WEB MATERIAL

Few Losses to Follow-up in Sub-Saharan African Cancer Cohorts via Active Mobile Health Follow-up

The African Breast Cancer—Disparities in Outcomes Study

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WEB APPENDIX

Predictor Variables for the Competing-Risks Regression Models

Predictor variables for the competing risks regression models were obtained in the baseline questionnaire and included:

TNM stage at diagnosis: stages I/II combined (as stage I was rare), stage III, stage IV, and unknown stage

Age at diagnosis: linear and categorized into <35, 35-45, 45-55, 55-65, and ≥ 65 years

Country-specific socioeconomic position (SEP): country-specific SEP categories (low, middle and high) which were constructed based on thirds (as far as possible) of each country's distribution of a numeric SEP score derived from combining the following self-reported possessions and facilities: home ownership, indoor water, flush toilet, electricity, vehicle, refrigerator, landline, gas or electric stove, and bed; plus belief in traditional medicine (yes/no)

Distance to hospital: Distance to the hospital was calculated as the straight-line distance between the diagnostic/treatment hospital and the woman's home residence, after geocoding their addresses. The effect of a linear trend per 100-km increase in distance was estimated.

HIV-positive: as reported by women, HIV-positive vs. HIV-negative/HIV-not known

Any non-HIV comorbidity: having at least one of the following conditions: hypertension, heart disease, diabetes, chronic anaemia, chronic obstructive pulmonary disease (COPD, e.g. chronic bronchitis, emphysema), asthma, hepatitis B or C, tuberculosis, other chronic infection, other cancer, or other chronic disease

Residential area: living in an urban area (city/town) vs. a rural area (village/rural)

Knows anyone with breast cancer: having a friend or relative with breast cancer vs. not

Not married: currently not married vs. currently married

Employment status: employment as highly skilled/skilled or unskilled/not applicable (containing e.g. the informal work sector and housewives)

Education: low (no education/secondary education) vs. high (tertiary education/university)

Thinks breast cancer is treatable/curable: yes vs. no/don't know

Believes in traditional medicine: yes/no

Believes in spiritual healing: yes/no

Web Table 1. Mean durations (months) between consecutive successful follow-up (FUP) interviews for women who had had more than 10 FUPs vs. those who had had 10 or fewer FUPs, in the African Breast Cancer—Disparities in Outcomes (ABC-DO) Study

FUP No.	Participants With >10 FUP Interviews				Participants With ≤10 FUP Interviews			
	No.	Mean	Lower CL	Upper CL	No.[a]	Mean	Lower CL	Upper CL
1	195	3.11	3.03	3.19	1,111	4.03	3.95	4.11
2	195	3.12	3.04	3.21	1,110	4.03	3.95	4.11
3	195	3.11	3.03	3.20	965	3.97	3.90	4.05
4	195	3.05	2.97	3.13	843	3.89	3.82	3.95
5	195	3.14	3.07	3.22	691	3.80	3.74	3.86
6	195	3.06	2.98	3.13	565	3.71	3.65	3.77
7	195	3.07	3.00	3.14	465	3.62	3.56	3.67
8	195	3.04	3.00	3.09	342	3.55	3.49	3.61
9	195	3.09	3.02	3.16	235	3.46	3.41	3.51
10	195	3.10	3.05	3.16	124	3.36	3.30	3.41

CL, confidence limit.

[a] No. of women having reached the nth follow-up of women having <10 follow-ups, i.e. all women dropping out at the respective follow-up number.

Web Figure 1. Programmed Protocol for mHealth Follow-up in the African Breast Cancer—Disparities in Outcomes (ABC-DO) Study. This flow diagram reflects the protocol programmed into an mHealth application which served as an efficient study management tool to manage follow-up of the ABC-DO cohort.
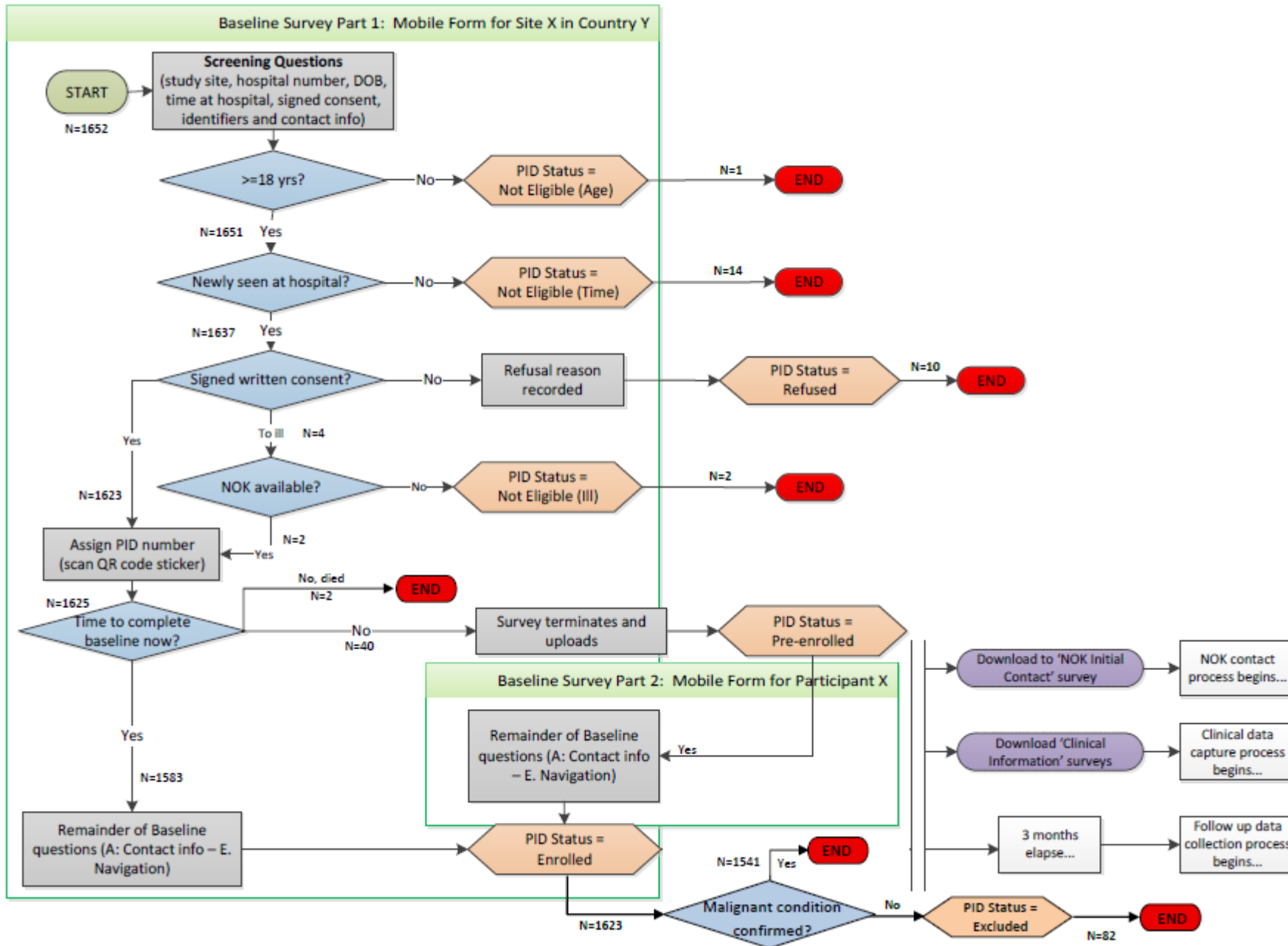
Web Figure 2. Follow-up Characteristics and Percentage Lost to Follow-up in the African Breast Cancer—Disparities in Outcomes (ABC-DO) Study, by Country, and in Comparison With Previous Studies of Breast Cancer Survival in Sub-Saharan Africa Conducted Since 2010. Apart from Joko-Fru at al. 2019 and the CONCORD-3 publication, all studies were hospital-based. Only ABC-DO and Kantelhardt et al. 2014 were prospectively conducted.

Population	Human development index	Definition of LFUP*	N at study start	Lost to follow up after 3 yrs n	%
Current study: ABC-DO: prospective hospital-based study, active mHealth FU					
Nigeria, Aba and Owerri	Medium	6 months after	387	3	1
Namibia, Windhoek	Medium	6 months after	481	10	2
Uganda, Kampala	Low	6 months after	421	24	6
Zambia, Lusaka and Kabwe	Low	6 months after	201	40	20
Retrospective population-based cancer registry-based, active FU					
Joko-Fru et al. 2019					
Mauritius[A]	High	censoring date	491	0	0
Seychelles	High	censoring date	313	1	1
Zimbabwe, Harare	Low	censoring date	174	1	1
Namibia	Medium	censoring date	64	8	13
Ethiopia, Addis	Low	censoring date	389	53	14
Cote d'Ivoire, Abidjan	Low	censoring date	209	45	22
Mali, Bamako	Low	censoring date	48	11	23
Mozambique, Maputo [B]	Low	censoring date	42	12	28
SA, Eastern Cape	Medium	censoring date	105	90	29
Uganda, Kyadondo	Low	censoring date	114	38	34
Kenya, Eldoret	Medium	censoring date	78	29	37
Kenya, Nairobi	Medium	censoring date	141	55	39
Zimbabwe, Bulawayo	Low	censoring date	54	22	41
Benin, Cotonou	Low	censoring date	91	49	51

[A] Passive follow-up: Linkage of cancer registry records with population death records
[B] only 1 year survival

Population	Human development index	Definition of LFUP*	N at study start	Lost to follow up after 3 yrs n	%
Allemani et al. 2018 (CONCORD-3, population-based cancer registry)					
Mali (Bamako)[C]	Low	not provided	60	0	0
Nigeria (Ibadan)[C]	Medium	not provided	3962	0	0
South Africa (Eastern Cape)[C]	Medium	not provided	733	113	15

[C] Data flagged as "less reliable" due to very high percentage of alive censoring

Population	Human development index	Definition of LFUP*	N at study start	Lost to follow up after 3 yrs n	%
Retrospective hospital-based, ambient FU					
Agboola et al. 2012					
Nigeria, Lagos	Medium	not provided	308	106	34
Cubasch et al. 2018					
SA, Soweto	Medium	6 months after	602	287	42
Galukande et al. 2015					
Uganda, Kampala	Low	censoring date	475	213	45
Prospective hospital-based, ambient FU					
Kantelhardt et al. 2014					
Ethiopia, Addis-Abeba	Low	6 months before	1070	231	22

* 6 months after: Updated vital status not known for at least 6 months from closing date to data extraction; 6 months before: Vital status not updated in the 6 months before the censoring date; Closing date: Vital status unknown at closing date; not provided: no or insufficient information provided in the manuscript