Improving Service Delivery & Implementing System Changes: Turnaround Time in Diagnostics

ICCP ECHO

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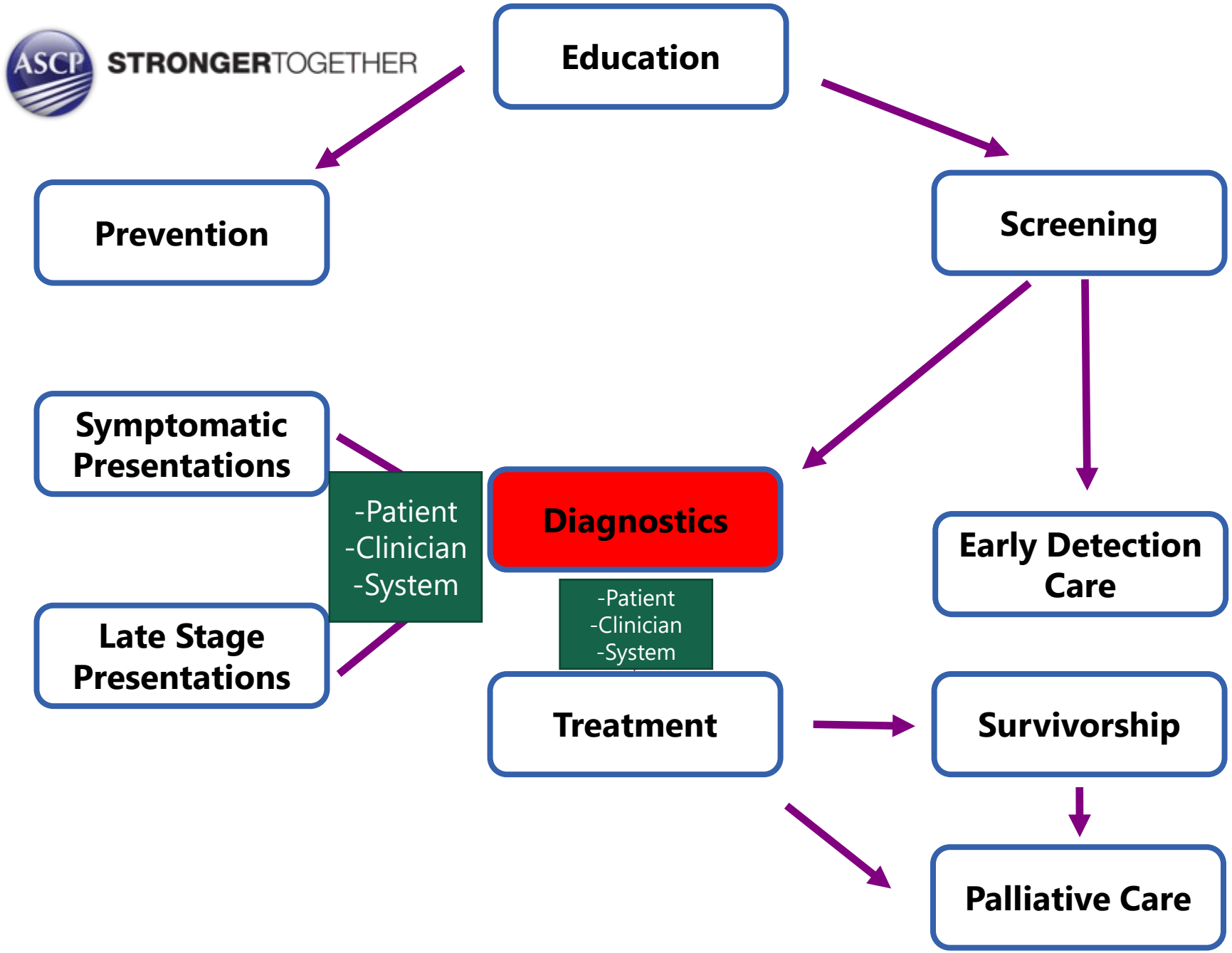

Adapted from Larry Shulman, Penn

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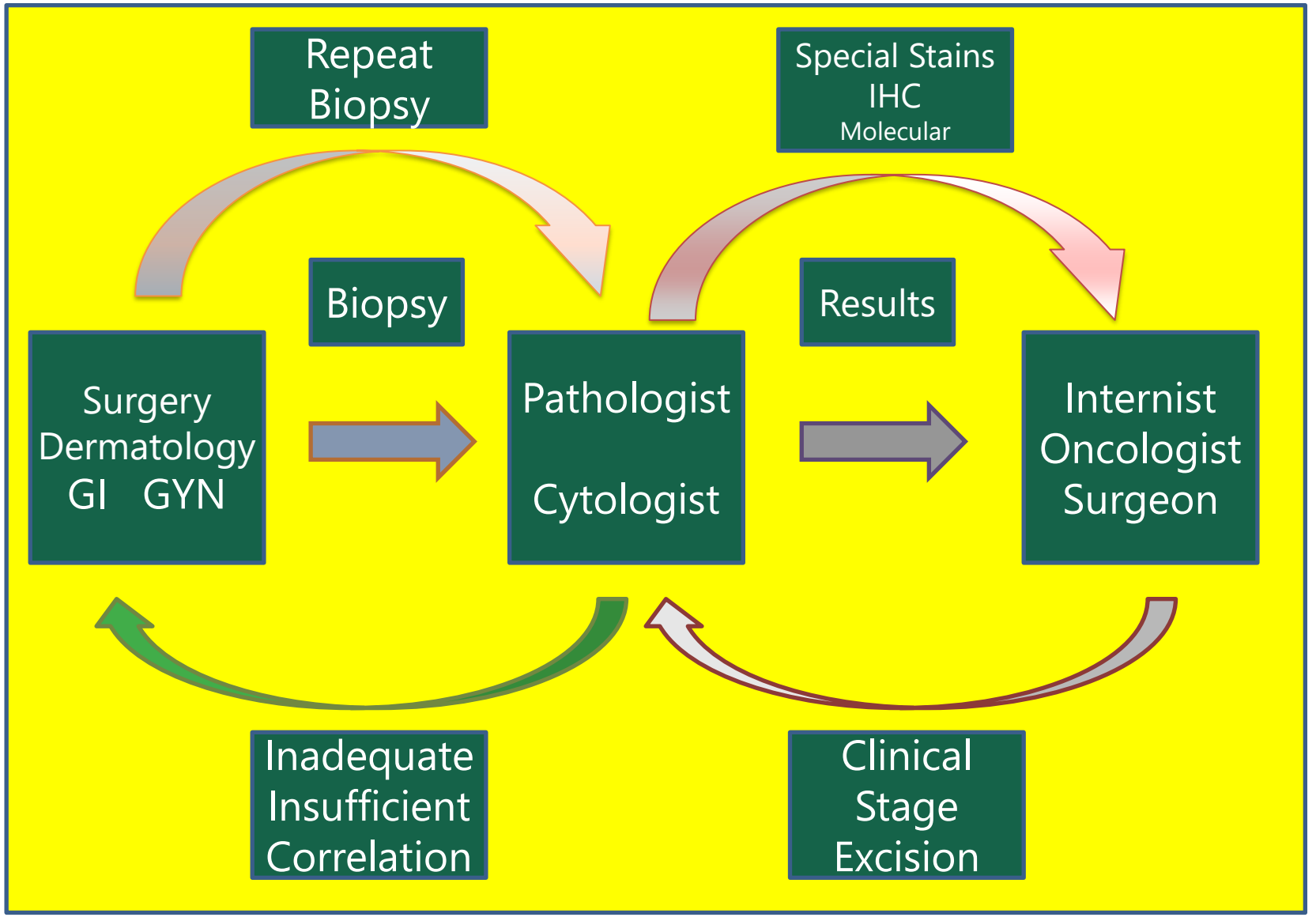
The Clinicopathological Cycle



Delay & (Solutions) In Pathology Value Chain

- Patient presentation
  - Not aware of cancer as a disease (**Education, public awareness**)
  - Fear of death, loss of body image (**CHW outreach, Survivor Stories**)
  - Lack of resources for accessing system (**Insurance schemes and donor programs**)
- Clinical acumen
  - Not aware of cancer as a disease (**National Cancer Control Plans**)
  - No guiding documentation (**Tiered Training across health sector**)
  - Lack of resources for diagnosis (**Clinical network procurement plans**)

Delay & (Solutions) In Pathology Value Chain

- Biopsy tools
  - ⓾ No simple tools (FNA) available (**Training in FNA/FNB + essential tools**)
  - ⓾ No biopsy tools (surgical) available (**Training in Biopsy + essential tools**)
- Specimen Transportation
  - ⓾ No formalin available (**Defined specimen transport network**)
  - ⓾ No specimen containers/requisitions (**Supplies exchange program**)
  - ⓾ Unclear referral network (**Public-private partnerships**)

Delay & (Solutions) In Pathology Value Chain

- Personnel
  - ⑩ No pathologist (**Telepathology, visiting pathologists, training**)
  - ⑩ No trained or poorly trained technical staff (**On site and remedial training with support**)
  - ⑩ Management issues (**Laboratory management training**)
- Reagents and Supplies
  - ⑩ No reliable supply of standard reagents (**Defined role of laboratory in network**)
  - ⑩ No supply of special reagents (**Central support for recurring procurement**)
  - ⑩ Delays in procurement (**Public-private partnerships**)

Delay & (Solutions) In Pathology Value Chain

- Reporting Process
  - On paper reporting (**APLIS with networking across system**)
  - No laboratory information system (**APLIS with networking across system**)
  - No standardize reporting (**Synoptic reporting to international standards**)
  - No electronic reporting systems (**APLIS with networking across system**)
- Communications
  - Difficult channels between pathology and clinicians
    - (**Synoptic reporting**)
    - (**Interdisciplinary teams**)
    - (**Standardize requisition forms with rejection rules**)

Examples - Broad Approaches to Global Pathology

- **Universal Synoptic Reporting Templates**
- Guidelines for National Cancer Control Plan Pathology Activities
- Projection model tools for level of service needed
- Budgeting model tools for optimizing laboratory operations
- Integration of Diagnostic and Treatment Protocols
- Assessment Documents with Expert Consultations

Breast Cancer Pathology Reporting Checklist

Gross Assessment

Side: Right/Left (note - if bilateral please describe each side individually).
Specimen Type:
FNA, Needle Core Biopsy
Surgical Biopsy (incisional/excisional), Wide Excision/ Partial Mastectomy
Total Mastectomy +/- sentinel node biopsy/axillary dissection
Measurement of Specimen: Largest piece
Presence or Absence of Tumour
Number of Tumours: solitary/ multiple
Size of Tumour: 3 dimensions if possible
Gross Relationship of Tumour to Margins: measurement to closest margin
Gross Involvement of Skin or Skeletal Muscle.

Histological Assessment

Histological Diagnosis: State any specific type of carcinoma.
Size: check if greater than gross estimate; use a micrometer if possible. Greatest dimension.
Grade: note - see below
Lymphatic Invasion Outside the Tumour: Yes/ No
Venous Invasion: Yes/ No
Margins (Invasive ca.):
Distance to Closest Margin
State Which Margin If Possible
Look for deep fascia
Skeletal Muscle: State If Invaded.
Skin:
Ulceration
Dermal Invasion
Dermal Lymphatic Invasion
Nipple:
Paget's Disease
Stromal Invasion
Estrogen Receptor Status: see below
PR Status
Her-2 neu Status
Intraductal Component:
Present/ Absent
Pattern of DCIS (Type)
Grade of DCIS
EIC Pattern: Yes /No (note - see below)

CAP Approved **Breast • Invasive Carcinoma • Resection • 4.4.0.0**

Surgical Pathology Cancer Case Summary

Protocol posting date: February 2020

INVASIVE CARCINOMA OF THE BREAST: Resection

Select a single response unless otherwise indicated.

Procedure, Laterality, and Site may be listed separately or on 1 line.

Procedure (Note A)
___ Excision (less than total mastectomy)
___ Total mastectomy (including nipple-sparing and skin-sparing mastectomy)
___ Other (specify): _____
___ Not specified

Specimen Laterality
___ Right
___ Left
___ Not specified

+ Tumor Site (select all that apply, as appropriate) (Note B)
+ ___ Upper outer quadrant
+ ___ Lower outer quadrant
+ ___ Upper inner quadrant
+ ___ Lower inner quadrant
+ ___ Central
+ ___ Nipple
+ ___ Clock position (specify): _____o'clock
+ ___ Distance from nipple (centimeters): _____cm
+ ___ Other (specify): _____
+ ___ Not specified

Tumor Size (Note C)
___ Microinvasion only (≤1 mm)
___ Greatest dimension of largest invasive focus >1 mm (specify exact measurement) (millimeters): ___ mm
+ Additional dimensions: ___ x ___ mm
___ No residual invasive carcinoma
___ Size of largest invasive focus cannot be determined (explain): _____

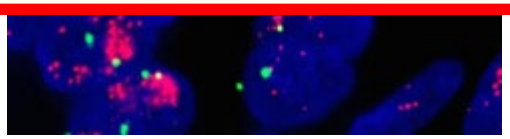
Note: The size of the invasive carcinoma should take into consideration the gross findings correlated with the microscopic examination. If multiple foci of invasion are present, the size listed is the size of the largest contiguous area of invasion. The size of multiple invasive carcinomas should not be added together. The size does not include adjacent ductal carcinoma in situ (DCIS). For any carcinoma larger than 1.0 mm but less than 1.5 mm, the size should not be rounded down to 1.0 mm, but rather rounded up to 2.0 mm, to ensure that the tumor is not miscategorized as pT1mi. Exception to the size rule – if two histologically similar carcinomas are within 5.0 mm of each other, measure from outer edges of the two. For staging purposes radiologic findings can be used for pT category.

If there has been a prior core needle biopsy or incisional biopsy showing a larger area of invasion than in the excisional specimen, the largest dimension of the invasive carcinoma in the prior specimen should be used for T classification, if known. This also applies if the entire tumor has been removed by prior biopsy. The size of the largest foci in the two specimens should not be added together.

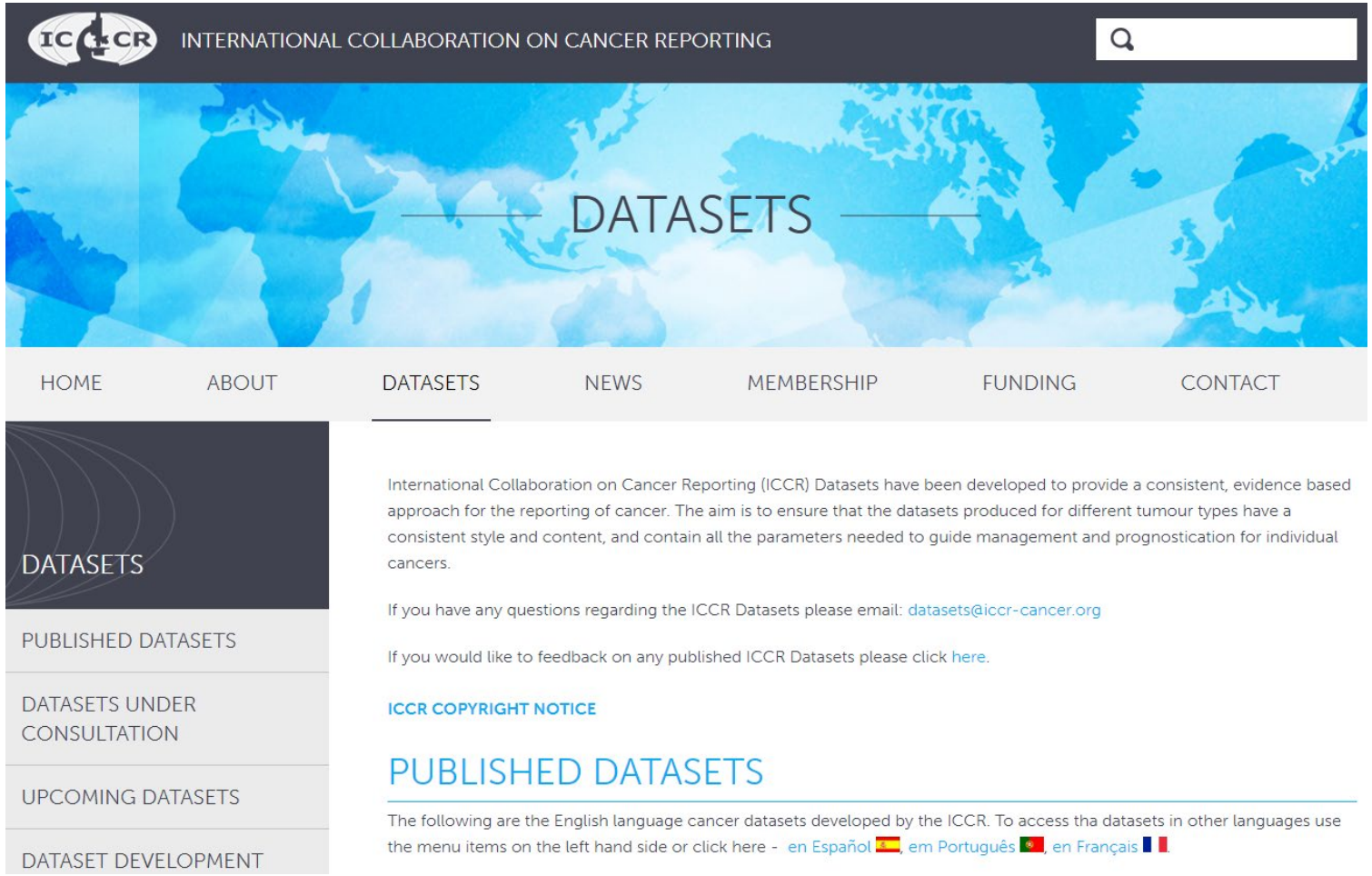
If there has been prior neoadjuvant treatment and no invasive carcinoma is present, the cancer is classified as ypTis if there is residual DCIS and ypT0 if there is no remaining carcinoma. A protocol is not required if no cancer is present

Breast specimen type
□ Wide excision (specify)
□ Total mastectomy (specify)
Specimen laterality
□ Right
□ Left
□ Unspecified
Tumor location
□ UOQ
□ LOQ
□ UIQ
□ LIQ
□ Central
□ Unspecified
Histologic type
□ Invasive breast carcinoma of no special type (specify for special morphological patterns)
□ Invasive lobular carcinoma (specify for subtype)
□ Tubular carcinoma
□ Cribriform carcinoma
□ Mucinous carcinoma
□ Invasive micropapillary carcinoma
□ Carcinoma with apocrine differentiation
□ Metaplastic carcinoma (specify for subtype)
□ Other rare subtype (specify)
Tumor focality
□ Unifocal
□ Multifocal
Tumor size
× × cm
Histologic grade
□ Grade I (Low) □ Grade II (Intermediate) □ Grade III (High)
Ductal carcinoma in situ (DCIS)
□ Not identified

-BRCA1/2 Panel
-Homologous recombination deficiency phenotype
-Aromatase inhibitor resistance testing



Universal Synoptic Reporting Templates



Example - Deep Approaches to Global Pathology

- Traveling volunteers to provide service, training, or support
- Donations of specific equipment, books, reagents, supplies, etc.
- Funding travel for others to study, train, or attend conferences
- **Developing a pathology implementation plan with milestones and executing each step to completion**
- Coordinating diagnostics and treatment at clinic, city, country, or regional level as part of a care network

In Person Training
-Pathologists
-Histotechnologists
-Pathologists' Assistants

Textbooks
-To support training and diagnosis

Conference Support
-Advocacy, education, and collaborations

Partners for Cancer Diagnosis and Treatment in Africa

Synoptic Reporting (ICCR)
-Template translation to other languages
-FR, SP, PG complete

Flow Cytometry
-Establishing partnerships

Ancillary services
-CSF Cytology

Motic Collaboration Suite
iPath

ASCP Digital Cloud

Motic
GE
Philips

Project ECHO Telementoring
LMU & Leadership

IHC with Novartis & Roche
Sakura
Used Donations
Direct Purchase
Xifin

Leapfrog Histopathology / Telepathology Process

Rapid, accurate diagnosis

<72 Hours

Thank You!

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