Original Article

# Evaluation of Histopathology Request Forms from Major Institutions in Nigeria and a Proposal for a Prostate Disease-specific Histopathology Request Form

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## Abstract

**Introduction:** Histopathology Request Forms (HRFs) serve as interphase between clinicians and pathologists in making diagnosis of tissue pathology. Inadequacies of the completion of HRFs have been a source of major frictions between the two groups of physicians. Various reports have highlighted this inadequacy. The need for adequate information on the HRF to be standardized cannot be overemphasized. **Aim:** The paper aims to evaluate the histopathology request forms from institutions in Nigeria and to propose an improved prostate disease-specific histopathology request form. **Methodology:** Histopathological request forms from some major Nigerian health institutions were analyzed for adequacy based on required information for a standardized histological reportage. A request form specific for suspected prostate diseases was designed from the review of literature. **Results:** Histopathology request forms (HRFs) from sixteen Nigerian health institutions were received from all the geopolitical zones of the country following a request. All the HRFs were neither organ nor disease specific. None of the HRFs was adjudged to be satisfactory to produce enough information adequate for comprehensive histopathology reportage. A prostate disease-specific histological request form is proposed following review of literature. **Discussion:** The need for a comprehensive prostate-specific HRF cannot be overemphasized to improve the relationships between surgeons and pathologists and to improve reportage of prostate pathologies and the management of prostatic diseases. **Conclusion:** Adequate clinical information is needed for early and complete reportage of histopathological report of prostate diseases.

**Keywords:** Histopathology, prostate, request form

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## Introduction

Pathologists have documented the inadequate completion of clinical information provided on the histology request forms (HRFs) by physicians/surgeons. Some of these reports noted omissions from the HRFs which are inimical to satisfactory processing and reportage of the specimen. Osimbo and Rioki. in Kenya reported that of the 220 laboratory request forms evaluated, 79.6% were adequately completed, but only 2.3% of the laboratory request forms evaluated met all the major composite quality indicator domains.[1] Furthermore, Manoharan *et al*. in India also echoed that only 0.1% of request forms had all the essential information and the patient's name was the only parameter that appeared in all of the laboratory request forms, and this too may be due to refusal of request forms at the reception that had no names of patients.[2]

The relationships between clinicians and pathologists are often strained due to the complaints of the pathologists, specifically on the inadequacy of the clinical information provided on the HRFs which are considered inimical to providing acceptable

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reportage, while the grudge of the surgeons is not having satisfactory reportage of histological specimens.[3] In addition, the pathologists complained of nonstandardized techniques of tissue acquisition.

The need for adequate information on the HRF which serves as interphase between surgeons and pathologists cannot be overemphasized. This information should be detailed enough to guide the pathologists in the analysis of the specimen and provide means by which the pathologist can access needed information not available on the HRF. There would be several advantages in having HRFs which will also provide information about the method of tissue acquisition as this will encourage uniformity in tissue acquisition by physicians/surgeons. A short, focused and concise clinical information, CI has been reported to lead to a shorter turnaround time (TAT) to improve on reportage; inadequate clinical information has also been shown to result in increased diagnostic errors and increased frequency of amended reports.[4] Most pathology laboratories will return specimen with the histology form to the surgeon for complete CI,[5] resulting in delay in the management of the patients.

In Nigeria, HRFs are not standardized. Anecdotal report showed that many of these HRFs have been in use for several years without change in content with advancing knowledge. Samples of some of these HRFs are included in Figures 1-4. If it is considered expedient to have adequate information provided to pathologists on the HRFs, it will be necessary to review the HRFs in current use to develop a prototype HRF that will be adequate to provide sufficient information to the laboratory. Therefore, we decided to look at HRFs across the country's major health institutions and also to propose a prostate disease-specific histopathology request form which will be adequate to meet the demand of science of the management of prostate diseases and also guide pathologists to produce improved reportage which will be acceptable for therapeutic guide.

## Aim

1. The aim of this paper is to evaluate the histopathology request forms from institutions in Nigeria for the adequacy of clinical information to be completed by the requesting physicians
2. The paper also aims to propose an improved prostate disease-specific histopathology request form which has adequate clinical information needed for standardized, timely, and improved histopathological reportage of prostate diseases for possible adoption and adaptation by hospitals with urological services.

## Methodology

Copies of histopathological request forms from major institutions were obtained following requests sent to these centers. The available HRFs that were received were analyzed for adequacy based on required information for a standardized histological reportage.[6-8] The information from the publications were adopted to develop a prostate disease-specific histopathological form. This HRF is being proposed for adaptation by institutions. The data retrieved from the HRFs were classified into four domains. These are as follows: Domain 1, patient identifiers; Domain 2, information about physician requesting for the test; Domain 3, information about the specimen or tissue; and Domain 4, previous interventions.

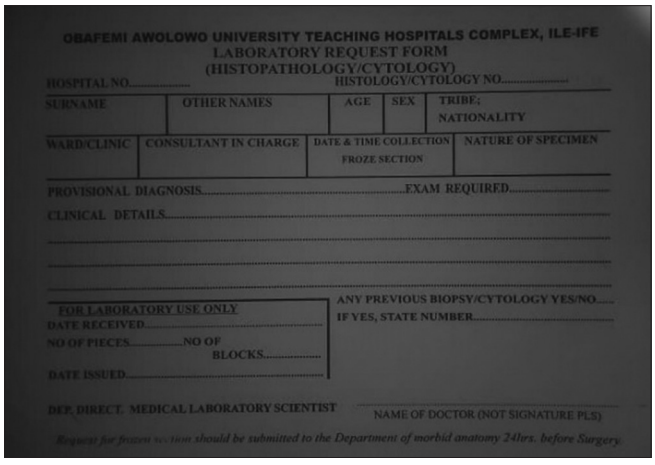

OBAFEMI AWOLOWO UNIVERSITY TEACHING HOSPITALS COMPLEX, ILE-IFE
LABORATORY REQUEST FORM
(HISTOPATHOLOGY/CYTOLOGY)
HOSPITAL NO. HISTOLOGY/CYTOLOGY NO.
SURNAME | OTHER NAMES | AGE | SEX | TRIBE; NATIONALITY
WARD/CLINIC | CONSULTANT IN CHARGE | DATE & TIME COLLECTION FROZE SECTION | NATURE OF SPECIMEN
PROVISIONAL DIAGNOSIS EXAM REQUIRED
CLINICAL DETAILS
FOR LABORATORY USE ONLY
DATE RECEIVED
NO OF PIECES NO OF BLOCKS
DATE ISSUED
ANY PREVIOUS BIOPSY/CYTOLOGY YES/NO
IF YES, STATE NUMBER
DEP. DIRECT. MEDICAL LABORATORY SCIENTIST
NAME OF DOCTOR (NOT SIGNATURE PLS)
Request for frozen section should be submitted to the Department of morbid anatomy 24hrs. before Surgery

**Figure 1:** Sample 1

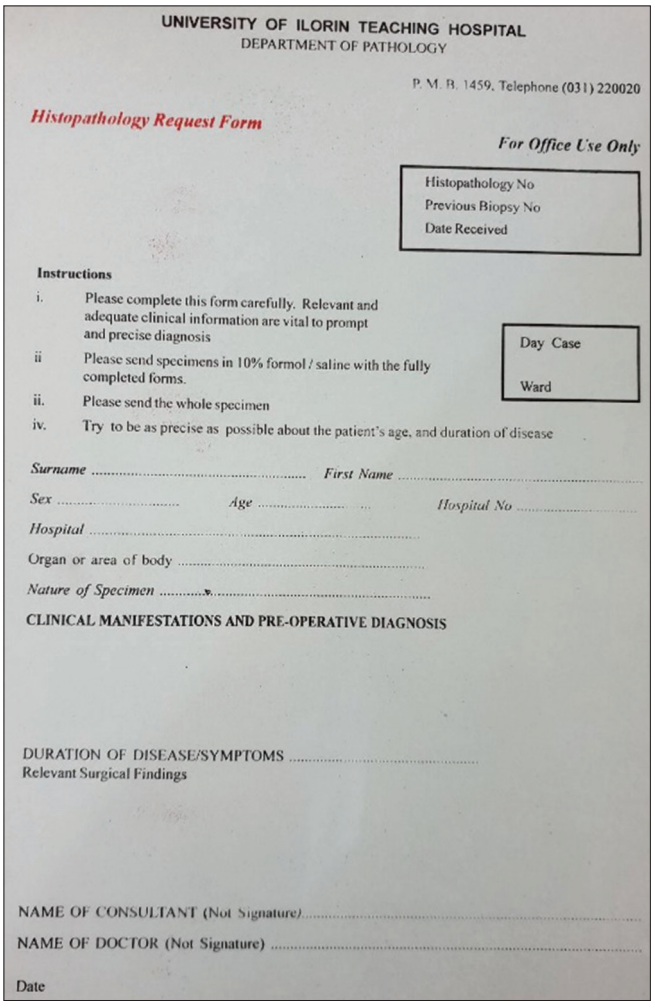

UNIVERSITY OF ILORIN TEACHING HOSPITAL
DEPARTMENT OF PATHOLOGY
P. M. B. 1459, Telephone (031) 220020
Histopathology Request Form
For Office Use Only
Histopathology No
Previous Biopsy No
Date Received
Instructions
i. Please complete this form carefully. Relevant and adequate clinical information are vital to prompt and precise diagnosis
ii Please send specimens in 10% formol / saline with the fully completed forms.
ii. Please send the whole specimen
iv. Try to be as precise as possible about the patient's age, and duration of disease
Day Case
Ward
Surname ..... First Name .....
Sex ..... Age ..... Hospital No .....
Hospital .....
Organ or area of body .....
Nature of Specimen .....
CLINICAL MANIFESTATIONS AND PRE-OPERATIVE DIAGNOSIS
DURATION OF DISEASE/SYMPTOMS .....
Relevant Surgical Findings
NAME OF CONSULTANT (Not Signature) .....
NAME OF DOCTOR (Not Signature) .....
Date

**Figure 2:** Sample 2 gives some instructions but not adequate

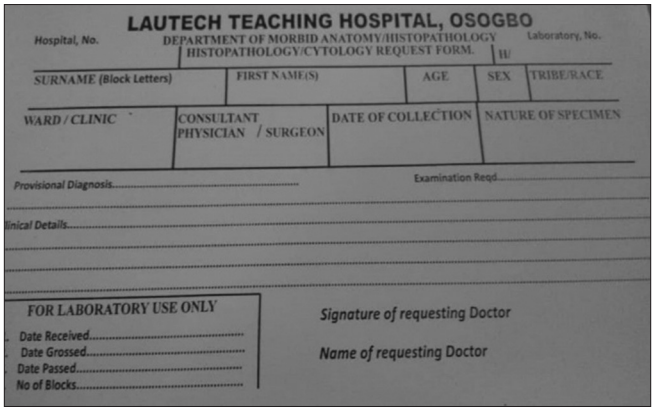
The available forms were analyzed, and the data are displayed in Table 2. A request form specific for suspected prostate diseases was designed from the review of literature. This proposed HRF would convey information that will provide pathologists with adequate clinical information necessary to make a timely, comprehensive, and satisfactory histopathology report, provide information for the safety of laboratory staff, and also make provision for contact of the physicians and the patients if and when necessary.

## Results

Sixteen institutional request forms were received (10 teaching hospitals and 6 federal medical centers). All the geopolitical zones of the country were duly represented. Table 1 shows the institutions and the zones of the country where these forms were received from. All the HRFs were neither organ nor disease specific.

Analysis of Domain 1 showed that 100% of the HRFs have requests for patient's identifiers such as name, age (not date of birth), sex, and hospital numbers. However, 3 (18.8%) of 16 have patient's contact details and 50% have the patients' tribe. Domain 2, which is the details of the clinicians: 14 (87.5%) of 16 have the names of the consultants, but only 3 of 16 (18.8%) have the phone contact details of the consultants. Domain 3: 1 (6.3%) of 16 of the HRFs requested for infectivity/risk of hazard of the specimen from diseases such as HIV infection or whether the tissue contains hazardous or radioactive substance such as radioactive implants in patients who had brachytherapy within a period (3–12 months);[8] 2 of 16 (12.5%) requested for the method of tissue procurement; 6 of 16 (37.6%) has fields for previous histology report on the same organ. Domain 4: None of the request forms has a field for previous treatment that patient received. Figures 1-4 are samples of these HRFs. Table 2 shows how much of information domains were on the available HRFs.

A prostate disease-specific histological request form is being proposed following the review of literature.[6,7] Figure 5 shows the proposed prostate disease-specific HRF.


LAUTECH TEACHING HOSPITAL, OSOGBO

Hospital, No. DEPARTMENT OF MORBID ANATOMY/HISTOPATHOLOGY HISTOPATHOLOGY/CYTOLOGY REQUEST FORM. Laboratory, No.

SURNAME (Block Letters) | FIRST NAME(S) | AGE | SEX | TRIBE/RACE

WARD / CLINIC | CONSULTANT PHYSICIAN / SURGEON | DATE OF COLLECTION | NATURE OF SPECIMEN

Provisional Diagnosis..... Examination Reqd.....

linical Details.....

FOR LABORATORY USE ONLY

Date Received.....
Date Grossed.....
Date Passed.....
No of Blocks.....

Signature of requesting Doctor

Name of requesting Doctor

**Figure 3:** Sample 3

## Discussion

Surgical–pathology meetings hold in several Nigerian academic hospitals with the aims of understanding the diseases better on a broader platform, fostering relationships and understanding between physicians and pathologists. These meetings also aim to improve the quality of the training of the surgical and pathology trainees. These joint meetings are part of the training requirements of the respective faculties of postgraduate medical colleges. One of the benefits of these meetings should be understanding what the surgeons expect from the pathologists and what the expectations of the pathologists needed to give good reportage are. Since the HRFs serve as interphase between the two groups of doctors, it is important that this should be revised to resolve many of these areas of conflict. Furthermore, there should be a reporting pro forma that should answer most questions that surgeons would ask from most specimens that are sent to the laboratory.

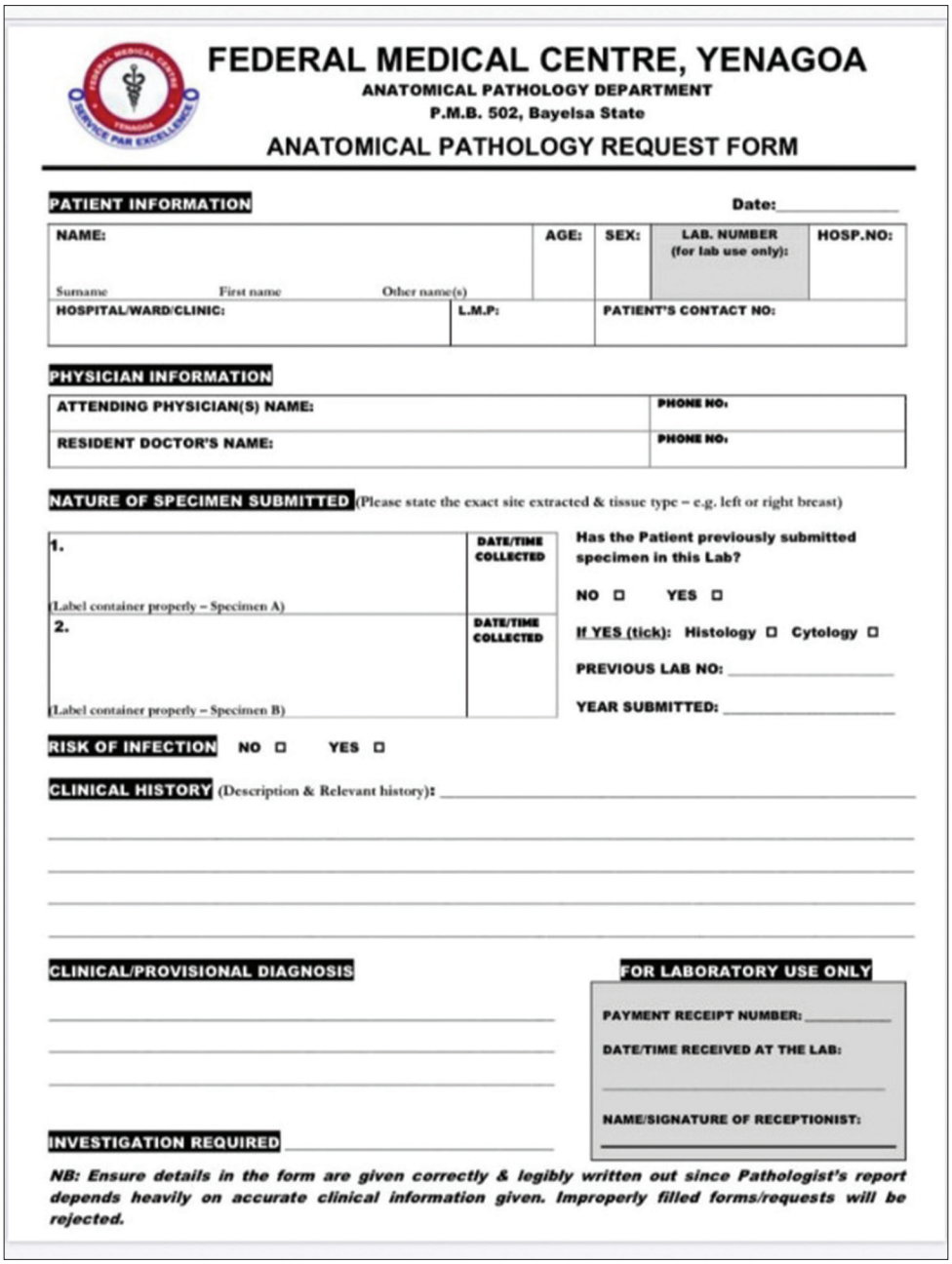
The pathological finding is particularly important in prognosticating and determining the appropriateness of adjuvant treatment such as radiation therapy or hormonal therapy.[9,10] Unsatisfactory completion of HRF has continued to generate concerns among laboratory workers. Forae and Obaseki from Benin reported that 1415 out of 1659 (85.3%) HRFs had inadequate CIs,[3] whereas Atanda *et al*. in Kano reported that although physicians perceived the laboratory's TAT to be just average, they noted that this TAT would have been better but for the delays of report generation due mainly to inadequate clinical information provided by

**Table 1: Locations of the institutions in the geopolitical zones**

| Geopolitical zones | Institutions |
|---|---|
| South west | UCH, LAUTECH, LASUTH, LUTH, FMC Abeokuta, FTHIE, OAUTHC |
| South east | UNTH |
| South south | UPTH, FMC Yenogoa, FMC Asaba |
| North central | UITH, FMC Lokoja, FMC Bida |
| North east | UMTH |
| North west | FMC Gombe |

**Table 2: Clinical Information obtainable from the histopathology request forms**

| Clinical information | Yes | No |
|---|---|---|
| Demographics | 16 | 0 |
| Tribe | 7 | 9 |
| Specific instruction on tissue procurement | 1 | 15 |
| Patient's contact | 1 | 15 |
| Notification of infectivity | 0 | 16 |
| Consultant's name | 14 | 2 |
| Consultant surgeon's contact phone | 3 | 13 |
| Surgeon's details | 2 | 14 |
| Detailed specimen information | 0 | 15 |
| Other instructions | 4 | 12 |



**FEDERAL MEDICAL CENTRE, YENAGOA**

ANATOMICAL PATHOLOGY DEPARTMENT

P.M.B. 502, Bayelsa State

**ANATOMICAL PATHOLOGY REQUEST FORM**

**PATIENT INFORMATION** Date:_____

| NAME: Surname First name Other name(s) | AGE: | SEX: | LAB. NUMBER (for lab use only): | HOSP.NO: |
|---|---|---|---|---|
| HOSPITAL/WARD/CLINIC: | L.M.P: | PATIENT'S CONTACT NO: | | |

**PHYSICIAN INFORMATION**

| ATTENDING PHYSICIAN(S) NAME: | PHONE NO: |
|---|---|
| RESIDENT DOCTOR'S NAME: | PHONE NO: |

**NATURE OF SPECIMEN SUBMITTED** (Please state the exact site extracted & tissue type – e.g. left or right breast)

| 1. (Label container properly – Specimen A) | DATE/TIME COLLECTED |
|---|---|
| 2. (Label container properly – Specimen B) | DATE/TIME COLLECTED |

Has the Patient previously submitted specimen in this Lab?

NO ☐ YES ☐

If YES (tick): Histology ☐ Cytology ☐

PREVIOUS LAB NO: _____

YEAR SUBMITTED: _____

**RISK OF INFECTION** NO ☐ YES ☐

**CLINICAL HISTORY** (Description & Relevant history): _____

**CLINICAL/PROVISIONAL DIAGNOSIS**

**INVESTIGATION REQUIRED** _____

**FOR LABORATORY USE ONLY**

PAYMENT RECEIPT NUMBER: _____

DATE/TIME RECEIVED AT THE LAB:

NAME/SIGNATURE OF RECEPTIONIST:

***NB: Ensure details in the form are given correctly & legibly written out since Pathologist's report depends heavily on accurate clinical information given. Improperly filled forms/requests will be rejected.***

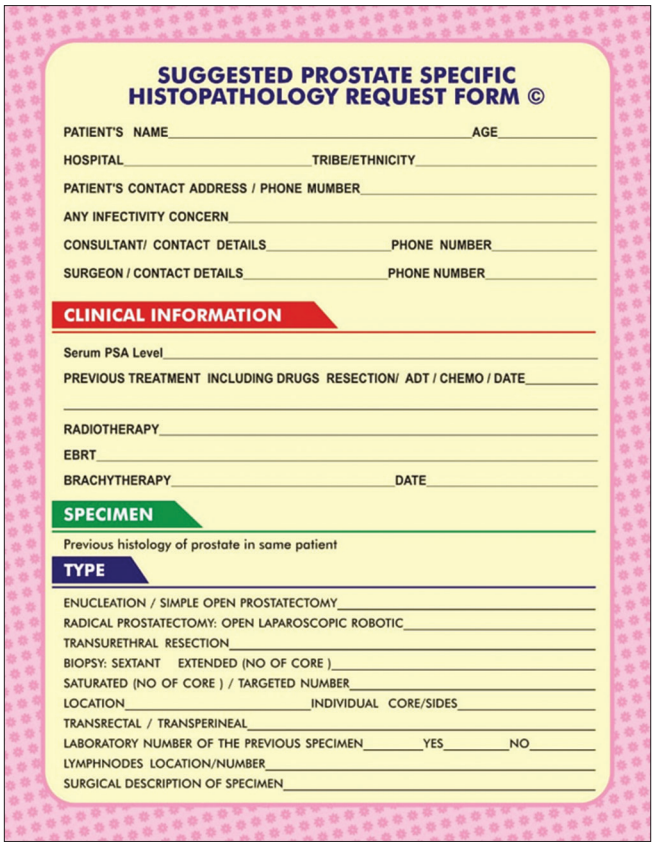
**Figure 4:** Sample 4: Most realistic HRF: Seeks information for infectivity of the specimen

physicians in addition to other factors such as residency training-related factors and tissue processing-related factors among others.[11]

Adequate CI is necessary for timely and error-free histopathological reporting. A short, focused, and concise CI is associated with a shorter TAT. Factors such as specimen type that may need special processes such as bone special staining or immunohistochemistry especially in developing countries may affect the TAT.[12]

Anecdotal report has it that many of the HRFs in the country have not been updated or revised for decades despite the advances in clinical knowledge and advances in histological diagnosis. The histopathology report is as good as the amount of CI provided by the surgeon on the request forms.

This survey shows that none of the HRFs is adequate to meet the present-day requirements for satisfactory reportage even when all the fields in the HRFs are completed. They will not be able to provide adequate information necessary for the safety of the laboratory staff. The report, in turn, may not provide enough information to the urologists to provide appropriate treatment. Since diseases of the prostate gland constitute a substantial portion of the work burden of the urologists, a proposal of a prostate disease-specific HRF is therefore encouraged.



**SUGGESTED PROSTATE SPECIFIC HISTOPATHOLOGY REQUEST FORM ©**

PATIENT'S NAME _____ AGE _____
HOSPITAL _____ TRIBE/ETHNICITY _____
PATIENT'S CONTACT ADDRESS / PHONE MUMBER _____
ANY INFECTIVITY CONCERN _____
CONSULTANT/ CONTACT DETAILS _____ PHONE NUMBER _____
SURGEON / CONTACT DETAILS _____ PHONE NUMBER _____

**CLINICAL INFORMATION**

Serum PSA Level _____
PREVIOUS TREATMENT INCLUDING DRUGS RESECTION/ ADT / CHEMO / DATE _____
RADIOTHERAPY _____
EBRT _____
BRACHYTHERAPY _____ DATE _____

**SPECIMEN**

Previous histology of prostate in same patient

**TYPE**

ENUCLEATION / SIMPLE OPEN PROSTATECTOMY _____
RADICAL PROSTATECTOMY: OPEN LAPAROSCOPIC ROBOTIC _____
TRANSURETHRAL RESECTION _____
BIOPSY: SEXTANT EXTENDED (NO OF CORE ) _____
SATURATED (NO OF CORE ) / TARGETED NUMBER _____
LOCATION _____ INDIVIDUAL CORE/SIDES _____
TRANSRECTAL / TRANSPERINEAL _____
LABORATORY NUMBER OF THE PREVIOUS SPECIMEN _____ YES _____ NO _____
LYMPHNODES LOCATION/NUMBER _____
SURGICAL DESCRIPTION OF SPECIMEN _____

**Figure 5:** Proposed prostate disease-specific HRF

## The proposed prostate disease-specific histological request form

### *Domain 1: Patient identifiers*

#### Patient identification

Patient identification is especially important. Correct identification is paramount, and surname and first names are important. All the HRFs have slots for surname and first name. However, in some communities in Nigeria, many people bear same family names, religious names and in some instances, the names of the villages or towns. Therefore, having just the surname and the first names alone might not be adequate to separate one individual from another. We, hereby, propose the inclusion of the middle names on the HRF. Furthermore, the patient hospital number should be provided on the HRF.

The patient's ethnicity/tribe is important. Where the patient lives does not say everything about him. Prostate cancer rates vary substantially by race, ethnicity, and geography.[13] We, therefore, propose that the tribe and ethnicity of the patients should feature on the HRF. Because most Nigerians have mobile phones and can be contacted on phone , we propose the inclusion of the phone number of the patient on the form. The laboratory would be able to obtain additional information from the patients when necessary.

### *Domain 2: Physician's contact information*

Importantly, most of the HRFs request for the names of the consultant. It is important to inform the laboratory staff who the requesting physician, who most likely took the specimens. The name of the consultant in charge of the patient, which in some instances may be different from the surgeon that took the specimen. The contact details of both the consultant and the operating surgeon, which may or may not be the same, we propose these should feature on the form. This is important for the laboratory staff may need to make enquiries from either of the two categories of physicians to update the information that is available. This has been supported by Suleiman who recognized that simple phone calls or face-to-face interaction between pathologists and clinicians is a very reliable way of resolving conflicts, promoting rapport, fostering trust between colleagues, and ensuring that pathologists provide the clinicians with clinically relevant diagnoses.[14] The histology report should be sent to the consultant in charge of the patients as soon as they are ready.

### *Domain 3: Information about the specimen*

#### Tissue procurement

The information about the type of specimen, whether biopsy (sextant, systematic, or targeted) and type of surgical operations (transperineal, transurethral resection, and radical prostatectomy [nerve-sparing or not] with or without nodal dissection) should feature on the HRF. The number of core tissue taken and site (at least laterality) of prostatic biopsies taken must be recorded by the operator as this cannot be determined in the laboratory due to fragmentation of cores. Provision of this information avoids a situation where the number of positive cores exceeds the number of cores obtained. If targeted biopsies are taken from a radiologically suspicious lesion, they should be submitted in a separate container. The containers of the specimen must be specified in the form. This helps the pathologist to situate the lesion.

If there are previous biopsies, there should be concise information about the previous histology, for example, in cases of repeat biopsies after an intervention or when monitoring a lesion with potential to transit to cancer such as high-grade prostatic intraepithelial neoplasia.

Information about hazards or infectivity of the specimen should be disclosed to the laboratory personnel to prevent laboratory-acquired infection from which many laboratory staff have died from.[15]

### *Domain 4: Previous interventions*

The need to include the details about previous treatment is imperative because previous interventions such as androgen deprivation therapy (ADT) affect the histology of the prostate.[16] ADT affects the histology of the prostate whether benign or malignant.[17] Likewise, radiotherapy (external beam radiation therapy and brachytherapy)[9,18] and neoadjuvant chemotherapy.[19] There could be risks to laboratory staff handling biopsy specimens from patients who have had brachytherapy for prostate cancer and require prostate biopsy within the active phase of the radioactive seedling which depends on the type. The active period could vary between 2 and 12months.(20, 21).[20,21]

Having information about the serum prostate-specific antigen (PSA) level is controversial. Providing this information may influence the pathologist in making diagnosis. A serum PSA level of 100 ng/ml will automatically suggest a diagnosis of prostate cancer. It is our opinion that having the level of serum PSA on the forms is good for completeness and research purposes.

### Future development

The future HRF should be digital where the form is completed online. Help could also be readily available to guide the clinician in completing the forms. Furthermore, this will ensure the completeness of the form as the form would only be submitted when all the fields have been satisfactory completed. This will also remove ambiguity with illegibility of hand writings.

## Conclusion

Adequate clinical information is needed for early and complete histopathological reportage of prostate diseases. Most of HRFs surveyed were lacking in the amount of CI they possess, and none is organ specific. To improve on the management of prostate disease, there is a need for better tissue procurement, documentation, improvement in the amount, and quality of information supplied to the laboratories.

### Acknowledgment

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### Conflicts of interest

There are no conflicts of interest.

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