunger and poverty without raising productivity in its agricultural sector (Timmer, 2017). On the contrary, in countries where agricultural productivity has failed or lagged behind other sectors, hunger has been

inescapable (Ivanic and Martin, 2018; Mwabu, 2016; Osei-Akoto et al., 2013).

Productivity of agricultural labour is a key to the improvement of the livelihoods of the rural farming population. Unlike developing Sub-Saharan countries, developed countries experience high agriculture (land and labour) productivity due to rapid technological advancement (Ritchie, 2022). African agriculture which is largely labour-dependent, rests substantially on a less skilled labour force with low investment in information and technology. As a result, low labour productivity continues to be a distinguishing characteristic of agriculture in Africa (Osei-Akoto et al., 2013). The productivity of African farmers is often affected by factors such as age, cropping patterns, years of farming experience, and lack of access to credit which tend to impact negatively on productivity and efficiency (Echebiri and Nwaogu, 2017). Empirical evidence in economic literature further emphasises factors that affect productivity. This includes technology, labour employment (Fuglie et al., 2020; Ivanic and Martin, 2018), agro-environmental conditions (Fuglie et al., 2020), security of land ownership rights (De Janvry and Sadoulet, 2019), land, labour, fertiliser and education (Paltasingh and Goyari, 2018; Obalola and Tanko, 2016) and funding which determines the optimum input-output ratio (Huffman and Evenson, 2003). However, little has been done in the area of farmers' health and how it can affect their productivity, an indication that there is room for improvement in the area of farm productivity when farmers' health is given serious attention. Furthermore, considerable information and technology investments geared towards improving labor productivity may yield positive returns; unanticipated health shocks nevertheless tend to dissipate the anticipated benefits. This is because farms are vulnerable to household labour disruptions, one of the causes of which is ill-health within farming households (Ritchie, 2022).

Living a socially and economically productive life depends fundamentally on good health (Occupational Safety and Health, 2022). Poor health inflicts great hardships on households, vis-à-vis debilitation, substantial monetary expenditures, labour loss, and seldom loss of life (Tsega et al., 2023). Poor health affects agricultural production. Ailments often go untreated because of a lack of access to healthcare services. Development in all its forms is only possible when there is access to healthcare services and in turn its effective utilisation by individuals (Omonona et al., 2015). The multidimensional process associated with health services access involves factors such as the quality of care, accessibility in terms of geographical location, availability of the right type of care as required, financial accessibility, and acceptability of service (Hasan et al., 2022; Dawkins et al., 2020). While the utilisation of healthcare services is related to the availability, quality, and cost of services, in addition to the socioeconomic structure, and personal characteristics of the users (Hasan et al., 2022).

In rural areas where agriculture prevails as the primary source of livelihood, physical jobs tend to be more abundant. Health affects agricultural systems by affecting the health of the farm principal operators. Poor health causes farmers to miss work or reduces their capacity, efficiency, and ability to experiment with different agricultural techniques, which forces them to take advantage of farm-specific information at their disposal (Echebiri and Nwaogu, 2017). This makes the examination of the effects of farmers' health on farm productivity very important, similarly making healthcare access and utilisation stand to be more important than education in determining labour productivity (Omonona et al., 2015).

Consequently, healthcare access and utilisation are of major interest to rural development, because they are vital elements of well-being and components of human capital (Omonona et al., 2015). Most developing countries, Nigeria inclusive, are yet to meet the basic healthcare needs of their citizen, especially among the rural inhabiting farming households. While there have been research efforts in economic literature over the years, especially from the perspective of health service accessibility and utilisation determinants (Olugbenga-Bello and Adebimpe, 2010; Sanusi and Awe, 2009; Ibiwoye and Adeleke, 2009); productivity-wise, empirical evidence on the effects of health services on agricultural labor presented divergent and sometimes contradictory findings across different research settings (Echebiri and Nwaogu, 2017; Omer, 2016;). The observed divergence of results can essentially be attached to the possible existence of selection bias that limits the identification of the real effect of health on the productivity of farming labour (Omer, 2016). It was on this account that the study examined the possible effect of healthcare services utilisation on labour productivity among rural households using Instrumental Variable Two Stage Least Square (IV2SLS) regression approach to correct for selection bias, using distance to healthcare service as an instrumental variable. The smaller the distance to healthcare services the more the likelihood of utilising healthcare facilities; this may influence the decisions of households to use healthcare facilities in case of occurrence of disease. However, distance to

healthcare providers is not directly related to household labour productivity. The study further tests if there was a significant difference between the users and non-users of healthcare services. Explicitly the study achieved the following specific objectives:

1. Socio-economic description of the target households
2. Estimating labour productivity of the target households
3. Determining the impact of health facility usage on the households' labour productivity

THEORETICAL REVIEW

Health demand and household production theory

The notions of Becker (1965) on household production theory serve as the foundation for the hypothesis connecting health to labour productivity. Instead of just treating households as consumers of goods and services, Becker's paradigm also treats them as producers of commodities. Grossman (1972, 1999) expanded on this approach to examine the need for health. Health is seen as a long-lasting capital stock that produces the product of healthy time in Grossman's model. Everyone is given a starting quantity of this stock, which decreases over time and can be increased by investment. Households anticipate that by making health-related investments, the stock of healthy time will grow, increasing the quantity of time available for generating money or creating consumer products. Pitt and Rosenzweig (1985) created a framework to assess the effects of changes in health on productivity, labour supply, and overall farmer income by extending conventional agricultural household models. The extension by Pitt and Rosenzweig introduces an explicit production technology for health along with the inclusion of a health variable in the utility function.

In a model where a household is both a producing and consuming unit, Becker's theory from 1965 is best recognised for predicting household decisions and resource allocation. The household's output is consumed in-house and is not put on the market. Compared to models that considered households as solely consuming units, Becker contended that the productive household model represented a significant advancement in our knowledge of household behaviour. Aspects of the theory of a business are explicitly used by Becker's theory of household production function (comparative advantage, specialization, human capital, and so on).

According to Becker (1965), economists began to consider the household as a little factory around the beginning of the 1960s. As a unit of production, households integrated labour, raw resources, and capital to clean, feed, reproduce, and generate other useful items. The so-called basic commodities, or nonmarket items, are created in the household´s production function by combining time with marketable goods and services. The basic necessities include things like children's health, enjoyment, sleep, or seeing a play. A household selects the optimal combination of these goods, i.e., one that will maximise the utility function for the household.

MATERIALS AND METHODS

The study area

The study was carried out in Ogun State, Southwestern Nigeria. The state is bordered by Lagos State to the south, Oyo and Osun States to the north, Ondo State to the east, and the Republic of Benin to the west. Agriculture is the main occupation of its inhabitants with about 3 million people with an average family size of 4.8 persons deriving their livelihoods from farming (Ogun State Government-OSG, 2016). The state is blessed with an arable land of about 1,204,000 hectares and only 350,000 hectares is presently cultivated representing 29.07 percent of arable land area. The climatic and weather condition follow a tropical pattern, the vegetation of the state comprises of swamp forest, rain forest, and derived savannah (OSG, 2016). The state is blessed with good climatic and soil conditions that favour the production of food crops and permanent crops such as maize, cassava, rice, cowpea, vegetables, oil palm, rubber, cashew, and kola nut (OSG, 2016; Osabohien et al., 2017).

Sampling procedure

A multistage sampling procedure was used for the study; the first stage involved a random selection of 5 Local Government Areas (LGAs) representing 25% of the total LGAs in the state. The selected LGAs were Ewekoro, Obafemi Owode, Ijebu North-East, Yewa and Ikenne. The second stage entailed a random selection of 2 villages from the selected LGAs using list of random numbers. The villages were Wasimi, Abese, Sowunmi, Ajana, Yemoji, Opanla, Iwoye, Ajilete, Irepodun and Irolu. Finally, in the last stage, there was a random selection of 20 households from the selected villages. Thus, a sample size of 200 households was used in the study. Data on socio-economic characteristics, health facilities utilisation, labour use pattern and value of output were collected from the sampled households. The data were analysed with means, standard deviation,

two-sample t-test, and IV regression model with the use of STATA 14.1 statistical package.

Ethical guidelines were strictly adhered to. Prior to data collection, informed verbal consent was obtained from each study respondent and they were given full right to withdraw from the interview whenever they felt uncomfortable. Furthermore, confidentiality was kept by excluding the names of the respondents from the data collection tool and instead, we used a unique identification number as a code.

Model specification

Labour productivity: this is a partial productivity measure which is largely dependent on the effective use of inputs (OECD 2001; Rufai et al., 2018). Mathematically, labour productivity (y_p) measured as kg/man day is expressed as:

$$y_p = \frac{quantity\ of\ output\left(kg\right)}{measured\ labour\ input\left(man\ day\right)} = \frac{Y}{L} \quad (1)$$

The method of instrumental variables

The elimination of the selection bias and the treatment of non-compliers form the main concern of every impact assessment (Omer, 2016). To deal with this concern, the study adopted an instrumental variable model. The method of standard instrumental variables enables us to eliminate the selection bias and deal with the problem of endogeneity of treatment (Heckman and Vytlacil, 2005). The method assumes the existence of at least an instrumental variable that explains the treatment but that has no direct effect on the result, once the observable characteristics have been controlled for.

Given the probable correlation of the decision to use health facilities with the observed or unobserved characteristics, hence, to correct for potential selection bias, we estimated at the first stage:

$$T_i = \alpha_0 + \alpha_1 Z_i + \delta X_i + u_i \quad (2)$$

where

Z_i = represents the instrumental variable

α_0, α_1 and δ are parameter estimated

In order to assess the effects of health facilities usage on farming labour productivity, the second stage of the model is expressed following Omer (2016) as:

$$y_{pi} = \beta_0 + \beta_1 T_i + \gamma X_i + \varepsilon_i \quad (3)$$

where

y_{pi} = represents the agricultural labour productivity

T_i = represents the treatment variable that takes the value 1 for the group of treated households and 0 otherwise.

X_i = represents vector of control variables.

The parameter of interest β_1 measures the impact of the use of health facilities on agricultural labour productivity.

The standard parameter of interest is defined as:

$$\beta_{1\ standard} = \frac{Cov\left(Y,Z\right)}{Cov\left(T,Z\right)} \quad (4)$$

Table 1. Variables affecting decision to use healthcare facilities and labour productivity

Variable	Description and measurement of variables	Expected Sign	
		Use of health facilities	Labour productivity
Age	Age of household heads (years)	-	–
Sex	Sex of household heads (1 = male, 0 = otherwise)	±	+
Hhsiz	Household size (number of persons)	–	±
Marital sta~s	Marital status of household heads (1 = married, 0 = otherwise)	±	±
offfarminc~e	Off-farm income in naira	+	+
Ysis	Years spent in school	+	+
Cooperate	Membership of cooperative society (1 = member, 0 = otherwise)	+	+
Farmexp	Farming experience (years)	–	+
Chew	Contact with health extension workers (1 = had contact, 0 = otherwise)	+	+
Areaha	Area cultivated (hectares)	+	+
water	Access to clean water (1 = accessible, 0 = otherwise)	+	+
Roadcond	Condition of road (1 = good, 0 = otherwise)	+	+
Tranportfac	Availability of transport facilities (1 = available, 0 = otherwise)	+	+
incapacita~n	Incapacitation due to illness (days)	+	–
Deaths	Distance to healthcare facilities (kilometers)	–	–

Source: Author's review of literature

The $Cov\ (T, Z) \neq 0$ for the instrument to be valid. This was checked using the F-test on the instrument, such that; the F-test greater than 10 claims that Z is a strong instrument and otherwise when it is less than or equal to 10. We have it that:

$$If\ \hat{F} > 10\ ;\ Z \text{ is a strong instrument} \quad (5)$$

$$If\ \hat{F} \leq 10\ ;\ Z \text{ is a weak instrument problem} \quad (6)$$

These conditions test the relevance of the instrument. However, the exogeneity of Z was not observed as there is a need to have more instruments (Zs) than the endogenous Xs.

Definition of variables in the model

Outcome variable

Labour productivity is expressed as the ratio of the total value of output to a total number of man-days of work spent. It measures the contribution of labour to output.

Treatment variable

The treatment group is made up of households that make use of health facilities when they are sick. It takes the value of 1; the control group is households that did not make use of healthcare facilities when they were sick and takes the value of 0.

Instrumental variable

Distance to healthcare facilities from home was used as an instrumental variable in the study. Distance to healthcare facilities influences the decision to use healthcare facilities but it has an indirect relationship with labour productivity.

RESULTS AND DISCUSSION

Socioeconomic characteristics of the users and non-users of healthcare facilities

According to Table 2, the average ages of those who use and do not utilise healthcare facilities were 52.11 ± 13.33 and 56.34 ± 14.77 years old, respectively. The findings indicated a large age gap between the two groups, with users being significantly younger than non-users. According to the results, there were 71% and 78% more male users than female non-users. The outcome is consistent with Nnonyelu and Nwanko (2014). The average household size of those who used healthcare facilities and those who did not was 5.85 ± 2.41 and 6.02 ± 2.39 people, respectively. This shows that both groups had quite big households and may benefit from using home labour on their farms, which would increase production. The outcome showed a significant difference between users' and non-users' marital status. The results agree with those of Ayoade and Adeola (2012) and Tsega et al. (2023).

Table 2. Socio-economic distribution of treatment and control groups

Variable	Treatment group (n = 96)		Control group (n = 104)		Difference	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Test of diff.
Age	52.11	13.33	56.34	14.77	–4.23	0.0356**
+sex	0.71	0.46	0.78	0.42	–0.07	0.2552
Hhsiz	5.85	2.41	6.02	2.39	–0.17	0.6278
+maritalsta~s	0.71	0.46	0.40	0.49	0.31	0.0000***
offfarminc~e	132583.30	85686.78	112673.10	70012.13	19910.2	0.0726*
Ysis	6.13	4.61	4.78	5.07	1.35	0.0515*
+cooperate	0.25	0.44	0.12	0.32	0.13	0.0132**
Farmexp	26.17	15.61	26.41	14.09	–0.24	0.9066
+chew	0.68	0.47	0.19	0.40	0.49	0.0000***
Areaha	3.14	3.17	2.80	2.02	0.34	0.3705
+water	0.50	0.50	0.36	0.48	0.14	0.0394**
+roadcond	0.49	0.50	0.45	0.50	0.04	0.5961
+tranportfac	0.50	0.50	0.51	0.50	–0.01	0.8926
incapacita~n	54.23	32.45	64.54	33.34	–10.31	0.9542
Dths	8.01	5.11	15.37	5.33	–7.36	0.0000***

+ For dummy variables, proportions were used instead of means
***, ** and * means $p < 0.01$, $p < 0.05$ and $p < 0.1$
1 USD = N395
Source: Data Analysis, 2020

The off-farm income generated by users and non-users of healthcare facilities differs significantly, indicating that users of healthcare facilities experienced higher income than their peers. This can be ascribed to fewer days missed due to illness, which will inevitably extend their health time and generate more revenue. The findings indicated that healthcare facility users are more educated than non-users, which may have a beneficial impact on their decisions to use healthcare facilities. Users and non-users of healthcare facilities had respective mean farming experience ages of 26.17 ± 15.61 years and 26.41 ± 14.09 years. There was a substantial difference between the two groups as more than half (68%) of people who used healthcare facilities had contact with community health workers compared to a smaller percentage (19%) of people who did not utilise healthcare facilities. The average amount of farmland that was cultivated by those who utilised healthcare facilities and those who did not was 3.14 ± 3.17 hectares and 2.80 ± 2.02 hectares, respectively. This indicates that people who used healthcare facilities farmed a bigger amount of land than their counterparts.

There was a considerable difference between the two groups: just 36% of people who did not use healthcare facilities had access to clean water, compared to 50% of healthcare facility users. This finding implies that people with better access to clean water are more likely to be healthy and productive than people without it. About half (49% and 45%) of healthcare facility users and non-users, respectively, said that their good road infrastructure will improve access to healthcare facilities. Users and non-users of healthcare facilities lost an average of 54.23 ± 32.45 days and 64.54 ± 33.34 days, correspondingly, to illness when they were affected by diseases. Because of this, people who do not use healthcare facilities miss more days of work due to illness than their counterparts. Users and non-users travelled, on average, 8.01 ± 5.11 km and 15.37 ± 5.33 km from their homes to healthcare facilities, respectively. The chance of its use decreases with increasing distance from the healthcare facilities. This is consistent with Awoyemi et al. (2011).

Labour productivity

The amount of labour that goes into an output is measured as labour productivity. According to Table 3, the labour productivity of people who utilise healthcare facilities and people who do not use them when they are ill was ₦1457.35 (USD 3.68) and ₦805.01 (USD 2.03) per man-day, respectively, with a mean difference of ₦652.34 (USD 1.65) per man-day being significant at ($p < 0.01$) level. This suggests that households that sought medical attention when ill make an additional ₦652.34 (USD 1.65) per man-day in contributions to productivity. This concurs with Omer (2016) who reported that the farming productivity of households that used healthcare services in the case of unexpected diseases was higher compared to those that did not use healthcare services.

Effects of the use of healthcare facilities on agricultural labour productivity

The first stage of the two-stage least square (2SLS) regression analysis illustrates the variables impacting agricultural households' decisions to use healthcare services, using distance as a proxy. Every relevant variable matches the *a priori* predictions. Wald $chi^2(15)$ and Prob > chi^2 diagnostic statistics demonstrated the model's suitability. For the collection of instrumental variables that are significant at the 1% probability level, the Wald chi^2 offers the tests of over-identifying limitations for the 2SLS regression error terms.

The findings showed that the decision to use healthcare facilities is strongly influenced by the household heads' age ($p < 0.1$), sex ($p < 0.05$), contact with a health extension worker ($p < 0.01$), incapacitating sickness ($p < 0.05$), and distance to healthcare facilities ($p < 0.01$). The coefficient of age showed that as household heads age increases, there is a decreasing likelihood that they will use healthcare facilities. As a result, older household heads are less likely to use healthcare facilities when they are ill and are more likely to rely on traditional medical centers or self-medication methods. This finding contradicts Aminu and Asogba (2020), although it is consistent with Mekonnen and Mekonnen (2002).

According to the sex coefficient, households with male heads of the home are less likely to use healthcare services. This explains why households with female heads are more likely to use healthcare facilities. The choice to use healthcare facilities was favorably influenced by interactions with health extension personnel. This is due to the fact that health extension

Table 3. Labour productivity of users and non-users of healthcare facilities

Variable	Treatment group (n = 96)	Control group (n = 104)	Mean difference	Test of difference
Labour Productivity	1457.356	805.0139	652.3421	0.0027***

*** means $p < 0.01$
Source: Data Analysis, 2020

Table 4. Instrumental variable two stage least square regression estimate

Variable	Stage 1 (use of healthcare facilities)			Stage 2 (labour productivity)		
	Coefficient	Std. Err.	t-value	Coefficient	Std. Err.	t-value
Age	–0.0057893*	0.003066	–1.89	61.07358	109.373	0.56
Sex	–0.1354265**	0.067518	–2.01	168.616	242.438	0.70
Hhsiz	0.0089934	0.015983	0.56	–537.9472	555.042	–0.97
Marital status	0.0938661	0.064125	1.46	–161.3727	234.649	–0.69
Off farm income	5.04e–07	3.76e–07	1.34	0.0146546	0.01318	1.11
Ysis	0.0015072	0.006497	0.23	–122.536	226.751	–0.54
Cooperate	0.0360391	0.076559	0.47	684.7384**	266.478	2.57
Farm exp	0.0013231	0.002768	0.48	–34.63419	97.5384	–0.36
Chew	0.2979616***	0.064269	4.64	–486.8329	298.018	–1.63
Area ha	0.0036975	0.012848	0.29	255.6252***	44.4710	5.75
water	0.0347946	0.078295	0.44	394.4428	275.017	1.43
Road cond	0.087163	0.095139	0.92	1.866247	3342.11	0.00
Tranport fac	0.0079704	0.087256	0.09	–185.8613	303.095	–0.61
Incapacitation	0.0018715**	0.000913	2.05	–23.44096	33.0547	–0.71
Dths	–0.035518***	0.004708	–7.54	–	–	–
Healthcare use	–	–	–	788.222*	461.534	1.71
Constant	0.7816914***	0.181035	4.32	718.6501	591.541	1.20
Diagnostic statistics						
Wald chi²(15)	79.93***			–		
Prob> chi²	0.0000***			–		
R-squared	0.3006			0.4922		
Adj R-squared	–			0.4508		
F(15, 184)	–			11.89***		
Prob> F	–			0.0000***		
Sample size	200			200		

***, ** and * means $p < 0.01$, $p < 0.05$ and $p < 0.1$
Source: Data Analysis, 2020

workers are more likely to inform households about the risks associated with self-medication, which will persuade them to use better healthcare facilities. The use of current healthcare facilities will likely grow as a result of health extension workers who are more likely to raise awareness of them. This outcome is consistent with Nnonyelu and Nwanko (2014).

The likelihood of using healthcare facilities decreases with increasing distance from them, indicating that households with residences in remote areas are less likely to use them when they are ill. The findings of Awoyemi et al. (2011), Omonona et al. (2015), and Aminu and Asogba (2020) are supported by this result. A household's decision to disregard its proximity to healthcare services or not is sometimes influenced by incapacitating disease because doing so will frequently result in a greater number of days lost to farming activities. As a result, with a good relationship between the two, the closer the amenities are to the household, the better.

The second stage involved a method that shows the correlation between the utilisation of healthcare services and labour productivity by using the anticipated probability from the first stage computation as the excluded instrument for the second stage estimation. The inclusion of distance as the instrumental variable in the first-stage regression significantly improves the fit, according to the F-statistic used to measure the improvement in model fit when the chosen instruments are added to the initial model. The relevant variables explained 49.22% of the variation in labour productivity, according to the R squared value. The likelihood of F demonstrated the model's overall fit at ($p < 0.01$) level.

The findings indicated that participation in cooperative societies ($p < 0.05$), cultivated areas, and the use of healthcare facilities ($p < 0.1$) all had a significant impact on worker productivity. According to the coefficient of cooperative society membership, household heads who are members will produce more

labour at a rate of ₦684.74 (USD 1.73) per man-day than their counterparts who do not belong to a cooperative society. An increase in acreage under cultivation results in a ₦255.63 (USD 0.64) per man-day improvement in labour productivity. In the same vein, households' productivity tends to increase by ₦788.22 (USD 1.99) per man-day when they use healthcare services while ill. This may be connected to the adequate time allocated for production. This outcome backs up Omer (2016) results.

CONCLUSION

Households that used healthcare facilities had higher labour productivity than those that did not. While membership in a cooperative society, the area cultivated, and the use of healthcare facilities all influenced labour productivity, age, sex, interaction with health extension workers, sickness incapacity, and distance to healthcare facilities did not. It is consequently recommended that healthcare facilities be located closer to houses in order to increase utilisation. In addition, health extension workers must increase their efforts to educate households about the importance of using healthcare facilities when they are sick. It is expected that by doing so, households will spend more time healthy, which will ultimately increase the available healthy time for productivity.

CONFLICT OF INTEREST

The authors declared no conflicts of interest with respect to the research, authorship, and publication of this article.

ETHICAL COMPLIANCE

The authors have followed ethical standards in conducting the research and preparing the manuscript.

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