Evaluation of Physician for Human Right's MediCapt Program in Kenya: Final Report

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Executive Summary

Background

Sexual violence is an urgent crisis that affects millions of people worldwide. Survivors of sexual assault deserve timely and high-quality forensic examination, evidence collection, and documentation as part of comprehensive care for survivors. However, in many countries, including in Kenya and many other under-resourced contexts, the quality of medical-legal documentation is severely limited. To help address these deficiencies and to improve justice for survivors, Physicians for Human Rights (PHR) and their close partners in the Democratic Republic of the Congo, Kenya, and beyond developed MediCapt, an innovative tablet-based application that enables clinicians to document forensic medical evidence of sexual violence cases digitally, capture forensic photographs of injuries sustained, and store them securely. The purpose of this study was: 1) to evaluate the effectiveness and usability of the MediCapt mobile application as a tool to document forensic medical evidence of sexual violence; 2) to understand whether or not digital forensic documentation tools improve forensic evidence collection process and documentation quality vs. paper forensic documentation forms; and 3) to identify obstacles to scaling up digital forensic evidence mHealth tools in low-resource environments and strategies to overcome them. This report, based on research that was supported by the Sexual Violence research Initiative and the World Bank, documents the results of our external, longitudinal evaluation of the MediCapt app use in Kenya.

Methods

Our multi-modal MediCapt evaluation involved key-informant interviews, questionnaires, and medical record reviews related to MediCapt implementation. Evaluation participants included Kenyan clinicians, medical records personnel, IT personnel, and administrators, as well as law enforcement and legal professionals in Kenya. To objectively assess the quality of data collected by the traditional paper-based forensic forms compared to data collected by MediCapt, a data quality checklist was developed, tested, and found to have high inter-rater reliability.

Results

The novel PHR data quality checklist, which assesses the quality of data that clinicians enter for 26 items on the Post-Rape Care (PRC) form, was found to have substantial inter-rater reliability, making it an effective tool for evaluating and comparing paper-based and MediCapt forensic records as well as for evaluating and improving forensic documentation in other countries. The checklist found that MediCapt forms had significantly higher data-quality scores compared to paper-based forms, and MediCapt forms scored higher than the paper-based forms on 23 of 26 checklist items. Additionally, while a wider difference in quality among paper-based forms were seen

across sites, the MediCapt app appeared to both standardize and improve the quality of documentation across sites. Using the MediCapt form may take slightly longer than the paper form. However, interviews suggested this trend is typically reversed as providers became more familiar with the app. Usability questionnaire participants generally agreed that MediCapt is easy to use, MediCapt is appropriate for use with survivors of sexual violence, MediCapt is acceptable to providers and survivors, and using MediCapt in these settings is both feasible and sustainable. The key reported weaknesses of paper forms were that the paper form can be lost, can be changed or destroyed without permission, is not confidential, has limited space, takes a lot of time to complete, is difficult to correct, often has missing or incorrect data, and does not have a survivor consent section. The key reported strengths of MediCapt were its secure storage, time efficiency and convenience, ease of accessing stored data across sectors, ability to take photos, confidentiality, inability to skip relevant questions (enhancing completeness), required consent process, comprehensiveness and accuracy, and difficulty to tamper with. The key reported weaknesses of MediCapt were internet or logging-in issues, challenging report length and format, printer difficulties, initially requiring more time and effort, issues with the MediCapt form itself, difficulty getting consent for photos, and requiring typing proficiency. Although it is early to assess the impact of MediCapt on survivor cases, providers were optimistic about its usefulness and reported that its legibility and photography features had already been appreciated by the court system.

Conclusion

MediCapt appears to have been well received in Kenya across all sectors and has shown to significantly improve the quality of collected forensic data. It is anticipated that this improvement in forensic documentation will increase the likelihood of successful prosecutions, resulting in strengthened accountability for alleged perpetrators and improved access to redress and justice for survivors.

1. Context

Sexual violence is an urgent crisis that affects millions of worldwide, impacting people of all genders, ages, and sexual orientation [1]. The World Health Organization estimates that approximately 30% of women worldwide have experienced physical and/or sexual violence by an intimate partner or non-partner in their lifetime; significant numbers of men and boys also experience sexual violence [2-3]. Rates of sexual assault are similar in Kenya [4-6], where intimate partner violence has been named one of the top 10 leading risk factors driving combined death and disability [7]. Sexual violence is also a major contributor to a broad range of physical, psychological, social, legal, and economic consequences that adversely affect survivors, families, communities, and society at large [4,5].

Survivors of sexual assault deserve timely and high-quality forensic medical examination, evidence collection, and documentation as part of comprehensive care for survivors. High-quality documentation of the clinical exam after sexual assault has been shown to increase trial, prosecution, and conviction rates of perpetrators [8-11]. A South African study analyzed the association of sexual assault injury documentation and legal outcomes and found that conviction was more likely when cases had documented injuries [12]. Furthermore, an evaluation conducted in Kenya found that the relative amount of medical evidence documented in the government-issued Post-Rape Care (PRC) form was associated with an increased likelihood of an adjudication outcome favoring the survivor [9]. In addition to legal justice outcomes, timely evidence collection may have other positive effects, such as enhancing survivor agency as well as empowering and validating the experience of survivors.

However, in Kenya and in many other resource-constrained contexts, there are reports of low-quality medical-legal documentation after sexual assault [14,15]. To help address these deficiencies in forensic documentation and to improve access to justice for survivors, Physicians for Human Rights (PHR) – in close partnership with colleagues in the Democratic Republic of Congo, Kenya, and beyond – developed MediCapt, an award-winning application that enables clinicians to document medical evidence of sexual violence cases digitally, capture forensic photographs of the injuries sustained, and store them securely.
This report, based on a study that was supported by the Sexual Violence Research Initiative (SVRI) and the World Bank, presents the findings of a longitudinal, multi-method evaluation of the MediCapt application in Kenya and how it affects the ability of clinicians to collect, document, and preserve medical evidence of sexual violence during medical exams. The evaluation also aims to contribute to the literature around the use of mobile health (mHealth) for collecting quality evidence and its role in a survivor-centered approach to forensic medical examination of sexual violence.

In summary, the objectives of this MediCapt assessment were to:

- Evaluate the effectiveness and usability of the MediCapt mobile application as a tool to document forensic medical evidence of sexual violence;

- Ascertain whether digital forensic documentation tools improve forensic evidence collection process and documentation quality compared to paper-based forensic documentation; and
- Identify obstacles to scaling up digital forensic evidence tools in low-resource environments and strategies to overcome them.

2. Methods

Our multi-modal MediCapt evaluation involved key-informant interviews, questionnaires, and medical record reviews related to MediCapt implementation. Ethical review and approval were obtained from the institutional review boards of Georgetown University and Egerton University. As external IRB approvals had been acquired, exemption from further ethical review was granted by PHR's Ethics Review Board.

Evaluation participants were key informants who had been trained during the course of the MediCapt project, with periodic MediCapt training occurring in Kenya from October 2018 to January 2021. These individuals included Kenyan clinicians, medical records personnel, IT personnel, and administrators. Other key informants who had not been trained in MediCapt but had been oriented to the app and were recipients of MediCapt-collected data included law enforcement and legal professionals.

After a comprehensive landscape assessment examining facilities' capacity to respond to survivors of sexual violence and existing linkages with multi-sectoral stakeholders, two hospitals in southwest Kenya were selected by the PHR project team for the evaluation:

- Naivasha County Referral Hospital in Naivasha (trained in MediCapt October-December 2018)
- Rift Valley Provincial General Hospital (RVPGH) in Nakuru (trained in MediCapt October 2020 – January 2021)

Both baseline and endline assessments were conducted by external evaluators and those results are summarized and compared in this final evaluation report. These assessments utilized a three-pronged approach:

A. **Data quality assessments of forensic records:**
   i. Post-Rape Care (PRC) Form (paper-based): The Kenyan government's PRC Form is a two-page, triplicate form used by clinicians in Kenya to document survivor-reported sexual assault. The form is divided into two sections: Part A, the description of the incident, the physical examination findings, and the documentation of the clinical management and forensic evidence; and Part B, the psychological assessment. A random selection of five records per month

from the preceding 20 months before MediCapt training were sought at each of the two facilities.

ii. MediCapt (digital): The MediCapt app was developed by PHR with local partners comprised of clinicians/end-users. Its goal is to more accurately, consistently, comprehensively, and securely collect the same data collected by the paper-based PRC forms. In addition to its novel digital format, the MediCapt app also uniquely allows providers to obtain (with survivor consent) forensic photographic evidence alongside the traditional oral data. For this evaluation, a spreadsheet of de-identified MediCapt output for all completed MediCapt forms was obtained from PHR.

B. **MediCapt usability questionnaires:** Clinician users of MediCapt were requested to respond to a questionnaire to provide feedback on their user experience with the application.

C. **Key-informant interviews:** Participants were clinicians, law enforcement, judiciary professionals, IT professionals, and medical records personnel who interact with PRC and MediCapt forms and had been trained or oriented on the application.

A. Data quality assessment of forensic records

Inter-rater reliability study of data quality checklist

In order for this evaluation to objectively assess the data quality of the paper-based and MediCapt forensic records, a data quality checklist tool (Appendix A) was developed by the PHR evaluation team. Its development involved an iterative process, including a virtual video-conference discussion with local clinicians, law enforcement, and legal professionals in Kenya. The draft checklist was then piloted and underwent an inter-rater reliability study in which two independent researchers scored 31 de-identified MediCapt records.

Table 1. Summary of inter-rater reliability by level of agreement (N=26).

Interpretation of agreement (Kappa score range)	**n (%)**
Perfect (1.00)	17 (65.4%)
Almost perfect (0.81-0.99)	5 (19.2%)
Substantial (0.61–0.80)	3 (11.6%)
Moderate (0.41-0.60)	1 (3.8%)

Applying the data quality assessment checklist to paper-based and MediCapt forensic records

For the data quality assessment of the forensic records, data collectors were recruited and trained on use of the finalized checklist tool. Paper-based records were then selected and reviewed at each of the two target sites. Five paper records per month (or all records in the rare months that had less than five paper records) were randomly selected at each of the two facilities for the 20 months preceding MediCapt training, for an estimated total of 100 paper-based records per site. This purposive stratified sampling of paper-based records by month helped ensure representativeness and minimize sample and selection biases. Data quality scores for paper-based and MediCapt records were then compared.

No personal health information was collected by the evaluation team. Evaluators reviewed the paper-based forensic records at their respective health facilities and scored them on site with the checklist. No originals or copies of the paper-based records were retained by the evaluation team. Unlinked, unique identifiers were assigned to each case and used by the evaluation team thereafter. To further ensure data anonymity, no record was kept linking the record's original identifier with the newly assigned unique identifier.

Given its ability for offline data collection and the PHR team's familiarity with the software, KoBo (Cambridge, MA) was selected for data collection. Data were analyzed using traditional descriptive analysis (e.g., means, standard deviations) and non-paired two-tailed t-tests comparing data quality checklist scores for paper-based versus MediCapt forensic records. Statistical significance was set at $p=0.05$.

B. MediCapt usability questionnaires

To evaluate the usability and feasibility of the MediCapt app in these settings, a 10-page usability questionnaire (Appendix C) was administered to local health professionals who had been trained on and had used MediCapt for forensic documentation.

The questionnaire consisted of both open- and closed-response questions. Open-response answers were organized into general themes, and closed-response questions were analyzed using traditional descriptive analyses.

C. Semi-structured interviews

Semi-structured interviews (n=57) were also conducted at each of the two sites at the evaluation's baseline (n=24) and endline (n=33) with clinicians, medical records/administration staff, law enforcement professionals, and legal professionals. Interviewees were identified in close collaboration with the senior nursing officers of the two gender-based violence centers.

A semi-structured interview guide (Appendix D) was developed and iteratively revised by the PHR team for use during the interviews. This guide was used for both the baseline and final assessments.

Consent was obtained from participants to take part in the study and for evaluators to digitally record all interviews. Anonymous verbatim transcriptions of these recordings were made and de-identified of any participant or survivor names or other identifying information. These transcripts were subsequently coded by two independent researchers using an inductive approach to identify emergent themes. The software used for coding and code analysis was Dedoose Version 4.12 (Los Angeles, CA).

3. Results

A. Data quality assessment of forensic records

As a central component of the evaluation, the quality of 197 paper-based PRC forms and 139 MediCapt forms was evaluated using the previously validated data quality checklist. When compared, MediCapt forms more frequently had higher data-quality scores than paper-based forms (Table 2). In fact, MediCapt was associated with higher scores in 88.5% (23 of 26) of checklist items. The mean score for paper-based forms (n=197) was 42.1 (SD 6.2), with 81 forms (41.1%) achieving the target score of 44 out of 54 (>80%). The mean score for MediCapt forms (n=139) was 48.2 (SD 6.8), with 133 forms (95.7%) achieving the target score of 44 out of 54 (>80%). This difference in quality between the two form types was statistically significant (t-value -11.0, p-value <0.00001). Overall, there were a total of 336 forms, with a mean data-quality score of 44.7 (SD 5.8).

Comparing the quality of the MediCapt forms between the two sites, the quality of the MediCapt data was statistically the same. The MediCapt data in Naivasha (N=91) had an average data quality score of 48.3 (SD 2.7), while the MediCapt data in Nakuru (N=48) had an average data quality score of 48.1 (SD 2.4) (t-value 0.39, p-value 0.70).

Comparing the paper-based forms between the two sites, the quality of the paper-based data was statistically different. The paper-based data in Naivasha (N=97) had an average data quality score of 40.1 (SD 4.0), while the paper-based data in Nakuru (N=100) had a statistically higher average data quality score of 44.1 (SD 7.2) (t-value -4.82, p-value <0.00001).

This might suggest that, while there can be a wider difference in quality among paper-based forms across sites, the MediCapt app tends to both standardize and improve the quality of documentation across sites.

The checklist items for which MediCapt forms scored particularly high relative to the paper-based forms were (Table 2):

- 12. Clothing info (4 fields) (1.99 vs 1.65)

- 16. Statement in "Comments" summarizing genital exam (1.68 vs 1.38)
- 20. List of chain-of-custody samples (1.83 vs 0.08)
- 24. Part B (including child section, if relevant) (3.84 vs 1.81)

The three items for which the paper-based forms scored higher were:

- 4. OVC status (1.89 vs 1.57)
- 11. Date of last consensual intercourse (1.54 vs 1.48)
- 22. Police officer signature and date (0.16 vs 0.12)

One potential explanation for MediCapt's slightly lower quality score for the checklist item "22. Police officer signature and date" may be the differential time for obtaining a signature and date; MediCapt forms were, generally, more recently completed and had had less time for the case to develop towards court and less time for police officers to come to the hospital to sign. In fact, "22. Police officer signature and date" was the one checklist item that scored consistently low on both form types.

The checklist items that tended to have the lowest data-quality scores across both types of forms were:

- 7. Circumstances surrounding incident (1.44 and 1.50)
- 22. Police officer signature and date (0.16 and 0.12)

Although there have been similar tools developed and presented in the gray (non-peer-reviewed) literature, this will be the first validated quality-assessment tool in the peer-reviewed literature for sexual assault documentation and may be a promising strategy to enhance the quality of sexual assault documentation in other settings, locally, regionally, and internationally.

Table 2. Quality of documentation in paper-based versus MediCapt forms. Cells highlighted in green represent the higher quality score between the two types of forms.

	Average score		
	Paper-based forms (N=197)	**MediCapt forms (N=139)**	**All forms (N=336)**
DEMOGRAPHICS			
1. All four dates (dates of form, birth, exam, incident)	1.91	1.95	1.93
2. Three names of survivor	1.76	1.86	1.80
3. Survivor contact info (address and phone)	1.44	1.58	1.50
4. Orphans and vulnerable children (OVC) status	1.89	1.57	1.76
HISTORY			

5. Perpetrator info (gender, estimated age or adult/non-adult, unknown/known)	1.76	1.92	1.82
6. Chief complaints	1.50	1.64	1.56
7. Circumstances surrounding incident	1.44	1.50	1.46
8. Previous reporting and care	1.78	1.93	1.84
PHYSICAL EXAMINATION			
9. Notations on body map	1.92	1.96	1.93
10. Statement in "Comments" summarizing body map exam	1.71	1.86	1.77
11. Date of last consensual intercourse	1.54	1.48	1.52
FORENSIC			
12. Clothing info (four fields)	1.65	1.99	1.79
13. Toilet and bathing info (two fields)	1.86	1.99	1.91
14. Info on perpetrator marks	1.74	1.81	1.77
GENITAL EXAMINATION			
15. Genital exam info	1.88	1.95	1.91
16. Statement in "Comments" summarizing genital exam	1.38	1.68	1.50
MANAGEMENT			
17. Management info	1.94	2.00	1.96
18. Referral info	1.82	1.94	1.87
LABORATORY SAMPLES			
19. Labs sent	1.95	2.00	1.97
CHAIN OF CUSTODY			
20. List of chain-of-custody samples	0.08	1.83	0.80
21. Examining officer signature and date	1.86	1.97	1.90
22. Police officer signature and date	0.16	0.12	0.14
23. Document signed by examining officer within 48 hours of patient visit	1.76	1.93	1.83
PSYCHOLOGICAL ASSESSMENT (PART B)			
24. Part B (including child section if relevant)	1.81	3.84	2.65
GENERAL			
25. Writing legible	1.79	1.99	1.87
26. Content understandable (e.g., clear meaning, avoids unexplained medical jargon, etc.)	1.81	1.97	1.88
TOTAL SCORE (out of 54)	**Mean 42.1 (78.0%), SD 6.2**	**Mean 48.2 (89.3%), SD 6.8**	**Mean 44.7 (82.7%), SD 5.8**

B. MediCapt usability questionnaires

Fourteen individuals completed the MediCapt usability questionnaire. These included clinical officers (n=8), nurses (n=5), and a gender officer/social worker (n=1) (Table 3). On average, they had 5.4 years (range 2-11) of experience conducting sexual assault examinations and conduct 11.4 examinations (range 1-45) each month. They had each used MediCapt an average of 11.2 times (range 1-30).

At least initially, using the MediCapt form may take slightly longer than using the paper form. Questionnaire participants reported typically spending 25.7 minutes (range 10-60) examining the survivor and 32.7 minutes (range 10-120) documenting with the paper PRC form or 36.8 minutes (range 5-60) documenting with MediCapt. (However, subsequent interview data presented in the next section of this report suggest that this trend was reversed as providers became more familiar with the MediCapt app.)

All participants were familiar with smart phones and typically use them for communication, looking up information, checking email, and taking pictures. Their most commonly used apps include WhatsApp, True Caller, Viber, Facebook, Viusasa, and the camera. All had previously used a smart phone camera and a digital camera, but none had taken forensic photographs prior to using MediCapt.

Usability questionnaire respondents generally agreed that the tablets are useful, MediCapt is easy to use, MediCapt is appropriate for use with survivors of sexual violence, MediCapt is acceptable to providers and survivors, and using MediCapt in these settings is both feasible and sustainable.

More specifically, when asked their level of agreement with various statements, on average, participants responded most positively to the checklist items “1. The tablet itself appears to be suitable to document sexual assault examinations” (agreement score 1.6 out of a max of 2), “9. The screens appear to be straightforward and easy to use” (1.5), “18. MediCapt offers a useful way to take forensic photography” (1.5), “9. MediCapt helps me do a better job of documenting sexual assault examinations” (1.6), and “35. I am obtaining the consent of all patients prior to using MediCapt” (1.7).

The statements with which participants disagreed most strongly were “30. The use of MediCapt with a sexual violence patient is culturally unacceptable” (disagreement score -1.3 out of a minimum of -2) and “59. I have to rely on a generator to charge smart phones or tablets on a daily basis” (-1.1).

Table 3, Parts A and B. Results of closed-response portion of the MediCapt usability questionnaire, presented by topic (Part A) and by level of agreement (Part B).

Part A, presented by topic	
Position	Clinical Officer (8), Nurse (5), Gender Officer/SW (1)
	Average
Years conducting sexual assault examinations	5.4 (range 2-11)
Number of sexual assault cases entered into MediCapt	11.2 (range 1-30)
Approximate number of sexual assault examinations typically conducted each month	11.4 (range 1-45)
Approximate number of minutes spent per sexual assault EXAMINING THE SURVIVOR (not including documentation)	25.7 (range 10-60)
Approximate number of minutes spent per sexual assault DOCUMENTING USING THE PAPER FORM	32.7 (range 10-120)
Approximate number of minutes spent per sexual assault DOCUMENTING USING MEDICAPT	36.8 (range 5-60)
	Yes
Ever used a mobile phone	100%
Ever used a smart phone	100%
If you have experience using a smart phone, what have you used it for?	
Communicate with family and friends	100%
Look up information online	100%
Check email	100%
Take pictures	100%
Assist with my clinical work	64%
Find information to make medical decisions	86%
Take notes	71%
Play games	57%
Use apps	79%
Listen to music	79%
Experience using applications, or “apps,” on smart phones	100%
Apps used	WhatsApp (most common mention), True Caller, Viber, Facebook, Viusasa, and camera
Ever used the camera function on a mobile phone or smart phone	100%
Ever used a digital camera (not on a mobile or smart phone) to take a photograph	100%
Normally take forensic photographs when you conduct sexual assault examinations (before using MediCapt)	0%

Tablets	**(Dark red=strong disagreement, light red=mild disagreement, light green=mild agreement, dark green=strong agreement)**
1. The tablet itself appears to be suitable to document sexual assault examinations.	1.6
2. It is easy to type on the tablet.	1.2
3. It is easy to use the touchscreen on the tablet.	1.4
4. It is easy for me to hold the tablet.	0.9
5. The tablet should be smaller.	-0.9
6. It is easy to take photographs using the tablet.	1.2
7. It is easy to connect the Bluetooth keyboard to the tablet.	0.8
8. It is easy to type using the keyboard.	0.8
Usability	
9. The screens appear to be straightforward and easy to use.	1.5
10. I find it easy to transition from one screen to the next.	1.2
11. I find the text size on the screens too small.	-0.9
12. I like the colors used on the screens for MediCapt.	1.1
13. I find that multiple places to enter information on a single screen makes data entry on MediCapt easy to use.	1.1
14. I find the pictogram easy to use.	1.2
15. The different screens all made sense to me.	1.1
16. It was easy for me to use MediCapt.	1.2
17. I like the prompts to take forensic photographs that were built into MediCapt.	1.1
18. MediCapt offers a useful way to take forensic photography.	1.5
Appropriateness	
19. MediCapt helps me do a better job of documenting sexual assault examinations.	1.6
20. MediCapt helps me save time in conducting sexual assault examinations.	0.4
21. It is easy to use MediCapt while I am conducting a sexual assault examination on a patient.	0.5
22. It is easier for me to take forensic photographs using MediCapt.	0.9
23. My patients will be better served if I use MediCapt.	1.3
24. Using MediCapt makes a difference in survivor's cases.	1.2
25. Printing the MediCapt document serves the patient well.	0.9

Acceptability	
26. I currently complete a paper-based medical certificate for examinations of all sexual violence patients.	-0.9
27. The risks to the patient of lost personal information are greater with the paper form than with MediCapt.	1.4
28. I am comfortable using MediCapt in my clinical practice.	1.3
29. I think that sexual violence patients accept my use of MediCapt during their examination.	0.8
30. The use of MediCapt with a sexual violence patient is culturally unacceptable.	-1.3
31. The training on using MediCapt with the patient helped me incorporate it into practice.	1.2
32. I like to use new types of technology to help my patients.	1.3
33. I think that the forensic photography function on MediCapt makes it more comfortable for my patients to be photographed, versus using a separate camera to take photographs.	1.0
34. I believe that my patients understand the risks and benefits of using MediCapt.	1.0
35. I am obtaining the consent of all patients prior to using MediCapt.	1.7
36. Patients readily provide consent for MediCapt to be used in documenting their cases.	0.9
37. The process of obtaining consent to use MediCapt for data collection is too cumbersome.	-0.9
38. I feel confident in my ability to explain to the patient the purpose and risks involving the use of MediCapt to obtain and record their information.	1.1
39. Printing the MediCapt document is more acceptable to me than sending the data electronically.	0.9
40. Overall, I am satisfied with MediCapt.	1.2
Feasibility and sustainability	
41. MediCapt is intuitive to my needs when documenting sexual assault examinations.	1.1
42. The MediCapt app “made sense.”	1.3
43. My colleagues will be happy using MediCapt.	0.9
44. I have had enough training to use MediCapt correctly.	0.2
45. The device is likely to get stolen.	-0.3
46. I am likely to lose my device.	-0.7
47. Additional measures will need to be put into place to make sure this device gets used.	1.0
48. I could one day train my colleagues on how to use MediCapt to document sexual assault examinations.	1.4
49. MediCapt helps me save time in documentation.	0.6

50. MediCapt will ensure that sexual assault records are transferred to the appropriate law enforcement and legal personnel.	1.3
51. MediCapt is better than what I am currently using to document sexual assaults.	1.3
52. I am able to take forensic photographs easily using MediCapt.	1.1
53. Health care professionals who use MediCapt will take better forensic photographs because they are using MediCapt.	1.0
54. It is difficult to get reliable Wi-Fi or internet access to transmit the files.	-0.4
55. I have Wi-Fi or other internet access in my community or health care center.	1.0
56. I think connection to the internet is a major problem for uploading files.	-0.7
57. I have access to reliable electricity in my community or health care center.	1.0
58. It is difficult to charge the smart phones or tablets on a daily basis.	-0.7
59. I have to rely on a generator to charge smart phones or tablets on a daily basis.	-1.1
60. It is easy to troubleshoot problems that I encounter with MediCapt.	0.7
61. When I encounter a problem with MediCapt I know who to turn to for help.	1.1
62. When I encounter a problem with MediCapt, I am satisfied with the help I receive.	1.1
63. The printing process with MediCapt works well.	0.1
64. It is difficult to maintain printer supplies (ink, paper, etc.).	-0.6
65. The printer is likely to be stolen.	-0.7
66. The printer is likely to be used by others for purposes UNRELATED to MediCapt.	0.4

Note: the agreement scores are presented both by topic in the order presented in the questionnaire (Part A above) and subsequently by level of agreement (Part B below).

Part B, presented by level of agreement	**(Dark red=strong disagreement, light red=mild disagreement, light green=mild agreement, dark**

	green=strong agreement)
30. The use of MediCapt with a sexual violence patient is culturally unacceptable.	-1.3
59. I have to rely on a generator to charge smart phones or tablets on a daily basis.	-1.1
5. The tablet should be smaller.	-0.9
26. I currently complete a paper-based medical certificate for examinations of all sexual violence patients.	-0.9
11. I find the text size on the screens too small.	-0.9
37. The process of obtaining consent to use MediCapt for data collection is too cumbersome.	-0.9
46. I am likely to lose my device.	-0.7
56. I think connection to the internet is a major problem for uploading files.	-0.7
58. It is difficult to charge the smart phones or tablets on a daily basis.	-0.7
65. The printer is likely to be stolen.	-0.7
64. It is difficult to maintain printer supplies (ink, paper, etc.).	-0.6
54. It is difficult to get reliable Wi-Fi or internet access to transmit the files.	-0.4
45. The device is likely to get stolen.	-0.3
63. The printing process with MediCapt works well.	0.1
44. I have had enough training to use MediCapt correctly.	0.2
20. MediCapt helps me save time in conducting sexual assault examinations.	0.4
66. The printer is likely to be used by others for purposes UNRELATED to MediCapt.	0.4
21. It is easy to use MediCapt while I am conducting a sexual assault examination on a patient.	0.5
49. MediCapt helps me save time in documentation.	0.6
60. It is easy to troubleshoot problems that I encounter with MediCapt.	0.7
7. It is easy to connect the Bluetooth keyboard to the tablet.	0.8
8. It is easy to type using the keyboard.	0.8
29. I think that sexual violence patients accept my use of MediCapt during their examination.	0.8
4. It is easy for me to hold the tablet.	0.9
22. It is easier for me to take forensic photographs using MediCapt.	0.9
25. Printing the MediCapt document serves the patient well.	0.9
43. My colleagues will be happy using MediCapt.	0.9
36. Patients readily provide consent for MediCapt to be used in documenting their cases.	0.9

39. Printing the MediCapt document is more acceptable to me than sending the data electronically.	0.9
33. I think that the forensic photography function on MediCapt makes it more comfortable for my patients to be photographed, versus using a separate camera to take photographs.	1.0
34. I believe that my patients understand the risks and benefits of using MediCapt.	1.0
47. Additional measures will need to be put into place to make sure this device gets used.	1.0
53. Health care professionals who use MediCapt will take better forensic photographs because they are using MediCapt.	1.0
55. I have Wi-Fi or other internet access in my community or health care center.	1.0
57. I have access to reliable electricity in my community or health care center.	1.0
61. When I encounter a problem with MediCapt I know who to turn to for help.	1.1
62. When I encounter a problem with MediCapt, I am satisfied with the help I receive.	1.1
12. I like the colors used on the screens for MediCapt.	1.1
13. I find that multiple places to enter information on a single screen makes data entry on MediCapt easy to use.	1.1
15. The different screens all made sense to me.	1.1
17. I like the prompts to take forensic photographs that were built into MediCapt.	1.1
38. I feel confident in my ability to explain to the patient the purpose and risks involving the use of MediCapt to obtain and record their information.	1.1
41. MediCapt is intuitive to my needs when documenting sexual assault examinations.	1.1
52. I am able to take forensic photographs easily using MediCapt.	1.1
2. It is easy to type on the tablet.	1.2
6. It is easy to take photographs using the tablet.	1.2
10. I find it easy to transition from one screen to the next.	1.2
14. I find the pictogram easy to use.	1.2
16. It was easy for me to use MediCapt.	1.2
24. Using MediCapt makes a difference in survivor's cases.	1.2
31. The training on using MediCapt with the patient helped me incorporate it into practice.	1.2
40. Overall, I am satisfied with MediCapt.	1.2
23. My patients will be better served if I use MediCapt.	1.3
28. I am comfortable using MediCapt in my clinical practice.	1.3
32. I like to use new types of technology to help my patients.	1.3

50. MediCapt will ensure that sexual assault records are transferred to the appropriate law enforcement and legal personnel.	1.3
51. MediCapt is better than what I am currently using to document sexual assaults.	1.3
42. The MediCapt app "made sense."	1.3
3. It is easy to use the touchscreen on the tablet.	1.4
27. The risks to the patient of lost personal information are greater with the paper form than with MediCapt.	1.4
48. I could one day train my colleagues on how to use MediCapt to document sexual assault examinations.	1.4
18. MediCapt offers a useful way to take forensic photography.	1.5
9. The screens appear to be straightforward and easy to use.	1.5
1. The tablet itself appears to be suitable to document sexual assault examinations.	1.6
19. MediCapt helps me do a better job of documenting sexual assault examinations.	1.6
35. I am obtaining the consent of all patients prior to using MediCapt.	1.7

When asked in an open-response question about their experience using MediCapt, a majority reported that the app works well. Please see Table 4 for themes from the open-response questions and a sample of illustrative statements. Meanwhile, Appendix D provides the full results of these questions. (Note: although these open-response questionnaire responses are insightful, the key-informant interviews and their analysis presented later in this report cover most of these questions much more comprehensively.)

Several individuals reported needing more experience and that usability improves with use. Some of their stated concerns with MediCapt, however, were accessing the printers and tablets at night. Others reported that the app can be time-consuming and its printout can be lengthy and cumbersome for presenting in court. Asked for any specific problems with MediCapt, participants reported technical problems (e.g., printing, connectivity, low battery, and small printed font size), the form being time-consuming to complete, and difficulty obtaining consent from survivors. To address the technical problems, participants typically contacted their local IT or, less frequently, PHR or the in-charge nurse. In each case, the problems seemed to have been resolved quickly and satisfactorily.

The reported favorite aspects of the MediCapt app were its photographic capabilities, security, consent process, body diagram, time savings, involvement of the survivor, and not being allowed to leave blanks in the form.

Suggestions for enhancements included improving the MediCapt app's form itself (e.g., providing more space for comments, deleting redundant questions, making it more concise, adding step-by-step guidance for obtaining consent, and increasing the font

size). Participants also requested additional training on MediCapt, improved access to printing, additional devices, and the option of using the app on laptops or desktops.

Obtaining consent from survivors has been a challenge at times, as some survivors have concerns about the confidentiality of the data and photographs. However, most respondents reported that they are typically able to explain the purpose of the app, provide reassurance of confidentiality, and obtain survivor consent.

When asked for any example cases in which MediCapt had made a difference for a survivor, the majority of participants reported that it is a little too soon to have seen the final adjudication of MediCapt cases. Most are of the view that the app will be useful. There were, however, a few cited examples of the utility of MediCapt. In one case, being able to take photographs of a survivor's injuries "positively impacted the case." In another case, the legibility of the MediCapt documentation was appreciated in court.

Table 4. Summary results: themes and sample illustrative quotes from the open-response portion of the MediCapt usability questionnaire (see Appendix D for full findings).

Experience in using MediCapt
MediCapt works well: • It is good and working well for us. • I was taken through a training in house by the in-charge and a further training by PHR on photography, using the tablet, printing the form and other aspects. I have used the app with my clinical work and it is good. *Concerns with MediCapt:* • I work mostly at night hence I am forced to use the paper records as the gadgets are locked and the printer unavailable. When I work during the day, I use the app. • It has been a good experience though time-consuming to complete. It also gives very lengthy printouts that are too many pages. This has affected the way I make presentation to the court as I always look unsure of my findings. *I need more experience with MediCapt:* • It is limited so far due to workload at my work area. I need to frequently use it. • I am not currently using MediCapt as the last time I used it was probably 2 or 3 years ago. After that there was a gap of almost year when were told it was being upgraded. That affected my use. *Usability improves with experience:* • I have continued to improve my skills with frequent use of the app. Initially it would take me 60 minutes to complete which I have now managed to reduce to 30 minutes. • I like MediCapt, and the more one gets used to it the better. Initially I never used to like it, but now I'm very conversant with it.

Problems, if any, using MediCapt

Technical problems:

- Printing challenges after completing the form.
- Network connectivity, mainly poor Wi-Fi and low battery of the tablet that required charging.

Time-consuming:

- It takes time to complete the form maybe due to unfamiliarity.
- I had slow typing speed, but now with more use I have increased my speed.

Obtaining consent:

- Obtaining patient's consent particularly when the case is that of a minor – the parents or guardians do not readily provide consent.
- Consent area, as patients want to be explained to what one is doing with the gadget, including getting consent for photos is a challenge. There should be a clear guideline with steps on how to carry out consent-taking that can also be used uniformly by all clinicians.

Output is too long for court:

- Pages are many for presentation to the court. There is need to review number of pages or make it one big page that one can refer to in a glance like the manual PRC form.
- From what I heard from my colleagues was that there were many pages when printed.

Experience with a support person if problem using MediCapt

Contacted or would contact IT:

- I have not had many technical problems, but if I get one, I would call the IT person to sort out the challenge. So far, they have been able to sort it out.
- I call the IT person who comes and supports. For example, I have many times had logging in challenges which he always sorts out.

PHR and others contacted:

- I call the in-charge, the IT person or communicate with PHR staff on WhatsApp. The experience so far is that all are responsive and particular the PHR staff is quick to respond and resolve issues.
- I consult IT guys and PHR staff in Kenya.

Favorite aspects of the MediCapt app

Photography:

- Forensic photography as it is so clear, including during presentation in court.
- Forensic photography enables the evidence to remain as captured during the examination.

Security:

- Security aspect which means no one can access the information which is confidential.
- Data is well stored and easy to access.

Consent process:

- The consent form that is inbuilt ensures the process is complete.
- Obtaining survivor and informant consent as it was weak.

Cannot leave blanks:

- You cannot leave blanks.
- Psychiatrist assessment must be made.

Body diagram:

- The diagrams therein give you the ability to clearly describe the injuries including the space to fill in details.
- The body diagram allows you to mark specific points of injuries on the body.

Saves time:

- There is less writing when compared to paper records.

Involving survivor:

- Involving the survivor during history taking as they need to see what you have put in.

Additional measures needed to use MediCapt

Improve form:

- The place where a police officer needs to sign is a challenge as, sometimes, the survivor will not come in with a police officer. Sometimes the police officers also do not want to sign. In this section the app still wants us to fill.
- Repeated questions should be deleted, there are those repeated in different questions.
- Add a guidance on consent-taking with steps to follow for patients to be taken through.

Training:

- Have more clinicians trained so that it is well used.
- More refresher trainings.

Improve access to printing:

- Have the printer stored in a 24hrs service point, e.g., pharmacy or billing center.
- Also access to the printer over the weekend will be helpful.

More devices:

- Have more gadgets which are stored centrally that can be accessed quickly.
- More tablets are needed for the newly trained clinicians.

Use laptops or desktops:

- The only thing I think would be beneficial is to use laptops or desktops rather than the tablets.

No improvements needed:

- Nothing more. I just need more practical use to be very familiar with the app.

How patient consent is obtained with MediCapt

- I explain to the patient on the consent. However, obtaining photo consent is very difficult as the patient thinks you may use this information on social media platforms.
- I have had to reassure the patients on the confidentiality of the details collected. I also explain the benefits of using the digital form and, so far, they understand and give consent.
- I strike a rapport with the patient and explain to them what I will do and assure them of confidentiality. They are usually receptive.
- The key thing is to explain to the patient what you are doing and how you will document. Once you gain their confidence, they provide the consent.

Patients' general response in providing consent

Able to get consent:

- As long as the patient is reassured of the confidentiality of the information, they are agreeable and provide consent.
- Patients just need to understand what you are doing and why. Taking time to explain helps to ease any suspicions. So far, I've been able to obtain consent always.

Patients are reluctant:

- The general response is reluctance. Particularly on the photo aspects. Additionally, minors who are brought in by their parents, the parents completely refuse to provide consent for photos to be taken even when I explain to them.
- Patients are reserved and hesitant to provide consent. Sometimes the examiner must show them the data entry they are doing for the patient to be responsive.

Other things to improve the MediCapt app

Improve form:

- Police signing area need not be mandatory as sometimes getting the same is a challenge.
- Providing room for comments in some fields, e.g., where there was more than one perpetrator and their gender and whether they were known to them.
- Just the removal of the repeated questions.
- Highlight on the form (bold) the important subtitles, e.g., history-taking and lab work done for one to easily see during presentation to court.

Training:

- Training more clinicians to ease off the workload on MediCapt app would be very helpful.
- Train the newly recruited clinicians. I provide on-job training but they require the training.

More devices:

- Avail more gadgets as those available are too few.
- Improve the area of lab examinations, where there is the field 'other' there is no space to type what one is referring to specifically.

Technical:

- Keyboard connection with Bluetooth is sometimes challenging.

Built-in guide:

- Provide built-in step-by-step guide on consent-taking.

Example case where MediCapt has made a difference in the case of a survivor of sexual assault

Too early / not yet seen a case:

- There have been no returns of the forms from the law enforcement implying the printed documentation is sufficient. The use of the app has not been for a long time, hence, I cannot provide detailed response.
- I have used MediCapt for around three months now, and so I'm yet to fully get the appreciation of the outcome as this takes time. I don't have any particular case for now.

Useful:

- Yes, there is a case where the forensic photography undertaken was used by the magistrate for a successful outcome. A lady had been carjacked in Nairobi, was raped and dumped in the bushes here. When I handled her and took images of her injuries, this positively impacted the case.
- Yes, in one case I have seen presented in court using the app-based printouts was well appreciated as there was no issue of ineligible handwriting.
- Yes, in one case because I had completed the psychological assessment clearly the magistrate was able to use it to provide a ruling. I was called by someone and told that was a well completed form which I believe worked to the advantage of the survivor.

I suspect it will be useful:

- No case has been finalized that had use of MediCapt but I think forensic photography will make a difference.
- I don't have one particular case but I know that the quality of documenting cases has improved, thus, overall benefit to the patient.
- I don't have a particular case as most cases are ongoing and I don't go to court. But I believe the outcomes will be positively impacted with the use of MediCapt.

C. Semi-structured interviews

A total of 57 semi-structured interviews were conducted during this evaluation of the MediCapt program: 24 interviews were conducted during the baseline assessment (October 19-23, 2020) and 33 interviews were conducted during the endline assessment (June 21-July 8, 2021). The mean years of work experience among

interviewees in both assessments was approximately 10.5 years (range 0.25-30). Additional demographic information about the interview participants is presented in Table 5. Of the 24 interviewees who participated in the baseline assessment, 19 (79%) were able to participate in the endline assessment. Of the 19, there were 15 clinicians and 4 non-clinicians (medical records/administration staff). The baseline did not have participation of judiciary, prosecution, and law enforcement officers, while the final assessment engaged 6 individuals in these categories.

Table 5. Semi-structured interview participants conducted during the baseline (N=24) and endline (N=33) assessments.

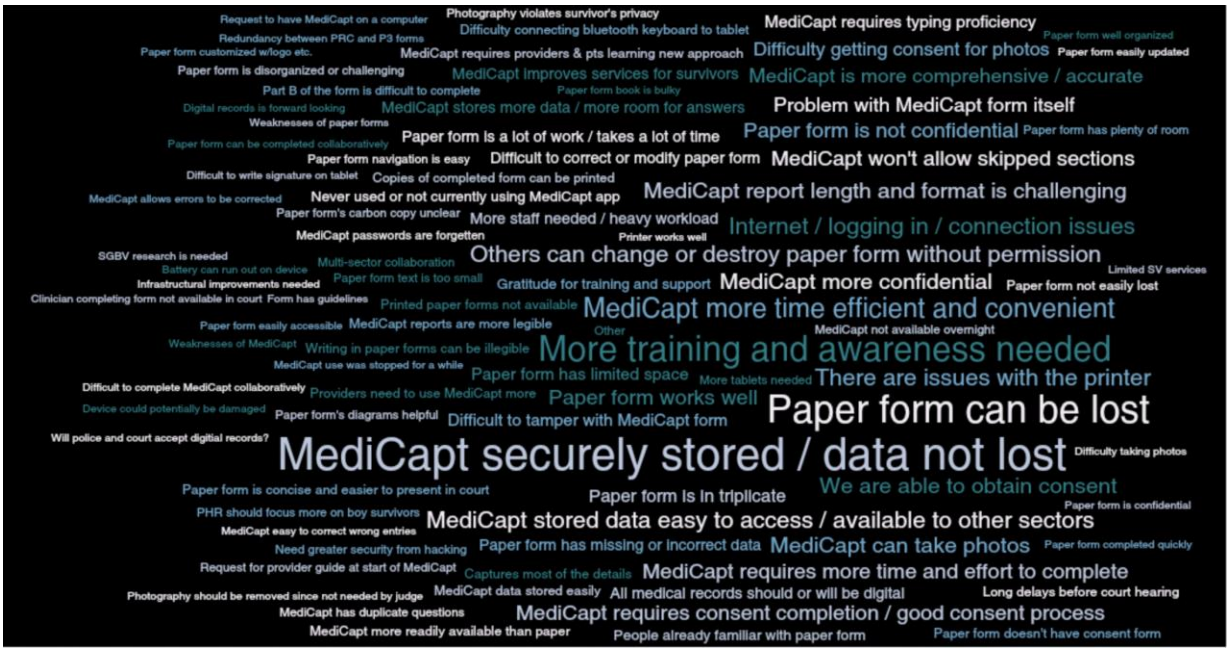
	Baseline assessment n (%)	**Endline assessment n (%)**
Location		
Naivasha Sub County Hospital	12 (50.0)	17 (51.5)
Nakuru Level 5 Hospital (PGH) GBVRC	12 (50.0)	16 (48.5)
Profession		
Clinical/medical officer	9 (37.5)	11 (33.3)
Nurse, nurse administrator	5 (20.8)	7 (21.2)
Nursing officer	4 (16.7)	3 (9.1)
Health records officer	3 (12.5)	0 (0)
Information and communications technologist	1 (4.2)	4 (12.1)
Gender officer	1 (4.2)	1 (3.0)
Mental health professional	1 (4.2)	1 (3.0)
Legal professional	0 (0)	4 (12.1)
Law enforcement professional	0 (0)	2 (6.1)
MediCapt trained?		
Oriented (e.g., some law enforcement and legal professionals)	15 (62.5)	6 (18.2)
Formally trained	9 (37.5)	27 (81.8)
Years of experience at facility		
Mean	10. 6	10.5
Range	0.25-30	1-30

The codes that emerged from the interview transcripts were organized into five themes:

- Strengths of paper forms
- Weaknesses of paper forms
- Strengths of MediCapt
- Weaknesses of MediCapt
- Other issues

Codes and their frequencies are presented according to these five themes in the sections below. A word-cloud showing the relative frequency of each code is shown in Figure 1.

Figure 1. Word-cloud of codes from baseline and endline assessments.



Theme 1: Strengths of paper forms

There were multiple features of the paper-based forms that interview participants appreciated (Table 6). The leading reported strengths of the paper forms were "works well" (frequency = 29), the paper form's triplicate design (frequency = 19), familiarity with the forms among people across all sectors (frequency = 12), paper forms capture most of the necessary details (frequency = 9), and (accordingly to a minority of interviewees) paper forms are not easily lost (frequency = 8). However, this latter point – that paper forms are not easily lost – is strongly countered by a much higher frequency of interviewee statements that the paper forms are more readily lost (frequency = 74; see Theme 2) and MediCapt data are more secure and less prone to being lost (frequency = 99; see Theme 3).

Table 6. Strengths of paper forms, listed by frequency at baseline, endline, and total. Note: by design, the baseline assessment largely focused on the paper-based PRC forms, while the endline assessment largely focused on the MediCapt forms.

Strengths of paper forms	**Frequency totals**		
	Baseline	**Endline**	**Total**
Paper form works well	29	0	29
Paper form is in triplicate	18	1	19

People already familiar with paper form	10	2	12
Paper form captures most of the details	8	1	9
Paper form is not easily lost	8	0	8
Paper form is concise and easier to present in court	5	2	7
Paper form's diagrams are helpful	5	0	5
Paper form navigation is easy	3	2	5
Paper form has plenty of room	4	0	4
Paper form has guidelines	3	0	3
Paper form is well organized	3	0	3
Paper form can be completed collaboratively	3	0	3
Paper form can be completed quickly	2	0	2
Paper form is easily accessible	2	0	2
Paper form is easily updated	2	0	2
Paper form is confidential	1	0	1
Paper form is customizable w/logo etc.	1	0	1

Illustrative quotes related to the strengths of the paper forms include:

Easy to present in court:
"An advantage with paper-based PRC form is that when I'm presenting these PRC forms in court, it's very easy for me to present the case. Like for instance, I will give a scenario where there was a time I … presented the case in court severally with the PRC and with the MediCapt. In that the challenge we generally have with MediCapt … is that we generally have a lot of paper work, a lot of them. In that when you go to the magistrate, he tells you, kindly can you present what is important, and you have like ten pages. So now you start perusing, looking for what is important to you, and you don't know whether it is important to the judge." - Clinician

"You see the advantage with the other one [paper PRC], the hard copy, it is easier [to present in court]. You just get one sheet, and you know each section. It's one sheet, not many sheets, just one. And mostly these magistrates and prosecutors, they just tell you, 'Read what is important.'" - Clinician

Easy for police officers to review:
"The main problem with MediCapt compared to PRC is it has many pages to go through. The old PRC we find it is easy to navigate for us as police, the other one has too many pages so going through is a challenge. But for PRC, it is very much in order, it carries a lot of information. You see it carries information from the doctor which we are able to understand, and it make us able to open a file and to take the perpetrator to court. It gives us direction." - Police officer

Triplicate design:
"The good thing with those forms is that they are triplicate." - Clinician

Clear design:
"Another advantage is, on the paper work, we normally have some subheadings, the circumstance surrounding the survivors whatever, we have those subheadings." - Clinician

Able to easily collaborate in completing the form:
"Sometimes when it is paper work, you might find maybe someone was [working] at night, they came and filled in the PRC, … they leave having left some gaps, maybe the labwork was not ready by the time [they're] leaving. And I come in….You know for paperwork, I just continue then [completing the paper form] and at the down part I will sign." - Clinician

Greater familiarity:
"We have been using it [the paper form] for quite a while, and we are so much used to it." - Clinician

"Most of the advocates maybe within the [Nakuru] region are aware of the new … [MediCapt application]. But I think it's not in some other regions, because sometimes you may find an advocate from maybe Kericho, a different region, who has never seen the [application]…. But as time goes by, they will be made aware of the same. Of course, … when you say 'PRC forms, the old ones,' everyone knows the document." - Prosecutor

Theme 2: Weaknesses of paper forms

Interview participants cited several weaknesses of paper forms (Table 7). The most frequently reported weaknesses were that the paper form can be lost (frequency = 74), can be changed or destroyed without permission (frequency = 37), is not confidential (frequency = 29), has limited space (frequency = 16), takes a lot of time to complete (frequency = 13), is difficult to correct (frequency = 13), often has missing or incorrect data (frequency = 13), and does not have a survivor consent section (frequency = 11).

Table 7. Weaknesses of paper forms, listed by frequency at baseline, endline, and total.

Weaknesses of paper forms	**Frequency totals**		
	Baseline	**Endline**	**Total**
Paper form can be lost	57	17	74
Others can change or destroy paper form without permission	33	4	37
Paper form is not confidential	22	7	29
Paper form has limited space	13	3	16

Paper form is a lot of work/takes a lot of time	12	1	13
Difficult to correct or modify paper form	12	1	13
Paper form has missing or incorrect data	11	2	13
Paper form doesn't have consent form	4	7	11
Printed paper forms are not available	9	0	9
Writing in paper forms can be illegible	0	8	8
Paper form's carbon copy is unclear	4	3	7
Paper form text is too small	5	0	5
Part B of the form is difficult to complete	4	1	5
Paper form is disorganized or challenging	4	0	4
Paper form book is bulky	2	1	3

The following quotations from the interviews help illustrate the reported weaknesses of paper forms:

Not confidential:
"For PRC form one thing, the privacy and confidentiality of information is not well observed, because the PRC form will be just filed and like in our office, we don't even have a lockable place so we can't lock them." - Medical records officer

"I find papers lying around and I'm like no this is not right." - Clinician
"First [concern with the paper-based PRC forms], confidentiality. You know, with the previous papers, anybody could access [them]. But with MediCapt, it is really safe as confidentiality and privacy is really enhanced in MediCapt." - Clinician

Easily lost:
"We told them the PRC form may actually disappear, might be stolen, but when we have the application, their data is stored there permanently. Nobody can take it away." - Clinician

Frequently has missing data:
"Though the challenge is usually that sometimes some of the clinicians would fill and they leave blanks you know it's not like the MediCapt where you cannot submit before you fill everything, so if they decide not to complete, that is usually the major challenge when it comes to documentation of the paper based." – Clinician

"Major difference is that there are no blank spaces being left in MediCapt compared to paper work, and then especially when it comes to time and date of incidence, you know people used to leave that place blank, which was also becoming a challenge." - Clinician

Frequently has incorrect data:
"And then sometimes you find dates discrepancy, a PRC form was filled before even the incident occurred, those are some of the challenges we were getting and now they have reduced." - Clinician

Can be modified by others:
"I had left some blank spaces on the PRC form. Of course, somebody decided to fill the blank spaces for me." - Clinician

Can be modified or destroyed by others:
"The police at times might collude with the accused person to create some doubts. The police are very smart: you just need to pour water on the original PRC form, and it cannot be read, so in [the documentation of] penetration, you cannot prove that there was penetration. But now with the system that you have rolled out [MediCapt], if they went ahead and did that and introduced such a thing before me, I would just adjourn the case and tell them to come back tomorrow, go for another copy [of the MediCapt report]. So according to me, this roll out [of MediCapt], the victim will get justice because the [MediCapt] PRC form is clean in the first instance, unlike in the past documents." - Magistrate

Information is lost:
"According to me, before MediCapt was rolled out, we were using the archaic PRC forms. That form was very big, it had to be folded into two, and it tended to lose data because of the folding and at times…. you see it is not us who in the first place who report it, it is the police. And then by the time it reaches to us, it is many days down the line so… one could not read it." - Magistrate

Does not include consent:
"[With the] PRC form, [consent form] was not attached. In fact rarely, let me confess, we never used to fill the consent forms. It was only the patient comes, you go direct[ly to the PRC form], you just get a verbal consent. But you see with the [MediCapt] app, they have to sign [the consent]. That is the beauty of everything because now, as far as even legal issues are concerned, nobody can go against what they have signed." - Clinician

Theme 3: Strengths of MediCapt

Many interview respondents felt digital documentation had significant strengths and could address many of the weaknesses of paper-based documentation. The reported strengths of MediCapt are presented in order of frequency in Table 8. The most frequently reported strengths of MediCapt were its secure storage (frequency = 99), time efficiency and convenience (frequency = 46), ease of accessing stored data across sectors (frequency = 40), ability to take photos (frequency = 35), confidentiality (frequency = 34), inability to skip questions (hence, enhancing completeness) (frequency = 30), required consent process (frequency = 29), comprehensiveness and accuracy (frequency = 26), and difficulty to tamper with (frequency = 20).

Table 8. Strengths of MediCapt, listed by frequency at baseline, endline, and total.

Strengths of MediCapt	Frequency totals		
	Baseline	Endline	Total
MediCapt securely stores/doesn't lose data	22	77	99
MediCapt more time efficient and convenient	10	36	46
MediCapt-stored data is easy to access/available to other sectors	5	35	40
MediCapt can take photos	4	31	35
MediCapt is more confidential	8	26	34
MediCapt won't allow skipped sections	14	16	30
MediCapt requires consent completion/good consent process	0	29	29
MediCapt is more comprehensive/accurate	2	24	26
Difficult to tamper with MediCapt form	11	9	20
MediCapt improves services for survivors	0	16	16
All medical records should or will be digital	7	7	14
MediCapt stores more data/more room for answers	6	8	14
MediCapt reports are more legible	0	11	11
Copies of completed MediCapt form can be printed	0	10	10
MediCapt is more readily available than paper forms	4	4	8
MediCapt data is stored easily	5	2	7
Printer works well	0	3	3
MediCapt allows wrong entries to be easily corrected	2	0	2
MediCapt allows errors to be corrected	2	0	2

The following quotations from the interviews help illustrate the reported strengths of the MediCapt app:

> **More confidential:**
> *"For me digital is the best, because like you see when you have the tablet you find that only us who are trained know the password, and you see all those who are trained are healthcare workers who understand the confidentiality and privacy of that information, so it's not easy to be accessed by anyone." - Medical records officer*

Data stored securely:
"Anytime the clients would lose the documents, you can always retrieve the documents again so you are sure that the documents are there, the documents are safe, they are not getting lost because even if they lose the copy that they have, even if the copies with the police is lost, you can always come and print again, because the documents are well stored. So digital is better, digital is better." – Clinician

"I think it will impact positively, noting that the victim can have the form lost or sometimes someone can even pluck it from a file, they can pluck the P3 form. You know not everywhere people are good. So when it is plucked and I have the original file, I can be able to now to send the victim back to the hospital and get another copy because it is there in the system. So we now have preservation of evidence. So that those ones who want to kill the wheels of justice they will not be able to." - Prosecutor

More accurate data:
"You see the accuracy of it now is not comparable and its acceptable. More acceptable than I think it was before." - Clinician

More time-efficient:
"The benefits we are able to see is that we have efficiency. We were hoping that one time we would be able to get tangible evidence, we will be able to print and see what we are presenting and well, you are now able to describe what you have photographed. It's like work has become easy to perform." - Nursing administrator

Data accessible across sectors:
"Other authorized organizations like the judiciary, the security [i.e., the police], they can access some data. But only what they need from that particular information, the only information that is required by them. So, there is, no one will be able to get what is not required and use it for other purposes." – Clinician

"It can be accessed by other users even other places to get the information but there is a privacy on how you can access the same material." - Clinician

Photography:
"But I think MediCapt is good, way much better considering right now they are even taking the photos of the injuries while it has already happened, immediately. There is preservation of evidence way better than the PRC." – Prosecutor

"Photographic evidence is good because sometimes when the victim says she had been burnt in the face and it was taken then later on they heal, and the victim wants to forgive the perpetrator, you see you can take them back and show how they were previously, and the danger they were in. So it is easier

even to convince her and to tell her not to withdraw the case… because we have such cases. And also, for the prosecutor, when the prosecutor sees previously how the victim was and how right now she is healed and she says she wants to withdraw the case, it can guide the prosecutor not to agree to withdraw that case. So that the victim may get justice also. It's good for prosecution and also the court as it can also inform the court how the injuries were. Because sometimes the prosecutor may say they want to withdraw but when the court also sees how the victim was, the court can also reject that application noting the degree of injuries that were there on the victim." - Prosecutor

Theme 4: Weaknesses of MediCapt

Respondents were asked what areas of weaknesses they had noted with the MediCapt application (Table 9). The most frequently reported MediCapt weaknesses were internet or logging-in issues (frequency = 36), challenging report length and format (frequency = 35), printer difficulties (e.g., inaccessible, slow, jams, etc.)(frequency = 34),* requiring more time and effort (frequency = 30), issues with the MediCapt form itself (e.g., difficult to present in court, small font, unclear format, repetition in some questions, etc.)(frequency = 27),* difficulty getting consent for photos (frequency = 23), and requiring typing proficiency (frequency = 18).

(*For more detailed lists of the reported concerns and recommendations related to the printer and MediCapt form/app, please see the endline assessment report.)

Table 9. Weaknesses of MediCapt, listed by frequency at baseline, endline, and total.

Weaknesses of MediCapt	**Frequency totals**		
	Baseline	**Endline**	**Total**
Internet/logging in/connection issues	0	36	36
MediCapt report length and format is challenging	6	29	35
There are issues with the printer	3	31	34
MediCapt requires more time and effort to complete	4	26	30
Problem with MediCapt form itself	0	27	27
Difficulty getting consent for photos	0	23	23
MediCapt requires typing proficiency	3	15	18
MediCapt requires providers and patients to learn new approach	2	8	10
Difficulty connecting Bluetooth keyboard to tablet	0	9	9
MediCapt is not available overnight	0	6	6
MediCapt passwords are forgotten	0	6	6

Photography violates survivor's privacy	0	6	6
MediCapt needs greater security from hacking	0	5	5
MediCapt has duplicate questions	0	4	4
Difficult to write signature on tablet	0	3	3
MediCapt device could potentially be damaged	0	3	3
Difficulty taking photos with MediCapt device	0	3	3
MediCapt use was stopped for a while	0	3	3
Photography function should be removed since not needed by judge	0	3	3
Difficult to complete MediCapt collaboratively	2	0	2
Battery can run out on MediCapt device	0	2	2
Will police and court accept digital records?	1	0	1

* “Difficulty obtaining consent for photos” was frequently discussed in the context of MediCapt limitations and is, therefore, included here in the theme “Weaknesses of MediCapt.” However, this could also be seen as a survivor-centered strength of MediCapt, as the app empowers survivors to decide whether forensic photographs are collected for their case.

Illustrative quotes from respondents on the weaknesses of MediCapt included:

> **MediCapt report is long and complicated:**
> *“I’m just mentioning this from the court’s perspective. You just find that the magistrate has like 40 cases, so he’ll just tell you because he wants to make a ruling to just use the least time possible, and whenever somebody attacks you from that direction, you just feel frustrated. But with the hardcopy, if I look at the name, I’m seeing even the results from the other side…. [T]he hardcopy printouts from MediCapt…, they are bulky. The challenge is, if I try to read [it in court], you find you peruse a lot of pages, you waste a lot of time, confidence takes a hit, and the magistrate is saying harakisha [speed up], and the perpetrator there is smiling, and you find you are fighting a losing battle. Because these perpetrators normally get some lawyers in the remands, they are really armed with questions., well-armed… if you play around you will find them teaching you.” - Clinician*

> **Obtaining photo consent is difficult:**
> *“Obtaining consent, and especially on the photo part. They are very…. they don’t want their photos to be taken…. because they see it’s an online thing, they think their information is going to go online. Most of them are not comfortable with that especially the under 18 because they are brought by their parents, their parents don’t want that. For me that is the major problem.” - Clinician*

> *“They are reluctant. I have encountered situations where they refuse to provide consent for photography especially for the minors.” - Clinician*

Survivors may be suspicious of the technology:
"One thing about the MediCapt is, since the public does not know about it, they feel the doctor is doing something different. Sometimes you are force to use it while they see so that they can be able to know that you are not watching a movie, you are not on Facebook, social media, and such. Some of them are a little bit reluctant with the photography part. Because they say that it is my photograph – suppose I see it elsewhere, I will be embarrassed." - Clinician

Connection/IT issues:
"The other thing is the wifi. The wifi here sometimes is a challenge and we only use the wifi from the hospital. So when the wifi is off, we really cannot do anything." - Clinician

"Another one is our keyboards, our keyboards have a problem, actually we use a typing board for the tablet, not the key board, we directly typing on the tablet. The challenge is connecting the Bluetooth to the tablet, that part is a problem. Sometimes the IT don't know how to solve it sometimes." - Clinician

Printer issues:
"I can say at least they can bring a big printer, you know this one is small, so when you send, it is too slow, it takes time. Not like the other printer, the older one was smaller and was very slow, this one the speed has improved but still slow. And there are a number of pages to print, they are normally nine of them [pages]." - Medical records officer

Theme 5: Other issues

In addition to strengths and weaknesses of paper forms and MediCapt, interview participants discussed a number of other relevant issues (Table 10). The most frequent "other" comment overall was a request for more PHR/MediCapt training (frequency = 69). Next, unlike some of the quotes above, but consistent with the usability questionnaire findings, most providers reported they were able to obtain consent on the MediCapt app – even for photography (frequency = 33). Other frequently shared comments were gratitude for PHR training and support (frequency = 14) and need for more staff to help with the heavy workload at their facilities (frequency = 13).

Table 10. Other issues, listed by frequency at baseline, endline, and total.

Other issues	Frequency totals		
	Baseline	Endline	Total
More training and awareness needed	27	42	69
We are able to obtain consent	0	33	33
Gratitude for training and support	4	10	14

More staff needed/heavy workload	5	8	13
Never used or not currently using MediCapt app	0	11	11
Providers need to use MediCapt more	0	9	9
Long delays before court hearings	9	0	9
Multi-sector collaboration	4	2	6
More tablets needed	0	5	5
PHR should focus more on boy survivors	3	2	5
Request for provider guide at start of MediCapt	0	4	4
Redundancy between PRC and P3 forms	3	0	3
Digital records is forward looking	0	2	2
Request to have MediCapt on a computer	0	2	2
Clinician completing form not available in court	2	0	2
Limited SV services	2	0	2
Infrastructural improvements needed	1	0	1
SGBV research is needed	1	0	1

Examples of illustrative quotes related to these other issues include:

Request for more training (among clinicians):
"There are some new staff who have joined us, and they are quite good and they are trained. So, if we can get time when any other groups are being trained, they can also come in. When we are a big number, you can be certain that one of us must be on duty and will be able to capture the details." - Clinician

"The only issue that we are having especially here is that with the MediCapt, it has brought the notion that so and so is the one who is supposed to handle the sexual defilement gender violence cases since they are the ones with the tablet. So, if you find that when survivors come, they have to wait for a certain person. Yet everybody should be able to handle the case." - Clinician

Request for more training (among law enforcement professionals):
"I would suggest more training on the same, yeah so that people can know much about it because I understand not many know about it. The magistrate did not know about it, I knew about it, but my colleagues also did not know about it. But I've informed them, but other [police] stations, I don't know whether they have the benefit of knowing about that." – Police officer

4. Limitations

As with all studies, this evaluation had limitations:

- Clinicians were asked about their experiences before and after MediCapt introduction. As some time may have passed since the training, this may have introduced recall or response bias, which is associated with differences in the accuracy of the recollections of evaluation participants regarding experiences in the past.
- As a result of a reliance on self-reporting, there is also the possibility of social-desirability bias, which is the tendency of participants to answer questions in a manner that they believe will be viewed favorably by others. However, this potential bias was minimized by using an external evaluator, encouraging participants to share both the good and the bad, and informing participants that responses will remain anonymous and only be reported in aggregate.
- This evaluation was conducted at just two health care facilities – both located in southwest Kenya. While we do not see obvious differences between these facilities and others in Kenya or beyond, they may not be representative and, therefore, the findings cannot confidently be generalized to other settings. Nevertheless, we believe the evaluation findings are generally of broad use to low-resource settings.
- Limitations as a result of cultural and language biases are likely minimal as participants were English-speaking and the evaluation was informed and conducted by a local team of evaluators.

5. Conclusions

- This evaluation included the **development and validation of the novel PHR data quality checklist** for evaluating the quality of sexual assault documentation. The checklist had substantial inter-rater reliability, making it an effective tool for evaluating and comparing paper-based and MediCapt forensic records. The high inter-rater reliability also suggests that the Index may be a promising strategy to enhance the quality of sexual assault documentation in other countries, with the goal of improving health care and justice for survivors. Therefore, it is our recommendation that this novel index be disseminated in the peer-reviewed literature.
- **MediCapt forms more frequently had higher data-quality scores** (mean score 48.4) compared to paper-based forms (mean score 42.1) (p-value <0.00001). Furthermore, 95.7% of MediCapt forms achieved the >80% target score, while only 41.1% of paper-based forms achieved the target score.
- The **MediCapt forms scored higher than the paper-based forms on 23 of 26 checklist items**. The three checklist items for which paper-based forms scored higher than MediCapt forms were “4. OVC status,” “11. Date of last consensual intercourse,” and “22. Police officer signature and date” (0.16 vs 0.12).

Two checklist items scored relatively low across both types of forms: "7. Circumstances surrounding incident" (1.44 and 1.50) and "22. Police officer signature and date" (0.16 and 0.12).

- When comparing the quality of data obtained by each form type across the two sites, the **quality of data in the paper forms was statistically higher in Nakuru** (mean score 44.1) compared to Naivasha (40.1) ($p<0.0001$). However, there was not statistical difference in quality in the MediCapt data across sites: 48.1 in Nakuru and 48.3 in Naivasha ($p=0.70$). **This may suggest that, while there can be a wider difference in quality among paper-based forms across sites, the MediCapt app tends to both standardize and improve the quality of documentation across sites.**
- **At least initially, using the MediCapt form may take slightly longer than using the paper form.** Providers reported typically spending 25.7 minutes (range 10-60) examining the survivor and 32.7 minutes (range 10-120) documenting with the paper PRC form or 36.8 minutes (range 5-60) documenting with MediCapt. Interviews suggested that this trend was reversed as providers became more familiar with the MediCapt app.
- **Usability questionnaire** participants generally agreed that the tablets are useful, MediCapt is easy to use, MediCapt is appropriate for use with survivors of sexual violence, MediCapt is acceptable to providers and survivors, and using MediCapt in these settings is both feasible and sustainable.
- **Concerns with MediCapt reported in the questionnaire open-response questions** included technical problems (usually well addressed by hospital IT staff and PHR), accessing the printer at night, lengthy printouts for presentation in court, and obtaining survivor consent.
- **Favorite MediCapt features**, on the other hand, were its photographic capabilities, security, consent process, body diagram, and not being allowed to leave blanks in the form. Suggestions for improvement include providing more space in the form for comments, removing redundant questions, and adding step-by-step guidance for obtaining consent.
- Although it is early to assess the impact of MediCapt on survivor cases, **providers were optimistic about its usefulness** and reported that its legibility and photography features had already been appreciated by the courts. The **app's required consent process** also greatly increased the frequency of providers seeking consent, helped empower the survivors in their care, and improved the survivor-centeredness of the sexual violence services.
- The **key reported strengths of paper forms** were "works well" (frequency = 29), the paper form's triplicate design (frequency = 19), familiarity with the forms among people across all sectors (frequency = 12), paper forms capture most of the necessary details (frequency = 9), and (accordingly to a minority of interviewees) they are not easily lost (frequency = 8). However, this latter point – that paper forms are not easily lost – is strongly countered by a much higher frequency of interviewee statements that the paper forms are more readily lost (frequency = 74) and MediCapt data are more secure and less prone to being lost (frequency = 99).
- The **key reported weaknesses of paper forms** were that the paper form can be lost (frequency = 74), can be changed or destroyed without permission

(frequency = 37), is not confidential (frequency = 29), has limited space (frequency = 16), takes a lot of time to complete (frequency = 13), is difficult to correct (frequency = 13), often has missing or incorrect data (frequency = 13), and does not have a survivor consent section (frequency = 11).

- The **key reported strengths of MediCapt** were its secure storage (frequency = 99), time efficiency and convenience (frequency = 46), ease of accessing stored data across sectors (frequency = 40), ability to take photos (frequency = 35), confidentiality (frequency = 34), inability to skip questions (hence, enhancing completeness) (frequency = 30), required consent process (frequency = 29), comprehensiveness and accuracy (frequency = 26), and difficulty to tamper with (frequency = 20).
- The **key reported weaknesses of MediCapt** were internet or logging-in issues (frequency = 36), challenging report length and format (frequency = 35), printer difficulties (e.g., inaccessible, slow, jams, etc.) (frequency = 34), requiring more time and effort (frequency = 30), issues with the MediCapt form itself (; e.g., difficult to present in court, small font, unclear format, repetition in some questions, etc.) (frequency = 27), difficulty getting consent for photos (frequency = 23), and requiring typing proficiency (frequency = 18). More-detailed lists of suggested improvements to printing and the MediCapt form are provided in the endline assessment report.
- **Other key issues** reported in the interviews were a request for more training (frequency = 69), confirmation that most providers were able to obtain consent on the MediCapt app, even for photography (frequency = 33), and gratitude for PHR training and support (frequency = 14).

References

1. Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH. Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence. *The Lancet*. 2006;368(9543):1260-1269. doi:10.1016/S0140-6736(06)69523-8.
2. García-Moreno C, Pallitto C, Devries K, Stöckl H, Watts C, Abrahams N. Global and Regional Estimates of Violence against Women: Prevalence and Health Effects of Intimate Partner Violence and Non-Partner Sexual Violence. World Health Organization; 2013.
3. Borumandnia N, Khadembashi N, Tabatabaei M, Alavi Majd H. The prevalence rate of sexual violence worldwide: a trend analysis. *BMC Public Health*. 2020;20(1):1835. doi:10.1186/s12889-020-09926-5
4. United Nations Children's Fund Kenya Country Office DoVP, National Center for Injury Prevention and Control, U.S. Centers for Disease Control and Prevention, and the Kenya National Bureau of Statistics. Violence against Children in Kenya: Findings from a 2010 National Survey. Summary Report on the Prevalence of Sexual, Physical and Emotional Violence, Context of Sexual Violence, and Health and Behavioral Consequences of Violence Experienced in Childhood.; 2012.
5. Violence victimisation and aspirations–expectations disjunction among adolescent girls in urban Kenya.
https://www.tandfonline.com/doi/full/10.1080/02673843.2017.1345769
6. 2014 Kenya Demographic and Health Survey. Kenya National Bureau of Statistics, Kenya Ministry of Health, the National AIDS Control Council (NACC), the National Council for Population and Development (NCPD), and the Kenya Medical Research Institute (KEMRI).
7. Kenya. Institute for Health Metrics and Evaluation. Published September 9, 2015. http://www.healthdata.org/kenya
8. McGregor MJ, Du Mont J, Myhr TL. Sexual assault forensic medical examination: is evidence related to successful prosecution? *Ann Emerg Med*. 2002;39(6):639-647. doi:10.1067/mem.2002.123694
9. Gray-Eurom K, Seaberg DC, Wears RL. The prosecution of sexual assault cases: correlation with forensic evidence. *Ann Emerg Med*. 2002;39(1):39-46. doi:10.1067/mem.2002.118013
10. Kjærulff MLBG, Bonde U, Astrup BS. The significance of the forensic clinical examination on the judicial assessment of rape complaints: developments and trends. *Forensic Sci Int*.
2019;297:90-99. doi:10.1016/j.forsciint.2019.01.031
11. Tamamyan H, Armas-Cardona G. Final Evaluation: Deepening and Expanding the Cross-
Sector Network Response to Sexual Violence in the Democratic Republic of Congo and Kenya: A Project to Increase Justice for Women and Girls Survivors of Sexual Violence. 2019.
12. Jewkes R, Christofides N, Vetten L, Jina R, Sigsworth R, Loots L. Medico-Legal Findings, Legal Case Progression, and Outcomes in South African Rape Cases:

Retrospective Review. *PLOS Med*. 2009;6(10):e1000164. doi:10.1371/journal.pmed.1000164
13. Mathews MA. Development of a Quality Index Tool to assess the completion of J88 forms
for rape survivors in South Africa. Report. Johannesburg, South Africa. November 2016.
14. Ajema C, Mukoma W, Kilonzo N, Bwire B, Otwombe K. Challenges experienced by service providers in the delivery of medico-legal services to survivors of sexual violence in Kenya. *J Forensic Leg Med*. 2011;18(4):162-166. doi:10.1016/j.jflm.2011.02.004
15. Wangamati CK, Combs Thorsen V, Gele AA, Sundby J. Postrape care services to minors in Kenya: are the services healing or hurting survivors? *Int J Womens Health*. 2016;8:249-259. doi:10.2147/IJWH.S108316

Appendices

Appendix A: Data quality checklist

PHR sexual violence data quality checklist

NOTE: If the individual completing the PRC form indicated "n/a," "not applicable," "none," crossed the field out, or provided similar indication that information was not available, please provide FULL credit for that checklist item.

	Circle appropriate score		
Demographics:			
1. All 4 dates (dates of form, birth, exam, incident)	0 No dates	1 Some dates	2 All dates
One point if 1-3 dates. Two points if ALL 4 dates (dates of form, birth, exam, and incident) (or "n/a").			
2. Three names of survivor	0 No names	1 Some names	2 All names
One point if partial name. Two points if full name.			
3. Survivor contact info (address and phone)	0 No contact info	1 Only address or phone	2 Both address and phone
One point if either address or phone. Two points if both address and phone (or "n/a").			
4. OVC status	0 Not present		2 Present
Two points if any status is marked.			
History:			
5. Perpetrator info (gender, est. age or adult/non-adult, unknown/known)	0 No info	1 Some info	2 All info
One point if info on 1-2 of these items. Two points if info on ALL 3 items (any info on gender, age/adult/non-adult, and perpetrator unknown/known).			
6. Chief complaints	0 No info	1 Some info	2 Detailed info
One point if any info, but no specific reason for visit (e.g., "patient is withdrawn"). Two points if specific reason for patient's visit (e.g., "…sexual assault," "…psychological concerns," etc.).			
7. Circumstances surrounding incident	0 No info	1 Some info	2 Detailed info (must include penetration & struggle info)
One point if any info. Two points if info on BOTH "penetration" and "struggle" (or "n/a").			
8. Previous reporting and care	0 No info	1 Some info	2 Detailed info

One point if any info. Two points if info on BOTH "previous reporting" and "previous care" (or "n/a").			
Physical examination:			
9. Notations on body map	0 Not present		2 Present (or marked "normal" or similar)
Two points if any notations or marked "normal" or "n/a."			
10. Statement in 'Comments' summarizing body map exam	0 No info	1 Some info	2 Detailed info (or marked "normal" or similar)
One point if any info. Two points if statement summarizing body map (e.g., "exam consistent with sexual assault") or marked "normal" or similar.			
11. Date of last consensual intercourse	0 Not present		2 Present
Two points if date (or "n/a").			
Forensic:			
12. Clothing info (4 fields)	0 No fields completed	1 Some fields completed	2 Four fields completed
One point if 1-3 fields completed. Two points if ALL 4 fields completed (or "n/a").			
13. Toilet and bathing info (2 fields)	0 No fields completed	1 One field completed	2 Two fields completed
One point if 1 field completed. Two points if BOTH fields completed.			
14. Info on perpetrator marks	0 No info		2 Info reported
Two points if either box marked.			
Genital examination:			
15. Genital exam info	0 No info	1 Some info	2 Detailed info
One point if any info. Two points if detailed info or marked "normal" or similar.			
16. Statement in 'Comments' summarizing genital exam	0 No info	1 Some info, or only stating hymen is intact/broken	2 Detailed info
One point if any info or if only discusses hymen. Two points if statement summarizing genital exam (e.g., "exam consistent with sexual assault") or marked "normal" or similar.			
Management:			
17. Management info	0 Not present		2 Present
Two points if any info or "n/a."			
18. Referral info	0 Not present		2 Present

			Two points if any info or "n/a."
Laboratory samples:			
19. Labs sent	0 None sent		2 At least one sent
			Two points if any documentation about labs (e.g., "none," "n/a," "HIV…," etc.).
Chain of custody:			
20. List of chain-of-custody samples	0 Not present		2 Present
			Two points if any documentation about chain-of-custody items (e.g., "none," "n/a," "clothing…," etc.).
21. Examining Officer signature and date	0 Not present		2 Present
			Two points if BOTH signature and date.
22. Police Officer signature and date	0 Not present		2 Present
			Two points if BOTH signature and date.
23. Document signed by Examining Officer within 48 hours of patient visit	0 Not signed within 48 hours		2 Signed within 48 hours
			Two points if signed within 48 hours of patient's visit.
Psychological assessment (Part B):			
24. Part B (including child section if relevant) (NOTE: score is doubled for this checklist item)	0 No info	2 Some info	4 Detailed info
			TWO points if any info. FOUR points if detailed info.
General:			
25. Writing legible	0 Not legible	1 Partly legible	2 Completely legible
			One point if partly legible. Two points if completely legible.
26. Content understandable (e.g., clear meaning, avoids unexplained medical jargon, etc.)	0 Not understandable	1 Partly understandable	2 Completely understandable
			One point if partly understandable. Two points if completely understandable.
Total score: Acceptable score = 43 (>80%)			**/54**
Comments (specify checklist number followed by comment):			

Appendix B: Inter-rater reliability study to validate PHR data quality checklist

In the validation of the final PHR data quality checklist, an inter-rater reliability analysis was conducted on 31 de-identified MediCapt records. The results of this analysis are shown in the table below. For nearly all 26 checklist items, there was very strong inter-rater agreement, with Cohen's Weighted Kappa scores largely >0.6, suggesting "substantial" to "perfect" agreement. The one item with "moderate" agreement (Cohen's Weighted Kappa 0.60) was the checklist item related to chief complaints. This suggests there may be greater subjectivity in assessing chief complaints. While there can be additional discussion on how to further clarify scoring for this checklist item, the tool overall had significant levels of agreement.

Data quality checklist inter-rater reliability results.

	Scorer 1		**Scorer 2**		**Cohen's Weighted Kappa**	**Interpretation of agreement ***
Demographics:	**Mean**	**SD**	**Mean**	**SD**		
1. All four dates (dates of form, birth, exam, incident)	1.58	0.50	1.58	0.50	1.00	Perfect
2. Three names of survivor	2.00	0.00	2.00	0.00	1.00	Perfect
3. Survivor contact info (address and phone)	2.00	0.00	2.00	0.00	1.00	Perfect
4. OVC status	1.48	0.89	1.48	0.89	1.00	Perfect
History:						
5. Perpetrator info (gender, est. age or adult/non-adult, unknown/known)	1.87	0.50	1.87	0.50	1.00	Perfect
6. Chief complaints	1.61	0.62	1.35	0.61	0.60	Moderate
7. Circumstances surrounding incident	1.45	0.68	1.19	0.60	0.63	Substantial
8. Previous reporting and care	1.81	0.60	1.81	0.60	1.00	Perfect
Physical examination:						
9. Notations on body map	2.00	0.00	2.00	0.00	1.00	Perfect

10. Statement in "Comments" summarizing body map exam	1.61	0.72	1.74	0.68	0.76	Substantial
11. Date of last consensual intercourse	0.84	1.00	0.84	1.00	1.00	Perfect
Forensic:						
12. Clothing info (four fields)	1.81	0.60	1.81	0.60	1.00	Perfect
13. Toilet and bathing info (two fields)	1.77	0.62	1.81	0.60	0.91	Almost perfect
14. Info on perpetrator marks	1.81	0.60	1.81	0.60	1.00	Perfect
15. Genital exam info	1.81	0.60	1.74	0.63	0.84	Almost perfect
16. Statement in "Comments" summarizing genital exam	1.45	0.81	1.42	0.81	0.96	Almost perfect
Management:						
17. Management info	1.81	0.60	1.81	0.60	1.00	Perfect
18. Referral info	1.81	0.60	1.81	0.60	1.00	Perfect
Laboratory samples:						
19. Labs sent	1.81	0.60	1.81	0.60	1.00	Perfect
Chain of custody:						
20. List of chain-of-custody samples	1.74	0.68	1.68	0.75	0.87	Almost perfect
21. Examining officer signature and date	1.77	0.62	1.68	0.75	0.80	Substantial
22. Police officer signature and date	0.13	0.50	0.13	0.50	1.00	Perfect
23. Document signed by examining officer within 48 hours of patient visit	0.13	0.50	0.13	0.50	1.00	Perfect
Psychological assessment (Part B)						
24. Part B (including child section if relevant)	3.61	1.20	3.61	1.20	1.00	Perfect

(NOTE: score is doubled for this checklist item)						
General:						
25. Writing legible	2.00	0.00	2.00	0.00	1.00	Perfect
26. Content understandable (e.g., clear meaning, avoids unexplained medical jargon, etc.)	1.61	0.62	1.71	0.59	0.82	Almost perfect
Total score out of 54: Acceptable score = 43 (>80%)	**43.32**	**11.02**	**42.81**	**10.86**	**0.77**	**Substantial**

*Interpretation of Cohen's Weighted Kappa: Poor agreement, 0.00; slight agreement, 0.00–0.20; fair agreement, 0.21–0.40; moderate agreement, 0.41–0.60; substantial agreement, 0.61–0.80; almost perfect agreement, 0.81–0.99; perfect agreement, 1.00. (Reference: Viera AJ, Garrett JM. Understanding interobserver agreement: the kappa statistic. *Fam Med* 2005;37(5):360–3.)

Note: the following paragraph reports on the actual quality of the data recorded in the 31 de-identified MediCapt test records used in the inter-rater reliability study. While these results can be informative as to which parts of the MediCapt form are most accurately completed by providers, a more detailed examination of the MediCapt (and paper-based) forms was completed during the evaluation and is presented in the main text of this report.

Looking specifically at the quality of the data documented (versus looking at level of inter-rater agreement) in the 31 de-identified MediCapt test records and using a low-to-high documentation quality scale of 0 to 2, the majority of checklist items (n=19, 73.1%) had a mean documentation quality score >1.5-2. Meanwhile, seven checklist items received an average data quality score of <1.5, indicating moderate- to low-quality documentation. Items with lower average scores included orphans and vulnerable children (OVC) status (mean=1.48, κ=1.00), chief complaints (mean=1.48, κ=0.60), circumstances surrounding the incident (mean=1.32, κ=0.63), date of last consensual intercourse (mean=0.84, κ=1.00), statement summarizing genital exam (mean=1.435, κ=0.96), police officer signature and date (mean=0.13, κ=1.00), and document signed by examining officer within 48 hours of patient visit (mean=0.13, κ=1.00). Of these seven lower-scoring items, four had *perfect* levels of agreement with Kappa scores of 1.00, while the other three had agreement levels of *almost perfect*, *substantial*, and *moderate*.

Appendix C: MediCapt usability questionnaire

MediCapt Usability & Feasibility Questionnaire
Version: 10 June 2021

The following questionnaire contains items that help us evaluate the technology we are developing and the pilot overall. This questionnaire is anonymous and your answers will not be shared with anyone outside of PHR and its evaluation team. Your responses will have no effect on your employment or relationship with your place of work, PHR personnel, or consultants.

A. Which of the following best describes your occupation?

____Nurse
____Doctor
____Other, please specify:
_____

B. If you have a clinical specialty, please describe it in the field below.

C. How many years have you been conducting sexual assault examinations?

I have been conducting sexual assault exams for _____ years.

D. How many sexual assault cases have you entered into MediCapt?

I have entered _____ cases into MediCapt.

E. Approximately how many sexual assault examinations do you typically conduct in one month? If you do not know the exact number, please provide your best estimate.

I conduct approximately _____ sexual assault examinations per month.

F. Approximately how many minutes do you spend per sexual assault EXAMINING THE SURVIVOR (not including documentation)? If you do not know the exact time, please provide your best estimate.

I spend approximately _____ minutes per sexual assault EXAMINING.

G. Approximately how many minutes do you spend per sexual assault DOCUMENTING USING THE PAPER FORM? If you do not know the exact time, please provide your best estimate.

I spend approximately _____ minutes per sexual assault DOCUMENTING USING THE PAPER FORM.

H. Approximately how many minutes do you spend per sexual assault DOCUMENTATION using MediCapt? If you do not know the exact time, please provide your best estimate.

I spend approximately _____ minutes per sexual assault DOCUMENTING USING MEDICAPT.

I. Have you ever used a mobile phone?

____Yes
____No

J. Have you ever used a smart phone? (A "smart phone" is a mobile phone that performs many of the functions of a computer, typically having a touchscreen interface, internet access, and an operating system)

____Yes
____No

K. If you have experience using a smart phone, what have you used it for? Check all that apply.

____N/A, I HAVE NEVER USED A SMART PHONE
____Communicate with family and friends
____Look up information online
____Check email
____Take pictures
____Assist with my clinical work
____Find information to make medical decisions
____Take notes
____Play games
____Use apps
____Listen to music

L. **Do you have experience using applications, or "apps", on smart phones? (e.g., camera, WhatsApp, Viber, ViuSasa, Truecaller)**

____Yes
____No

If yes, which apps have you used?

M. **Have you ever used the camera function on a mobile phone or smart phone?**

____Yes
____No

N. **Have you ever used a digital camera (not on a mobile or smart phone) to take a photograph?**

____Yes
____No

O. **Do you normally take forensic photographs when you conduct sexual assault examinations (before using MediCapt)?**

____Yes
____No

P. Below, please indicate the extent to which you agree with each of the statements.

	I strongly disagree	I disagree	I agree	I strongly agree	Comment (optional)
TABLETS – The following questions regard using MediCapt on a **tablet device**. Please answer the questions as they pertain to using the tablet.					
1. The tablet itself appears to be suitable to document sexual assault examinations.	☐	☐	☐	☐	
2. It is easy to type on the tablet.	☐	☐	☐	☐	
3. It is easy to use the touchscreen on the tablet.	☐	☐	☐	☐	
4. It is easy for me to hold the tablet.	☐	☐	☐	☐	
5. The tablet should be smaller.	☐	☐	☐	☐	
6. It is easy to take photographs using the tablet.	☐	☐	☐	☐	
7. It is easy to connect the Bluetooth keyboard to the tablet.	☐	☐	☐	☐	
8. It is easy to type using the keyboard.	☐	☐	☐	☐	
USABILITY OF MEDICAPT. The following questions concern the MediCapt app itself.					
9. The screens appear to be straightforward and easy to use.	☐	☐	☐	☐	
10. I find it easy to transition from one screen to the next.	☐	☐	☐	☐	
11. I find the text size on the screens too small.	☐	☐	☐	☐	

12. I like the colors used on the screens for MediCapt.	☐	☐	☐	☐	
13. I find that multiple places to enter information on a single screen makes data entry on MediCapt easy to use.	☐	☐	☐	☐	
14. I find the pictogram easy to use.	☐	☐	☐	☐	
15. The different screens all made sense to me.	☐	☐	☐	☐	
16. It was easy for me to use MediCapt.	☐	☐	☐	☐	
17. I like the prompts to take forensic photographs that were built into MediCapt.	☐	☐	☐	☐	
18. MediCapt offers a useful way to take forensic photography.	☐	☐	☐	☐	
APPROPRIATENESS OF MEDICAPT					
19. MediCapt helps me do a better job of documenting sexual assault examinations.	☐	☐	☐	☐	
20. MediCapt helps me save time in conducting sexual assault examinations.	☐	☐	☐	☐	
21. It is easy to use MediCapt while I am conducting a sexual assault examination on a patient.	☐	☐	☐	☐	
22. It is easier for me to take forensic photographs using MediCapt.	☐	☐	☐	☐	
23. My patients will be better served if I use MediCapt.	☐	☐	☐	☐	
24. Using MediCapt makes a difference in survivor's cases.	☐	☐	☐	☐	
25. Printing the MediCapt document serves the patient well.	☐	☐	☐	☐	
ACCEPTABILITY OF MEDICAPT					

26. I currently complete a paper-based medical certificate for examinations of all sexual violence patients.	☐	☐	☐	☐	
27. The risks to the patient of lost personal information are greater with the paper form than with MediCapt.	☐	☐	☐	☐	
28. I am comfortable using MediCapt in my clinical practice.	☐	☐	☐	☐	
29. I think that sexual violence patients accept my use of MediCapt during their examination.	☐	☐	☐	☐	
30. The use of MediCapt with a sexual violence patient is culturally unacceptable.	☐	☐	☐	☐	
31. The training on using MediCapt with the patient helped me incorporate it into practice.	☐	☐	☐	☐	
32. I like to use new types of technology to help my patients.	☐	☐	☐	☐	
33. I think that the forensic photography function on MediCapt makes it more comfortable for my patients to be photographed, versus using a separate camera to take photographs.	☐	☐	☐	☐	
34. I believe that my patients understand the risks and benefits of using MediCapt.	☐	☐	☐	☐	
35. I am obtaining the consent of all patients prior to using MediCapt.	☐	☐	☐	☐	
36. Patients readily provide consent for MediCapt to be used in documenting their cases.	☐	☐	☐	☐	
37. The process of obtaining consent to use MediCapt for data collection is too cumbersome.	☐	☐	☐	☐	
38. I feel confident in my ability to explain to the patient the purpose and risks involving the use of MediCapt to obtain and record their information.	☐	☐	☐	☐	
39. Printing the MediCapt document is more acceptable to me than sending the data electronically.	☐	☐	☐	☐	

40. Overall, I am satisfied with MediCapt.	☐	☐	☐	☐	
FEASIBILITY AND SUSTAINABILITY OF MEDICAPT					
41. MediCapt is intuitive to my needs when documenting sexual assault examinations.	☐	☐	☐	☐	
42. The MediCapt app "made sense."	☐	☐	☐	☐	
43. My colleagues will be happy using MediCapt.	☐	☐	☐	☐	
44. I have had enough training to use MediCapt correctly.	☐	☐	☐	☐	
45. The device is likely to get stolen.	☐	☐	☐	☐	
46. I am likely to lose my device.	☐	☐	☐	☐	
47. Additional measures will need to be put into place to make sure this device gets used.	☐	☐	☐	☐	
48. I could one day train my colleagues on how to use MediCapt to document sexual assault examinations.	☐	☐	☐	☐	
49. MediCapt helps me save time in documentation.	☐	☐	☐	☐	
50. MediCapt will ensure that sexual assault records are transferred to the appropriate law enforcement and legal personnel.	☐	☐	☐	☐	
51. MediCapt is better than what I am currently using to document sexual assaults.	☐	☐	☐	☐	
52. I am able to take forensic photographs easily using MediCapt.	☐	☐	☐	☐	
53. Healthcare professionals who use MediCapt will take better forensic photographs because they are using MediCapt.	☐	☐	☐	☐	
54. It is difficult to get reliable Wi-Fi or internet access to transmit the files.	☐	☐	☐	☐	

55. I have Wi-Fi or other internet access in my community or health care center.	☐	☐	☐	☐	
56. I think connection to the internet is a major problem for uploading files.	☐	☐	☐	☐	
57. I have access to reliable electricity in my community or health care center.	☐	☐	☐	☐	
58. It is difficult to charge the smart phones or tablets on a daily basis.	☐	☐	☐	☐	
59. I have to rely on a generator to charge smart phones or tablets on a daily basis.	☐	☐	☐	☐	
60. It is easy to troubleshoot problems that I encounter with MediCapt.	☐	☐	☐	☐	
61. When I encounter a problem with MediCapt I know who to turn to for help.	☐	☐	☐	☐	
62. When I encounter a problem with MediCapt, I am satisfied with the help I receive.	☐	☐	☐	☐	
63. The printing process with MediCapt works well.	☐	☐	☐	☐	
64. It is difficult to maintain printer supplies (ink, paper, etc.).	☐	☐	☐	☐	
65. The printer is likely to be stolen.	☐	☐	☐	☐	
66. The printer is likely to be used by others for purposes UNRELATED to MediCapt.	☐	☐	☐	☐	

Q. Please describe your experience in using MediCapt (in 4 sentences or less).

R1. What problems, if any, did you have using MediCapt?

R2. If you encountered problems when using MediCapt, what did you do? If you reached out to a support person, please describe that experience.

S. What were your favorite aspects of the MediCapt app?

T. What additional measures will be needed for you to use MediCapt?

U1. If you are already using MediCapt with patients, please describe how you obtain patient consent.

U2. Please describe patients' general response in providing consent. Please describe any challenges you may be experiencing in obtaining patients' consent.

V. What else could we do in order to improve the MediCapt app for your needs?

W. Can you think of one particular case where MediCapt has made a difference in the case of a survivor of sexual assault? If so, please share below.

Thank you for taking the time to complete this assessment. Please turn the assessment to a PHR staff person once you have completed it.

Appendix D: Semi-structured interview guide

Physicians for Human Rights

PROGRAM ON SEXUAL VIOLENCE IN CONFLICT ZONES

Semi-structured interview guide for individuals who have been trained by PHR

Date	|____||____| / |____||____| / |____||____| *(dd/mm/yyyy)*
Primary Interviewer Name	
Country	
Location of interview	
Healthcare, Legal, or Law Enforcement Professional?	
Audio record number	
Translator	

[INTERVIEWER: READ VERBAL CONSENT AND SIGN/DATE CONSENT STATEMENT BEFORE PROCEEDING]

A. BACKGROUND

1. What is your professional position?

2. How long have you been working with this organization/agency/unit?

3. Approximately how many people work here?

4. How many people here are tasked to work with cases of sexual violence?

5. Please describe the PHR events that you attended.
   Probe: Trainings, network meetings, regional roundtables, training of trainers.
   Probe: How many events did you attend?

6. Apart from the training you received from Physicians for Human Rights, how many other sexual violence trainings have you attended?

6. Please tell me about those other sexual violence trainings.
   Probe: Did any of them cover aspects of forensic investigation? How so?

Now I am going to ask you some questions about your professional practices and your attitudes relative to the training conducted by Physicians for Human Rights. Remember, there are no wrong answers. This interview is only to help us better identify things that we can do to better improve our training and technical assistance efforts.

INTERVIEWERS – GO TO SECTION:

TRAINING EVAL- HEALTHCARE PROFESSIONALS	(Sections B, E, finish)
TRAINING EVAL-FOR LAW ENFORCEMENT PROFESSIONALS	(Sections C, E, finish)
TRAINING EVAL-FOR LEGAL PROFESSIONALS	(Sections D, E, finish)
TRAINING EVAL-FOR MENTORS TRAINING NEW COLLEAGUES	(Section F, finish)
INSTITUTIONAL CAPACITY DEVELOPMENT	(Section G, finish)
NETWORK INITIATIVES/ACTIVISM	(Section H, finish)

B. QUESTIONS FOR HEALTHCARE PROFESSIONALS ONLY

1. How many people from your health unit were trained at the Training with Physicians for Human Rights?

2. Can you estimate about how many survivors of sexual violence you have evaluated for sexual violence since the training with Physicians for Human Rights?
   Probe: How many were women/and or girl survivors of sexual violence?

3a. Do you feel that the Training with Physicians for Human Rights was relevant in responding to the needs of survivors of sexual violence?
   Probe: How so?

3b. Standardized patients are people trained to act as patients. They are not real patients, but they pretend to act like real patients. Have you participated in a training that used standardized patients to help you practice new skills?
   Probe: What did you think about using standardized patients in training?
   Probe: What were the positive and negative aspects of using standardized patients in training?
   Probe: Do you ever think back to the standardized patient example when you are working with a real survivor of sexual assault after the training?

4. Did you change anything about your professional practices following the training with Physicians for Human Rights?
   Probe: how you collect forensic evidence of sexual assault?
   Probe: how you provide medical care to survivors of sexual assault?
   Probe: how you refer survivors to other healthcare professionals and/or other sectors and resources?

5. Have you altered or developed any forms for medical evaluation, particularly regarding forms documenting sexual violence, since the Training with Physicians for Human Rights? Please describe any alterations or new forms.

6. During the Training with Physicians for Human Rights materials, including forensic backpacks and curriculum companions, were distributed. Have you found the materials in the backpack to be helpful? Do you still use the materials in the backpack?
   Probe: What materials were most useful?
   Probe: what do you wish had been included but wasn't given to you?

7. Do you feel that your personal response to survivors of sexual violence has changed since the Training with Physicians for Human Rights?

[if yes, probe] How soon after the training did your response change? Do you feel that your response has resulted in better case outcomes for survivors of sexual violence?

8. Since the Training with Physicians for Human Rights, has your opinion regarding the documentation of sexual violence changed in any way?

9. Has your relationship with the police changed since the Training with Physicians for Human Rights?

10. Have you found it easier or more difficult to communicate with the police regarding sexual violence cases?

11. How do you personally feel about making an effort to document evidence surrounding sexual violence?

12. Did anything about the Training with Physicians for Human Rights make you feel more or less secure regarding your role in documenting evidence of sexual violence?

13. Did you forge any new professional relationships with police officers as a result of the Training with Physicians for Human Rights?

14. Did you forge any new professional relationships with lawyers or judges as a result of the Training with Physicians for Human Rights?

15. Do you use the medical certificate (DRC) / Post-Rape Care Form (Kenya) when you document cases of sexual violence?

Probe: What challenges do you have using the form?

Are there barriers to using the form?

How do officials react to the signed form?

15. Has clinical data that you have collected ever been used to prosecute a perpetrator of sexual violence in court?

[if yes, probe] How many perpetrators?

When [before or after PHR training]?

How?

What was the outcome?

16. Have you ever testified on a sexual violence case in court?

[if yes, probe] How many times?

When [before or after PHR training]?

How?

What was the outcome?

Did your testimony change as a result of PHR's trainings?

If so, how?

17. Do you feel that the Training with Physicians for Human Rights prepared you to better document forensic evidence regarding cases of sexual violence?
    [if yes, probe] How so?
    Probe: How has cross-sectoral collaboration changed or impacted the work that you do?

18. Do you feel that forensic evidence of sexual assault is treated any differently in your community after the training with Physicians for Human rights?

19. Do you feel that the training with Physicians for Human Rights has generated positive changes in the lives of survivors of sexual violence? What are the key changes in the lives of those survivors?

20. Can you provide one example of a survivor of sexual assault whose experiences were different as a result of your training with Physicians for Human Rights?

21. Do you feel that the Training with Physicians for Human Rights had any unintended consequences? Please describe any positive or negative unintended consequences.

22. Are there any lessons you would share with other practitioners on ending sexual violence?

C. QUESTIONS FOR LAW ENFORCEMENT PROFESSIONALS

1. How many law enforcement professionals at your unit attended the Training with Physicians for Human Rights?

2. Can you estimate about how many sexual violence cases you have investigated since the training with Physicians for Human Rights?

3. Can you estimate about how many sexual violence cases your unit has investigated since the training with Physicians for Human Rights?

4. Did you change anything about your professional practices following the training with Physicians for Human Rights?
    Probe: how you collect forensic evidence of sexual assault?
    Probe: how you interact with survivors of sexual assault?
    Probe: how you refer survivors to healthcare professionals and/or professionals in other sectors?

5. Did you transfer any skills from the training to any of your colleagues?
    [if yes, probe] What skills and how did you decide to train your colleagues? How soon after the training did you transfer these skills?

6. Do you feel that the Training with Physicians for Human Rights was relevant in responding to the needs of survivors of sexual violence?

7. Do you feel that your response to survivors of sexual violence has changed since the Training with Physicians for Human Rights?
   [if yes, probe] How soon after the training did your response change?
   Do you feel that your response has resulted in better case outcomes for survivors of sexual violence?

8. Has your system of investigating a sexual violence case changed in any way since the Training with Physicians for Human Rights?
   [if yes, probe] How soon after the training did your system change?
   Do you feel that this system has resulted in better case outcomes for survivors of sexual violence?

9. Did anything about the Training with Physicians for Human Rights make you feel more or less secure regarding your role in documenting evidence of sexual violence?

10. Has your relationship with physicians changed in any way since the training with Physicians for Human Rights?

11. Has your relationship with lawyers or the legal sector changed in any way since the training with Physicians for Human Rights?

12. Since the Training with Physicians for Human Rights, has your opinion regarding the documentation of sexual violence changed in any way?

13. Has evidence that you have collected ever been used to prosecute a perpetrator of sexual violence in court?
    [if yes, probe] How many perpetrators?
    When [before or after training]?
    How?
    What was the outcome?

14. Have you ever testified on a sexual violence case in court?
    [if yes, probe] How many times
    When [before or after training]?
    How?
    What was the outcome?
    Did your testimony change as a result of PHR's trainings? if so, how?

15. Do you feel that the Training with Physicians for Human Rights prepared you to better document forensic evidence regarding cases of sexual violence?
    [if yes, probe] How so?

Probe: How has cross-sectoral collaboration changed or impacted the work that you do?

16. Do you feel that forensic evidence of sexual assault is treated any differently in your community after the training with Physicians for Human Rights?

17. Do you feel that the training with Physicians for Human Rights has generated positive changes in the lives of survivors of sexual violence? What are the key changes in the lives of those survivors?

18. Can you provide one example of a survivor of sexual assault whose experiences were different as a result of Physicians for Human Rights?

19. Do you feel that the Training with Physicians for Human Rights had any unintended consequences? Please describe any positive or negative unintended consequences.

20. Are there any lessons you would share with other practitioners on ending sexual violence?

21. What do you feel needs to happen in your country for individuals in the field of law enforcement to be able to better document cases of sexual violence?

D. QUESTIONS FOR LEGAL PROFESSIONALS

1. How many legal professionals from your court/unit/office attended training?

2. Did you transfer any skills from the training to any of your colleagues?
   [if yes, probe] What skills and how did you decide to train your colleagues? àHow soon after training did you transfer any skills?

3. Do you feel that the Training with Physicians for Human Rights was relevant in responding to the needs of survivors of sexual violence?

4. Has your use of medical evidence changed since the Training with Physicians for Human Rights?
   [if yes, probe] How soon after the training did your use of medical evidence change?
   Do you feel that your use of medical evidence has resulted in better case outcomes for survivors of sexual violence?

5. Has your professional relationship with the law enforcement system regarding sexual violence cases changed in any way since the training with Physicians for Human Rights?

6. Have police records changed in any way since the training with Physicians for Human Rights?

7. Has your use of police records changed since the Training with Physicians for Human Rights?

   [if yes, probe] How soon after the training did your use of police records change? Do you feel that your use of police records has resulted in better case outcomes for survivors of sexual violence?

8. Did you meet anyone at the Training with Physicians for Human Rights who has since helped you better utilize evidence in a sexual violence case?

9. Can you estimate about how many sexual violence cases you have worked on since the training with Physicians for Human Rights?

10. Can you estimate about how many sexual violence cases your unit/court has worked on since the training with Physicians for Human Rights?

11. How many cases of sexual violence resulted in a conviction during the past year? Do you think the conviction rate has changed since the training? How?

12. Has the testimony of professional witnesses (specifically, healthcare professionals or law enforcement officers) changed in any way since the training with Physicians for Human Rights?

13. Have you found it easier or more difficult to communicate with the police regarding sexual violence cases since the training with Physicians for Human Rights?

14. Did anything about the Training with Physicians for Human Rights make you feel more or less secure regarding your role in handling evidence of sexual violence?

15. Since the Training with Physicians for Human Rights, has your opinion regarding the documentation of sexual violence changed in any way?

    Probe: How has cross-sectoral collaboration changed or impacted the work that you do?

16. Do you feel that the training with Physicians for Human Rights has generated positive changes in the lives of survivors of sexual violence? What are the key changes in the lives of those survivors?

17. Can you provide one example of a survivor of sexual assault whose experiences were different as a result of Physicians for Human Rights?

18. Do you feel that the Training with Physicians for Human Rights had any unintended consequences? Please describe any positive or negative unintended consequences.

19. Are there any lessons you would share with other practitioners on ending sexual violence?

E. WRAP-UP

1. Have you trained other colleagues after attending one of PHR's training workshops?
   Probe: How many and who?
   What PHR materials were useful in these trainings?
   What do you wish you had to help you with these trainings?

2. Have there been any other changes that you have experienced in your professional experience since the training you attended with Physicians for Human Rights?

3. Have there been any new professional relationships with individuals that you have forged since the Training with Physicians for Human Rights?

4. In retrospect, what have been some of the most helpful aspects of the training that PHR provided?

5. What kind of support (financial and non-financial) can PHR provide to help your work?

6. How can PHR activities grow?

7. What didn't you like about PHR's trainings/ activities?

8. How could they be improved?

9. If you had access to unlimited resources to end sexual violence in your community, what would you do to make that happen?

F. QUESTIONS FOR MENTORS TRAINING NEW COLLEAGUES

1. When did you participate in a Training of Trainers session with Physicians for Human Rights?
   a. How was the ToT session you attended?
      i. What did you like about the ToT session?
      ii. What would you do differently?

2. Have you received any personalized mentoring from PHR that is connected to your ToT work?
   a. Please describe it.
   b. Has it been helpful to you in any way?

3. Please describe any trainings you have led, independently.
    a. Have you informed PHR of all of the independent trainings you have conducted, or are there some trainings that you have conducted that PHR might not be aware of?
    b. Please describe ALL trainings you have conducted. This includes trainings you have conducted in your workplace, with other Civil Society Organizations, and/or with workshops with PHR.
        i. How is your training unique?
        ii. What new information/novelties/additions have you made to the training material?
    c. Have you received a cross-sectoral training facilitator's guide from PHR?
    d. Have you used other PHR materials to conduct these trainings?
    e. Did PHR's trainings help you become a trainer?
        i. How so?
    f. What kind of support did you receive to conduct your own training? This could include support from your home institution/workplace.

4. How many new colleagues have you trained since the Training of Trainers session?
    a. Where did you train these colleagues?
    b. Have you used PHR materials to conduct these trainings?
        i. If so, what did you find helpful?
    c. What would you need to help you train additional experts?

5. Please describe your experiences training new colleagues.
    a. How do you structure your training sessions?
    b. What components of the training curriculum do you find most helpful?
    c. What components of the training curriculum do you find least helpful?

6. What have been some of the challenges you have faced in training new colleagues?

7. What would help you better train your colleagues?

8. Please describe the institutional resources that are provided by your workplace when you train and/or assist new colleagues.

9. Have you observed any changes in the behavior of those you have trained?
    a. In the way the <u>people you have trained</u> collect forensic evidence of sexual assault?
    b. In the way <u>people you have trained</u> refer survivors to services?
10. Now that you are a trainer, have you personally changed the way that you collect or process forensic evidence of sexual assault?
    a. Have you changed your occupational practices in any other ways now that you are a trainer?

11. Did you distribute any materials to the individuals you trained?

12. Do you feel that the training effort you engaged in produced positive changes in the lives of survivors of sexual violence?
    a. Do you have any examples or stories you can share?

13. Have you observed any other types of changes in the individuals you trained?
    a. Changes in their attitudes?
    b. Changes in the way they communicate with one another?

14. What kind of support would you need to carry out additional trainings without PHR?

G INSTITUTIONAL CAPACITY DEVELOPMENT

1. Please describe any facility-level activities that have been held to improve the institution's capacity to provide services to survivors of sexual assault. This includes activities that resulted in recommendations being made for your institution to implement.
    a. Which of these activities / meetings directly involved PHR?

2. What were the major strengths and weaknesses identified in your facility?

3. Have changes been made to support recommendations?

4. Have changes been made in the allocation of resources to support recommendations?

5. Who are the institutional champions that are helping move recommendations forward?

6. To the best that you can remember, what were some of the major *actions, changes, and plans* that members of your institution agreed to work on?

    INTERVIEWER: write down actions/changes/plans as they are listed and use reiteratively use for question #7 below.

    - _____
    - _____
    - _____
    - _____

7. What has happened with [above plan] since plans were made?
    a. Is [above plan] moving forward?
    b. Who is taking a major role in leading [above plan]?
    c. What are the major barriers to [above plan]?

d. Do you feel that [above plan] is:
    i. Appropriate?
    ii. Feasible?
    iii. Cost effective?
e. What needs to happen within your institution for [above plan] to move forward?
f. What could your institution do to better help [above plan] move forward?
g. What could PHR do to better help [above plan] move forward?

8. Are you aware of any plans to alter organizational priorities or recommendations that have been made?
    b. Can you further explain how this happened?
    c. Do you perceive positive or negative effects from changes in the recommendations?
    d. Who communicates about implementing or changing the recommendations in your institution?

9. Have institutional changes produced any changes for *services* provided to survivors of sexual violence?
    a. Has it had effects on:
        i. The efficiency of services provided to survivors of sexual assault?
        ii. The safety of survivors of sexual assault?
        iii. The patient-centeredness of care provided to survivors of sexual assault?
        iv. Any other outcomes that directly affect survivors of sexual assault?

10. Do you feel that institutional changes have resulted in any changes in the *experiences* of survivors of sexual assault? This might include changes that occur outside of the facility/institution.
    a. Can you provide an example?

11. Is there anything the institution could generally be doing better as it implements recommendations?

12. Is there anything PHR could be doing to better assist the institution as it moves forward in implementing recommendations?

H NETWORK INITIATIVES/NETWORK INITIATIVES

1. Please describe the major initiative that your network has been involved in to make a change to policy or procedures in your country.

2. What has your network done to effect these changes?
    a. How does your network communicate to make these changes?
        i. Does your network use social media (e.g., Whatsapp) to communicate? If so, what are the types of messages communicated?
        ii. Any other modes of communication?

b. How often do members of your network meet?
    i. Do all members regularly attend/stay involved?
c. Is your network experiencing any challenges?
d. Who champions causes within your network? What are the causes about which the network advocates? And who are the targets for such network advocacy?

3. Has your network participated in best practices in forensic evidence collection into national curriculums, protocols, practices, and/or in-service and pre-service trainings?
    IF YES:
        i. What has the network done so far? (Probe to identify where network member is within the below sequence)
            1. Has your network discussed plans with any particular institutions?
            2. As a result of participating in the network, have you had discussions within your own institution/workplace regarding plans or changes?
            3. Is your network currently drafting any plans?
            4. Has your network completed any plans?

4. Have you engaged in any reforms recommended by the network?
    IF YES:
    a. What is the status of those reforms? (Probe to identify where network member is within the below sequence)
        i. Has your network interacted with individuals in key leadership positions to accomplish these reforms?
        ii. Has your network negotiated reforms?
        iii. Has your network been implementing reforms?
        iv. Has your network succeeded in achieving a reform?

5. What are some things that your network is not doing that it should be doing?

6. Is there anything your workplace/institution could be doing to better support your network?

7. Is there anything PHR could be doing to better support your network?

Thank you for your time.

Appendix E: Open responses from MediCapt usability questionnaire

Experience in using MediCapt

MediCapt works well:

- I have been using for sexual survivors. I'm comfortable with it.
- It is good and working well for us.
- I was taken through a training in house by the in-charge and a further training by PHR on photography, using the tablet, printing the form and other aspects. I have used the app with my clinical work and it is good.
- I have been using the app after training in 2019. I also support cases at the youth-friendly centre and use the app to examine the patients.

Concerns with MediCapt:

- Currently using both manual and electronic form as most cases come in the evening when I don't have access to the printing services.
- I work mostly at night hence I am forced to use the paper records as the gadgets are locked and the printer unavailable. When I work during the day, I use the app.
- It has been a good experience though time-consuming to complete. It also gives very lengthy printouts that are too many pages. This has affected the way I make presentation to the court as I always look unsure of my findings.
- I have used MediCapt a number of times and have been a trainer of trainers. I noted on use that there was tendency to focus more on the tablet than in the past. Hence, during training, clinicians should be told to balance the two aspects.

I need more experience with MediCapt:

- It is limited so far due to workload at my work area. I need to frequently use it.
- Have limited experience.
- I am not currently using MediCapt as the last time I used it was probably 2 or 3 years ago. After that there was a gap of almost year when were told it was being upgraded. That affected my use. I have forgotten some aspects – meaning I need a refresher mainly in forensic photography.

Usability improves with experience:

- It was initially challenging and took time to complete the documentation process on the app, but with more practicing has been getting easier.
- I have continued to improve my skills with frequent use of the app. Initially it would take me 60 minutes to complete which I have now managed to reduce to 30 minutes.
- I like MediCapt, and the more one gets used to it the better. Initially I never used to like it, but now I'm very conversant with it.

Problems, if any, using MediCapt

Technical problems:

- Printing challenges after completing the form.
- Network connectivity.

- Network connectivity, mainly poor Wi-Fi and low battery of the tablet that required charging.
- Network connectivity, however, IT team resolved.
- No internet connection in outpatient department and the printer is only at the records department.
- Initially the app was hanging or it was slow but they improved on it.
- At that time the printed font-size was too small, as I have not recently used the app, I don't know if that has changed.

Time-consuming:
- It takes time to complete the form maybe due to unfamiliarity.
- The length of time to complete documentation was long. There are very many fields to complete and sign.
- It takes time to complete, thus, prolonging the patient visit.
- I had slow typing speed, but now with more use I have increased my speed.

Obtaining consent:
- Obtaining patient's consent particularly when the case is that of a minor – the parents or guardians do not readily provide consent.
- Consent area, as patients want to be explained to what one is doing with the gadget, including getting consent for photos is a challenge. There should be a clear guideline with steps on how to carry out consent-taking that can also be used uniformly by all clinicians. This should be within the form just before consent-taking.

Output is too long for court:
- Pages are many for presentation to the court. There is need to review number of pages or make it one big page that one can refer to in a glance like the manual PRC form.
- From what I heard from my colleagues was that there were many pages when printed.

No problems:
- I don't have any problem with it. I used to not like typing but I realized it's all about attitude.

Experience with a support person if problem using MediCapt

Contacted or would contact IT:
- I call the IT person or in-charge and explain the issue to them.
- I completed another manual form. I called in the IT person to provide support.
- I would call the IT person who would sort out the problem.
- I have the phone contacts of the IT support team and I am able to reach out to them. So far, I have not encountered any problem.
- Yes, I contacted the IT person.
- I have not had many technical problems, but if I get one, I would call the IT person to sort out the challenge. So far, they have been able to sort it out.
- I call the IT person who comes and supports. For example, I have many times had logging in challenges which he always sorts out.

- I have not experienced any technical challenges with MediCapt. If I was to have a problem, I would call the IT team.
- We were given a contact person to help us when we got a problem. The person is responsive.
- I call the IT team.
- I would consult the IT person in the facility who has been trained.

PHR and others contacted:

- I call the in-charge, the IT person or communicate with PHR staff on WhatsApp. The experience so far is that all are responsive and particular the PHR staff is quick to respond and resolve issues.
- There was a problem escalation form that we used to use and we would contact our IT person or PHR staff who would give assistance.
- I consult IT guys and PHR staff in Kenya.

Favorite aspects of the MediCapt app

Photography:

- Forensic photography as it cannot be disputed.
- Examination where you can capture the injuries through photography.
- Forensic photography as it is so clear, including during presentation in court.
- Forensic photography as it is evidence that cannot be deleted.
- Forensic photography.
- Photography. I really like the photography aspect.
- Forensic photography, history taking, examination.
- Being able to take photos of the injuries that can be used as evidence.
- Forensic photography enables the evidence to remain as captured during the examination and also the clothes do not change color.

Security:

- Security aspect which means no one can access the information which is confidential.
- Storage in cloud, moving from analogue to digital.
- Data is well stored and easy to access.
- One can make many copies of the completed forms based on the need.

Consent process:

- The consent form that is inbuilt ensures the process is complete.
- Obtaining survivor and informant consent as it was weak.

Cannot leave blanks:

- You cannot leave blanks.
- Psychiatrist assessment must be made.

Body diagram:

- The diagrams therein give you the ability to clearly describe the injuries including the space to fill in details.
- The body diagram allows you to mark specific points of injuries on the body.
- The form cannot be submitted with blanks; all blanks must be completed.

Saves time:

- There is less writing when compared to paper records.

Involving survivor:

- Involving the survivor during history taking as they need to see what you have put in.

No favorite aspect:

- It's ok, no specific favorite aspect.

Additional measures needed to use MediCapt

Improve form:

- The place where a police officer needs to sign is a challenge as, sometimes, the survivor will not come in with a police officer. Sometimes the police officers also do not want to sign. In this section the app still wants us to fill.
- Improving on printing experiences and the app to have more spaces for providing comments, e.g., disability section, OVC, as well as dates where they cannot be remembered.
- Repeated questions should be deleted, there are those repeated in different questions.
- If the signing fields were reduced it would take less time.
- Make it less lengthy as it is more time-consuming to complete. Key challenge has been that we are few, and when you take too long, the patient queues are long and they complain. The medical superintendent also admonishes you.
- Add a guidance on consent-taking with steps to follow for patients to be taken through.
- Maybe as some colleagues complain about the printed font size it can be increased, though I know that would mean more papers. The clinicians should be sensitized to have a good attitude with it, humans naturally resist change.

Training:

- Have more clinicians trained so that it is well used.
- More refresher trainings.
- Refresher training. I last attended any training in MediCapt in 2019 or earlier so I am out of touch.
- More training.

Improve access to printing:

- Mainly accessibility to printing services during evening or night duty.
- Have the printer stored in a 24hrs service point, e.g., pharmacy or billing center.
- Also access to the printer over the weekend will be helpful.

More devices:

- Have more gadgets which are stored centrally that can be accessed quickly.
- Availability of the gadgets and printing for night duty work.
- More tablets are needed for the newly trained clinicians.

Use laptops or desktops:

- I'm already using MediCapt and I have moved away from paper-based record keeping. The only thing I think would be beneficial is to use laptops or desktops rather than the tablets.

No improvements needed:

- Nothing more. I just need more practical use to be very familiar with the app.

How patient consent is obtained with MediCapt

- I explain to the patient on the consent. However, obtaining photo consent is very difficult as the patient thinks you may use this information on social media platforms.
- I always obtain the consent from the adult on behalf of a minor or directly from the adult if they are the victims.
- I counsel them on what I want to do. I proceed to obtain consent. Sometimes they delay to give it but when explained to are able to accept the process.
- I explain to the patient what I want to do and that I will use a gadget to document. I assure them of confidentiality and they give the consent.
- I explain to the survivors how I will document the examination. I then show them where to sign for consent.
- I have had to reassure the patients on the confidentiality of the details collected. I also explain the benefits of using the digital form and, so far, they understand and give consent.
- I explain to the patient the process and they usually cooperate.
- It is the first thing one must do when using MediCapt. I would say it depends with the clinician approach and skill; if one is friendly and explains to the patients, they give consent.
- The process requires taking time to explain the benefits and reasons for your documentation approach.
- It's a challenge but I do my best to explain what am doing and why. I had scenarios where the parent or guardian of a minor refused to give consent for photography due to misconception that the information may be shared out.
- Obtaining the consent was easy; it requires one to engage the patient and explain what they are doing. I didn't have any challenges in this area.
- I obtain consent from all the patients I interact with. I get it easily as long as I have explained what I'm doing.
- I strike a rapport with the patient and explain to them what I will do and assure them of confidentiality. They are usually receptive.
- The key thing is to explain to the patient what you are doing and how you will document. Once you gain their confidence, they provide the consent.

Patients' general response in providing consent

Able to get consent:

- Initially there is concern on possible exposure but I assure them of confidentiality.
- Patients initially are hesitant as they suspect the information may be used in social media, and also based on their literacy levels. However, when they get to know the reason for the consent fully, they do give it.
- There has been no challenge as I have learnt to fully explain to them. None has declined to sign.
- As long as the patient is reassured of the confidentiality of the information, they are agreeable and provide consent.
- I have not had challenges obtaining consent. They are usually co-operative as long as the explanation is clear.
- They open up and provide consent if clinician is approachable and easy to talk to.
- Patients just need to understand what you are doing and why. Taking time to explain helps to ease any suspicions. So far, I've been able to obtain consent always.
- No challenges experienced. Patients are responsive if well briefed.
- There have been no challenges as even in OPD they use a computer to document patient details so even with MediCapt they accept to provide consent.
- They are usually receptive and provide consent.
- They are agreeable to providing consent after explanation is provided.

Patients are reluctant:

- The general response is reluctance. Particularly on the photo aspects. Additionally, minors who are brought in by their parents, the parents completely refuse to provide consent for photos to be taken even when I explain to them.
- They have been providing consent, however, not for photographs.
- Patients are reserved and hesitant to provide consent. Sometimes the examiner must show them the data entry they are doing for the patient to be responsive.

Other things to improve the MediCapt app

Improve form:

- Police signing area need not be mandatory as sometimes getting the same is a challenge.
- Providing room for comments in some fields, e.g., where there was more than one perpetrator and their gender and whether they were known to them.
- Just the removal of the repeated questions.
- The fields on dates need a keyboard connection, otherwise inputting directly from the tablet does not give diverse dates. In addition, if possible, reduce the fields that need signing.
- Highlight on the form (bold) the important subtitles, e.g., history-taking and lab work done for one to easily see during presentation to court.

Training:

- Training more clinicians to ease off the workload on MediCapt app would be very helpful.

- Train more clinicians to counter staff turnover. Then the psychiatric assessment part can have scales so that clinicians can provide better judgement over the survivor's state.
- Provide me with refresher training and also training more clinicians to be able to deal with sexual assault examination.
- Train the newly recruited clinicians. I provide on-job training but they require the training.

More devices:
- Avail more gadgets as those available are too few.
- Improve the area of lab examinations, where there is the field 'other' there is no space to type what one is referring to specifically.

No additional improvements needed:
- No areas of improvement of the app are needed, I'm comfortable with it.
- No areas of improvement needed for now.

Technical:
- Keyboard connection with Bluetooth is sometimes challenging.

Built-in guide:
- Provide built-in step-by-step guide on consent-taking.

Example case where MediCapt has made a difference in the case of a survivor of sexual assault

Too early / not yet seen a case:
- I have not seen any case yet; maybe with time I will have more cases.
- Not at the moment.
- Not used for long to get such a scenario.
- There have been no returns of the forms from the law enforcement implying the printed documentation is sufficient. The use of the app has not been for a long time, hence, I cannot provide detailed response.
- I have used MediCapt for around three months now, and so I'm yet to fully get the appreciation of the outcome as this takes time. I don't have any particular case for now.
- The case I have is still ongoing, another case DNA was requested and a match identified effectively closing the case.
- No specific case seen.

Useful:
- Yes, there is a case where the forensic photography undertaken was used by the magistrate for a successful outcome. A lady had been carjacked in Nairobi, was raped and dumped in the bushes here. When I handled her and took images of her injuries, this positively impacted the case.
- Yes, in one case I have seen presented in court using the app-based printouts was well appreciated as there was no issue of ineligible handwriting.

- Yes, in one case because I had completed the psychological assessment clearly the magistrate was able to use it to provide a ruling. I was called by someone and told that was a well completed form which I believe worked to the advantage of the survivor.
- Involving them during documentation is helpful as they become more cooperative.

I suspect it will be useful:

- No case has been finalized that had use of MediCapt but I think forensic photography will make a difference.
- I don't have one particular case but I know that the quality of documenting cases has improved, thus, overall benefit to the patient.
- I don't have a particular case as most cases are ongoing and I don't go to court. But I believe the outcomes will be positively impacted with the use of MediCapt.