JNCDB 乳がん 入力実験

鹿間、山内、佐々木、光森

手島班 2011.1.8

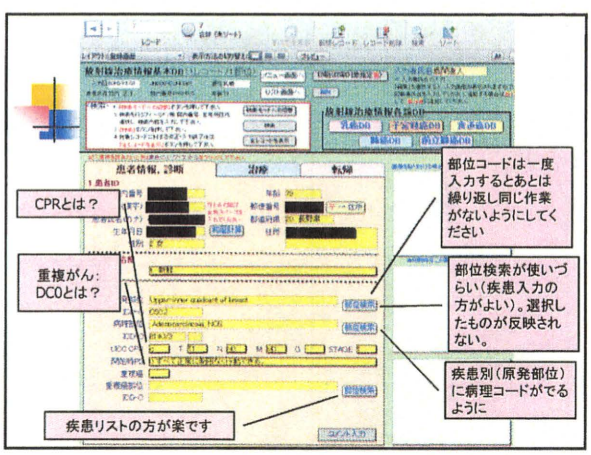
入力時間

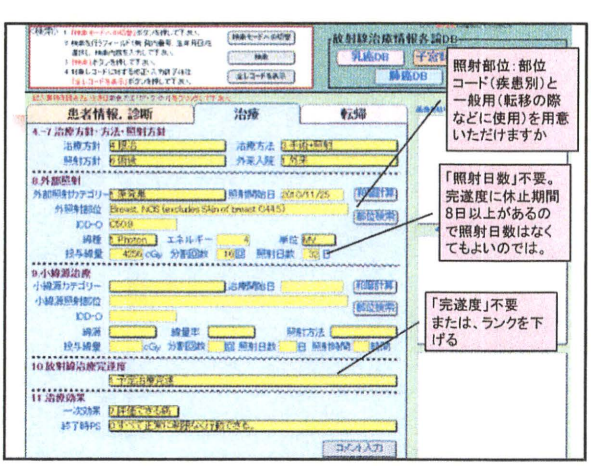
項目	平均(分)	
Common	11.3	10~13
松	5.6	5~7
竹	3.6	3~5
梅	5	3~7
合計	26	26~28

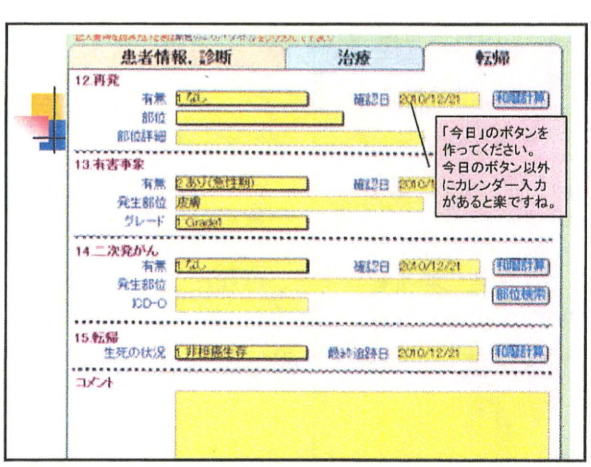
各項目の改善点

Common site

- 「がん登録」として必要か？から検討
- PCSと切り離して検討



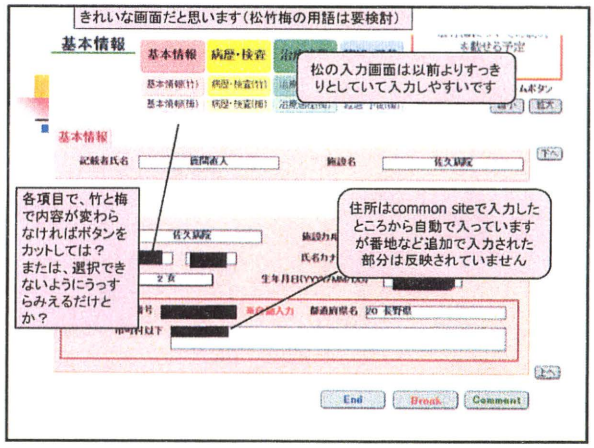


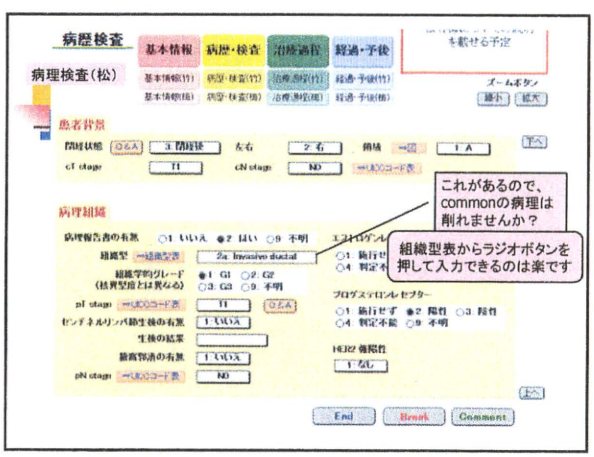


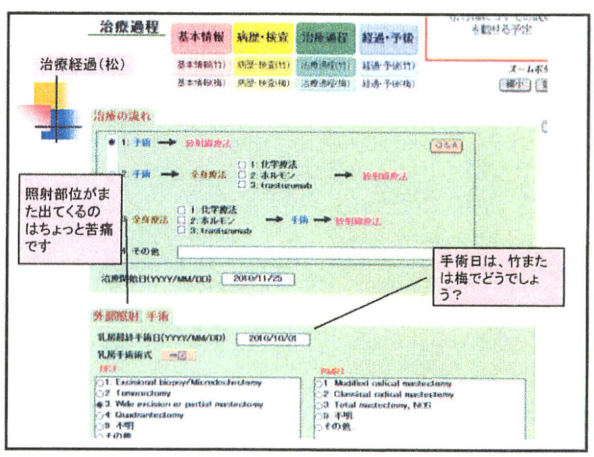
各項目の改善点

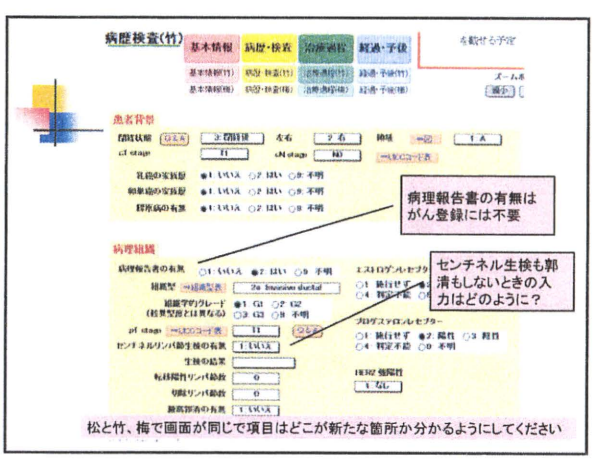
疾患別

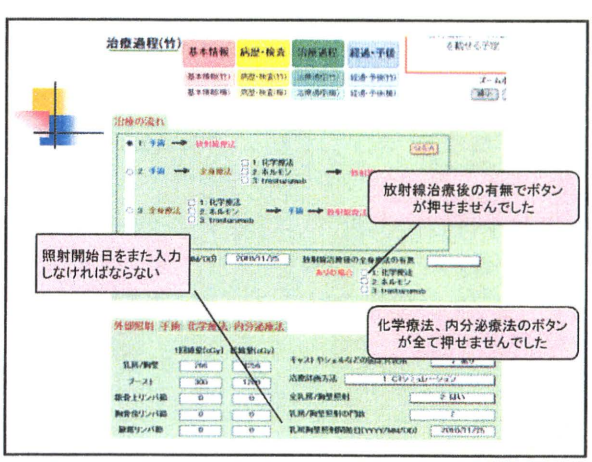
- 「がん登録」として必要か？から検討
- PCSと切り離して検討

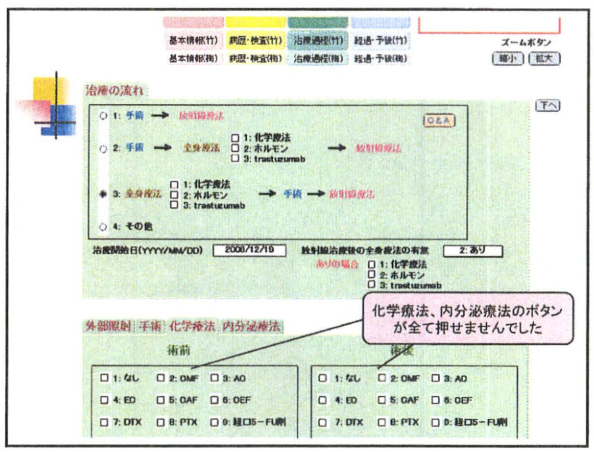


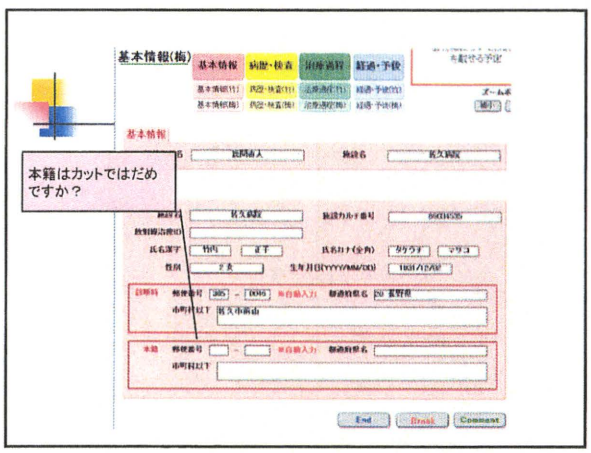


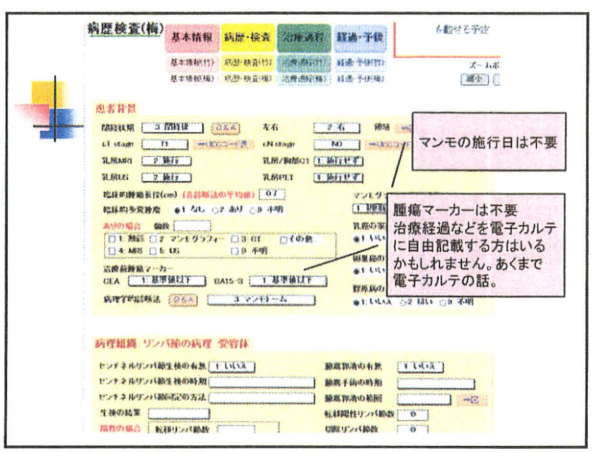


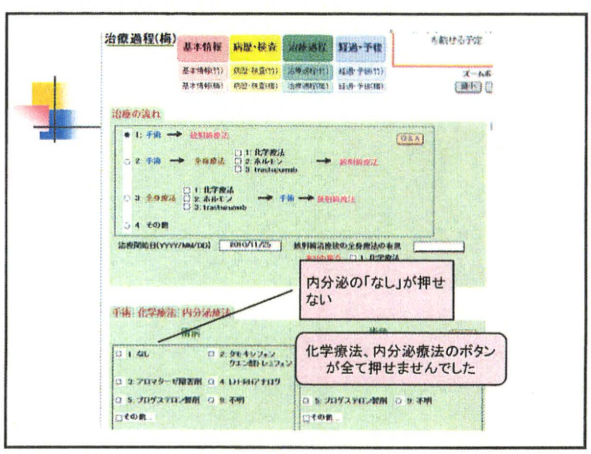












入力時間

項目	平均(分)	
Common	11.3 → 3	10～13
松	5.6 → 2	5～7
竹	3.6	3～5
梅	5	3～7
合計	26	26～28

まとめ

- レイアウトは以前より良くなっている
- Commonと松の部分を入力するだけで17分前後かかり、項目数を減らす必要がある
- 目標の3～5分で入力できるレイアウトを達成しないと臨床応用は困難

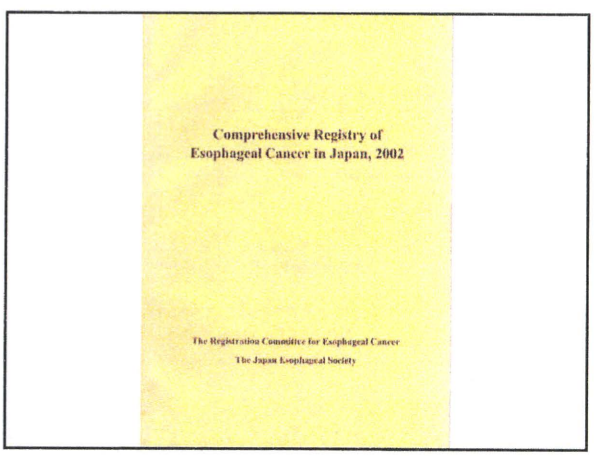
厚生労働省科学研究費補助金
第3次対がん10カ年総合戦略研究事業
手島班々会議

食道癌全国登録

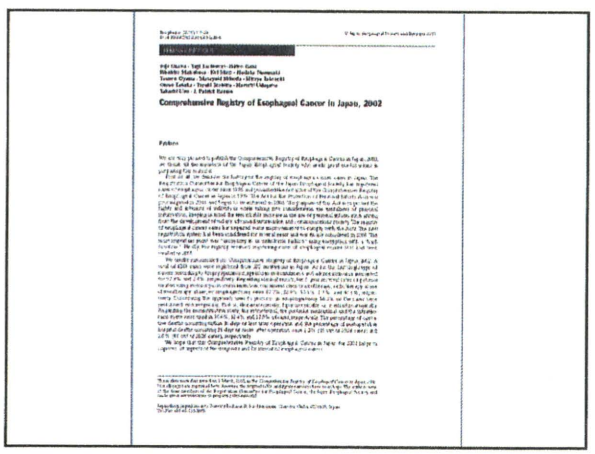
日本食道学会全国登録委員会
国立がんセンター中央病院
日月裕司

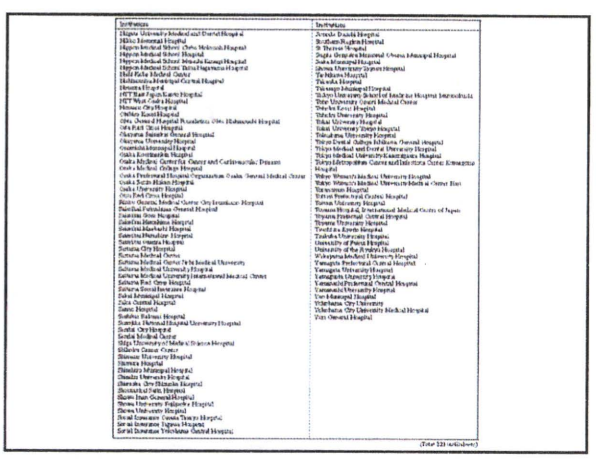
日本食道学会
食道癌全国登録

- 2010年 3月　2002年症例の報告書
  "Comprehensive Registry of Esophageal Cancer in Japan, 2002"を作成
- 要約をEsophagus(日本食道学会英文誌)に掲載


Comprehensive Registry of
Esophageal Cancer in Japan, 2002

The Registration Committee for Esophageal Cancer
The Japan Esophageal Society


Comprehensive Registry of Esophageal Cancer in Japan, 2002



Yokohama City University Medical Hospital
Yuri General Hospital

(Total 222 institutions)

Table 1 Age and gender

*** Excluding 9 cases of unknown gender**

Age	Male	Female	Unknown	Cases (%)
~29	2	0	0	2 (0.0%)
30~39	13	0	0	13 (0.3%)
40~49	126	31	0	157 (3.7%)
50~59	833	126	0	959 (22.6%)
60~69	1372	191	0	1563 (36.9%)
70~79	1141	173	0	1314 (31.0%)
80~89	161	47	0	208 (4.9%)
90~	13	6	0	19 (0.4%)
Total	3661	574	0	4235
Missing	29	8	0	37

A missing case was defined as a case in which no option was selected.

An unknown case was defined as a case in which the "Unknown" option was selected.

Table 15 Histologic types of cancer according to biopsy specimens

*** Excluding 440 treatment unknown, missing cases concerning treatment type**

Histologic types	Endoscopic treatment (%)		Chemotherapy and/or radiotherapy (%)		Surgery: Palliative operation (%)		Surgery: Esophagectomy (%)		Total (%)	
Not examined	13	(2.9%)	9	(0.7%)	6		10	(0.5%)	32	(0.8%)
SCC	403	(90.2%)	1186	(94.0%)	83	(93.3%)	1862	(92.7%)	3534	(92.9%)
SCC	300	(67.1%)	640	(50.7%)	41	(46.1%)	1005	(50.0%)	1986	(52.2%)
Well diff.	23	(5.1%)	70	(5.5%)	5	(5.6%)	195	(9.7%)	293	(7.7%)
Moderately diff	66	(14.8%)	307	(24.3%)	30	(33.7%)	494	(24.6%)	897	(23.6%)
Poorly diff	14	(3.1%)	169	(13.4%)	7	(7.9%)	168	(8.4%)	358	(9.4%)
Adenocarcinoma	16	(3.6%)	15	(1.2%)	3	(3.4%)	57	(2.8%)	91	(2.4%)
Undifferentiated	2	(0.4%)	15	(1.2%)	0		10	(0.5%)	27	(0.7%)
Carcinosarcoma	0		5	(0.4%)	0		9	(0.4%)	14	(0.4%)
Malignant melanoma	0		1	(0.1%)	0		5	(0.2%)	6	(0.2%)
Other tumors	2	(0.4%)	7	(0.6%)	1	(1.1%)	17	(0.8%)	27	(0.7%)
Dysplasia	0		0		0		0		0	
Unknown	11	(2.5%)	24	(1.9%)	2	(2.2%)	38	(1.9%)	75	(2.0%)
Total	447		1262		89		2008		3806	
Missing	9		6		0		20		35	

SCC: squamous cell carcinoma

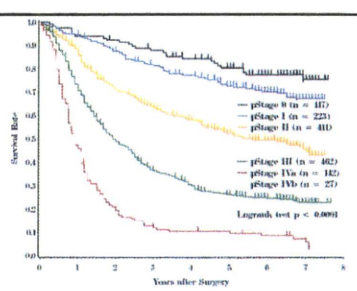
Table 20 Clinical Stage (clinical TNM-classification)

*** Excluding 440 treatment unknown, missing cases of concerning treatment type**

cStage	Endoscopic treatment (%)		Chemotherapy and/or radiotherapy (%)		Surgery: Palliative operation (%)		Surgery: Esophagectomy (%)		Total (%)	
0	84	(18.7%)	4	(0.3%)	1	(1.1%)	14	(0.7%)	103	(2.7%)
I	292	(65.0%)	149	(11.8%)	11	(12.4%)	473	(23.5%)	925	(24.3%)
IIA	2	(0.4%)	125	(9.9%)	19	(21.3%)	388	(19.3%)	534	(14.0%)
IIB	2	(0.4%)	78	(6.2%)	7	(7.9%)	281	(14.0%)	368	(9.7%)
III	21	(4.7%)	450	(35.7%)	38	(42.7%)	654	(32.5%)	1163	(30.5%)
IV	0		79	(6.3%)	2	(2.2%)	27	(1.3%)	108	(2.8%)
IVA	6	(1.3%)	70	(5.6%)	1	(1.1%)	76	(3.8%)	153	(4.0%)
IVB	10	(2.2%)	196	(15.6%)	4	(4.5%)	53	(2.6%)	263	(6.9%)
Unknown	32	(7.1%)	109	(8.7%)	6	(6.7%)	44	(2.2%)	191	(5.0%)
Total	449		1260		89		2010		3808	
Missing	7		8		0		18		33	

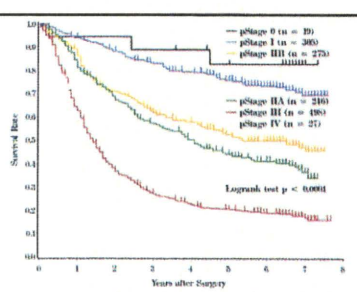
Table 47 Endoscopic surgery

Endoscopic surgery	Cases (%)
None	1516 (83.2%)
Thoracoscopy-assisted	180 (9.9%)
Laparoscopy-assisted	48 (2.6%)
Thoracoscopy + Laparoscopy-assisted	41 (2.3%)
Mediastinoscopy-assisted	27 (1.5%)
Thoracoscopy + Mediastinoscopy-assisted	2 (0.1%)
Laparoscopy + Mediastinoscopy-assisted	2 (0.1%)
Others	0
Unknown	6 (0.3%)
Total	1822
Missing	206



Years after Surgery	1	2	3	4	5	6	7	8
pStage 0	93.9%	92.2%	87.8%	84.2%	80.4%	77.3%	75.3%	75.3%
pStage I	94.4%	87.3%	81.6%	77.1%	72.4%	69.5%	67.6%	67.6%
pStage II	85.6%	71.2%	63.6%	57.8%	52.4%	49.2%	45.4%	42.9%
pStage III	70.5%	49.8%	36.7%	30.1%	25.1%	24.8%	21.8%	21.8%
pStage IVa	45.8%	26.8%	12.7%	10.3%	9.5%	9.5%	7.1%	2.8%
pStage IVb	44.4%	18.5%	14.8%	14.8%	11.1%	11.1%	5.6%	-

Figure 13 Survival of patients treated by esophagectomy in relation to pathological stage



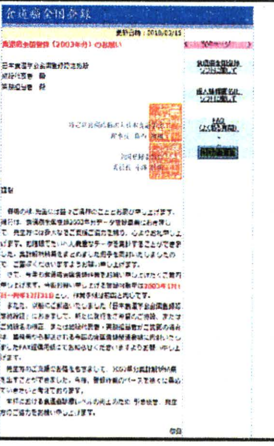
Years after Surgery	1	2	3	4	5	6	7	8
pStage 0	94.4%	94.4%	88.9%	88.9%	82.5%	82.5%	82.5%	82.5%
pStage I	93.9%	88.1%	82.3%	79.4%	75.7%	73.2%	69.1%	69.1%
pStage IIA	86.3%	71.8%	62.9%	57.7%	52.4%	49.9%	46.8%	45.6%
pStage IIB	81.6%	69.3%	57.4%	50.1%	45.8%	41.2%	36.5%	34.6%
pStage III	63.6%	38.1%	27.7%	23.6%	20.5%	18.2%	17.7%	16.6%
pStage IV	44.4%	14.8%	11.1%	11.1%	11.1%	11.1%	5.6%	-

Figure 14 Survival of patients treated by esophagectomy in relation to pathological stage (UICC-pTNM)

日本食道学会
食道癌全国登録

2010年 3月　2002年症例の報告書
“Comprehensive Report of Esophageal Cancer in Japan 2002”を作成
要約をEsophagus:日本食道学会英文誌に掲載

- 2010年 3月　2003年症例の登録開始
- 　　　　6月　登録締め切り
- 2010年 10月 全国登録委員会



Comprehensive registry of esophageal cancer in Japan in 2003

JNCDB

厚生労働省科学研究費補助金第3次対がん総合戦略研究事業
（H22 - 3次がん - 一般 - 043）
「がんの診療科DBとJapanese National Cancer Database (JNCDB)の構築と運用」
平成22年度第1回全体班会議

食道癌 JNCDB各論
改訂フォーマットのfeasibility

権丈雅浩

平成23年1月8日：国立がん研究センター中央病院

JNCDB 食道癌DBのFeasibility

JNCDB

小作業部会での議論と作業を踏まえて
データベースとしての質の担保と向上を目指した改訂がなされた

インターフェースの改善
　入力作業の負担軽減
　　入力に要する時間と労力の短縮：1例で30分を超える時間は長い
　　→入力すべき項目を階層化（松・竹・梅）
　　→可能な限りキーボード入力をなくす（ヘルプ画面での選択）

　誤入力と入力忘れをなくす
　　→疑問を生じうる項目や表記を修正
　　→レイアウトを大きく修正

院内データベース・学会データベースとの連携
　　→基本DBからのリンク
　　→食道学会の登録と表記や選択肢を統一・・・データ出力可能とする

1

食道癌DBの各項目を再評価（例）

JNCDB

・身長(cm)	テキスト入力	C
・体重(kg)	テキスト入力	C
・体重減少(kg)	テキスト入力	C
・治療前PS	[1 0]、[2 1]、[3 2]、[4 3]、[5 4]	A
・喫煙の習慣	[1 なし]、[2 10年未満]、[3 20年未満]、[4 30年未満]、[5 30年以上]	B
・飲酒の習慣	[1 なし]、[2 10年未満]、[3 20年未満]、[4 30年未満]、[5 30年以上]	B
・発見機序	[1 自覚症状]、[2 検診/ドッグ]、[3 他疾患治療]、[9 不明]	A
・嚥下機能	[1 無症状]、[2 症状あり（常食可）]、[3 軟食]、[4 水分のみ]、[5 嚥下不能]、[9 不明]	A
・随伴症状	[1 なし]、[2 疼痛]、[3 嗄声]、[4 食欲不振]、[5 体重減少]、[6 腫瘤触知]、[9 不明]、[その他（テキスト入力）]	B

2

食道癌データベース

JNCDB

JNCDB　患者名 登録太郎　JNCDB ID JNCDB3
カルテ番号 1003　入力日 2010/10/01

病歴・検査

基本情報 | 病歴・検査 | 治療過程 | 経過・予後
基本情報(竹) | 病歴・検査(竹) | 治療過程(竹) | 経過・予後(竹)
基本情報(梅) | 病歴・検査(梅) | 治療過程(梅) | 経過・予後(梅)

- 他疾患と共通したインターフェース
- 入力内容を4種にカテゴライズ
  （基本情報、病歴・検査、治療過程、経過・予後）
- 各内容を3つの階層に分類し、1ページにまとめる

3

食道癌データベース

JNCDB

JNCDB　患者名 登録太郎　JNCDB ID JNCDB3
カルテ番号 1003　入力日 2010/10/01

基本情報

基本情報 | 病歴・検査 | 治療過程 | 経過・予後
基本情報(竹) | 病歴・検査(竹) | 治療過程(竹) | 経過・予後(竹)
基本情報(梅) | 病歴・検査(梅) | 治療過程(梅) | 経過・予後(梅)

松竹梅についての説明を載せる予定

ズームボタン　縮小　拡大

基本情報
記載者氏名 Kenb
施設名 JNCDB

Help
不明 入力すべきデータが見つからないとき、その移動の如何にかかわらず、空欄にするのではなく「不明」としてください。

患者情報
施設名 JNCDB
施設カルテ番号 1003
氏名　漢字 登録太郎
性別 1:男
生年月日(YYYY/MM/DD) 1970/1/1

施設カルテ番号：ハイフンを省略せず、カルテ番号そのままを入力して下さい。英数字、記号は半角で入力して下さい。
氏名カナ：漢字入力とは完全に連動していないため、漢字入力はカナを確認してください。
生年月日：和暦でも入力可能です。

Break　Comment　End

4

食道癌データベース

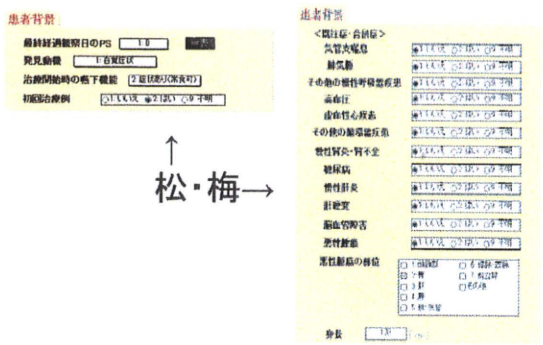
JNCDB

病変の範囲
主病変部位
JSED 9th Ed
⇒ ○1: Ce ◉2: Ut ○3: Mt ○4: Lt ○5: Ae ○9: 不明
JSED 10th Ed
⇒ ○1: CePh ○2: Ce ◉3: Ut ○4: Mt ○5: Lt ○6: Ae(EG) ○7: GE ○9: 不明
肉眼型 ⇒HELP 1
＜臨床病期＞
＜UICC2002＞ ⇒HELP　T 5: T2　M 1: M0　N 2: N0　Stage IIa　※自動計算
＜UICC 7th＞ ⇒HELP　T 6: T2　M 1: M0　N 2: N0　Stage Ib　※自動計算
＜JSED 9th Ed＞ ⇒HELP　T 6: T2　M 1: M0　N 2: N0　Stage II　※自動計算
＜JSED 10th Ed＞ ⇒HELP　T 9: T2　M 1: M0　N 2: N0　Stage II　※自動計算

各病期分類に対応
詳しいHELP画面
病期を自動計算

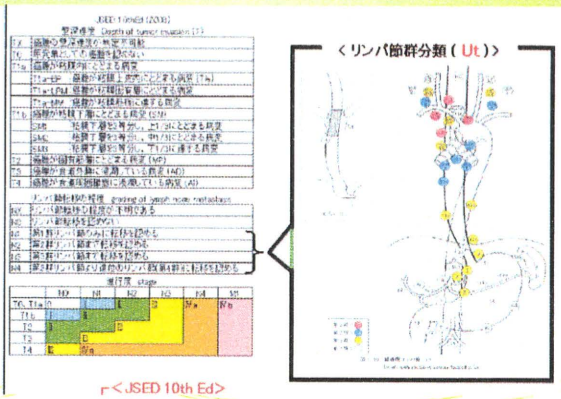
5

食道癌データベース JNCDB



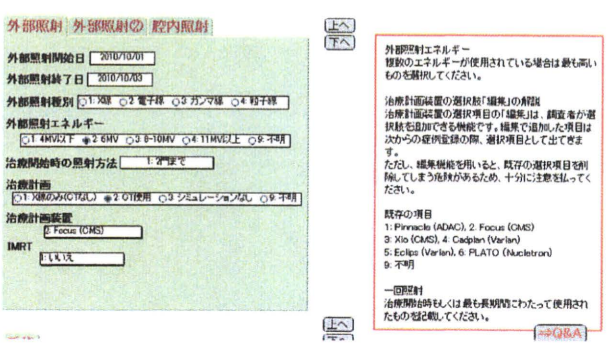
6

食道癌データベース 病期入力画面 JNCDB



7

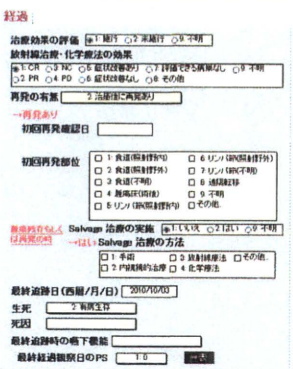
食道癌データベース 放射線治療 JNCDB



関心領域に対しては詳細な情報収集も可能

8

食道癌データベース 治療後経過 JNCDB



詳細画面（梅）では従来と
同等の詳細な情報を収集

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食道癌：JNCDBフォーマットのfeasibility JNCDB

達成点

- 基本項目は診療録のみから入手可能
  - ✓専門医でなくとも入力可能
- 入力に要する労力を軽減
  - ✓選択項目が主体でテキスト入力項目は最小限
  - ✓一例あたりの入力時間は約10分
- 対象となる疾患の全症例に幅広く適用可能
  - ✓ランク付けする事で多様な診療パターンに対応

今後の方向

- 更に共通部分と疾患別部分の連携を深める
- 関心項目に関する詳細な情報収集・個別化への対応
- 学会データベースとの連携の評価

まとめ；改訂版JNCDBフォーマット JNCDB

- 入力に要する負担が大きく軽減された
- 簡潔～詳細まで階層化された情報収集がなされる
- 個々の施設、診療科が必要とするレベルに対応した情報整理が可能
- 放射線治療・手術・化学療法に関する詳細な評価も可能とした
- 学会データベース・院内データベースに移行可能なデータも収集

- 食道癌に特有な様々な背景因子を把握できる
- ガイドラインに基づく治療の実施状況が評価できる
- 今後の診療体系の方向性を検討するための基礎データを提供しうる

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ASTRO QRRO ワークショップ

米国データ　紹介

Quality Research In Radiation Oncology (QRRO): from Patterns of Care Study to quality measurement using new methods of electronic information exchange

Phillip M. Devlin, M.D., FACR

Associate Professor
Harvard Medical School
American College of Radiology
Quality Research in Radiation Oncology
Study Vice Chairman

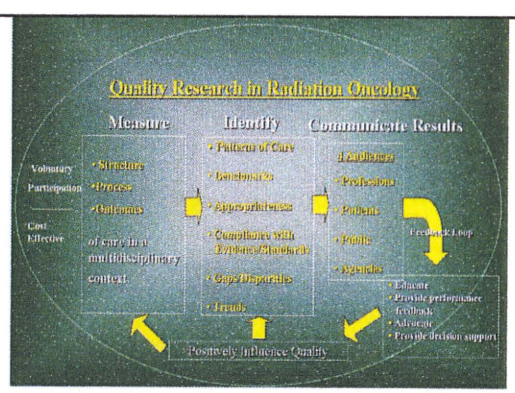
Disclosures – Phillip M Devlin MD FACR

- Scientific Advisory Board Nucletron Corp until June 2010
- Book Royalties: Lippincott Williams Wilkins Inc
- Scientific Lecture fees various physician groups

- 1 Background
  - PCS -> QRRO
  - Current Study, disease committees, e-data committee
- 2 The New Study Proposal
  - New Consortium
  - CER + e data retrieval
  - Edge Server System
- 3 The Ask
  - Consultative Collaboration in this study
  - Advocacy for all RO groups to show we can work together

Three Phases of QRRO (and PCS)

- ***Phase I*** emphasized defining the structural base for radiation oncology practice and described how processes of care relate to this base.
- ***Phase II*** sought to link disease specific outcomes to the process of care for several major diseases.
- ***Phase III*** The focus of evaluation has expanded to explicit evaluation of the quality of the process of care provided in a multimodal context comparing the care actually delivered to evidence based standards and guidelines that determine high quality care.



QRRO
QUALITY RESEARCH IN RADIATION ONCOLOGY

now

PCS

NCI FUNDED ACR RESEARCH

ACR American College of Radiology

ACRIN American College of Radiology Imaging Network

QRRO Quality Research in Radiation Oncology (formerly Patterns of Care Study)

RTOG Radiation Therapy Oncology Group

Purpose/Objective:

QRRO aims to provide the evidence base for quality of care in Radiation Oncology.

QRRO is leading the way in developing Clinical Performance Measures/Quality Indicators for Radiation Oncology. These measures/indicators are the ground work to establishing national benchmarks.

The measures/indicators are evidence based, reliable and valid.

Study Specific Aims:

The 2007 QRRO National Process Survey aims:

- Define a core set of process measures for major cancers
- Conduct surveys allowing documentation of process of care and quality assurance
- Collect data
- Define the specific process of care measures for both
  - Current Technologies
  - Emerging Technologies
- Document the effects of clinical trials results, practice guidelines and appropriateness criteria
- Describe patient and practice-based parameters
  - Processes of care, disease presentation and evaluation, treatment, compliance, and structure of treating facilities
- Disseminate information, educate target audiences

ASTRO 2010 Success Stories!

- ***QRRO 2007 Practice Survey Documents Dramatic Technical Changes in How Radiotherapy for Operable Breast Cancer is Delivered.*** **Presenter: J.R. White, MD. Abstract ID: #8**
- ***Report of Quality Research in Radiation Oncology (QRRO) Survey for Lung Cancer Patients Treated in USA between 2006 and 2007.*** **Presenter: R.U. Komaki, MD. Abstract ID: #77**
- ***Results from the Quality Research in Radiation Oncology (QRRO) Survey Evaluating Adherence to Quality Measures for Prostate Cancer Radiotherapy.*** **Presenter: M.J. Zelefsky, MD. Abstract ID: #166**
- ***Patterns of Radiotherapy Practice for Patients Treated for Intact Cervical Cancer in 2005-2007: A QRRO Study.*** **Presenter: P.J. Eifel, MD. Abstract ID: #255**

ASTRO 2010 Success Stories!

- ***Assessment of Emerging Technologies Used in Adjuvant Radiotherapy for Gastric Cancer: Preliminary Findings from the Quality Research in Radiation Oncology (QRRO) GI Committee Process Surveys.*** **Presenter: K.A. Goodman, MD. Abstract ID: #2223**
- ***Quality Research in Radiation Oncology (QRRO): A Patterns of Care Analysis of Clinical Performance Measures in the Management of Gastric Cancer (GC).*** **Presenter: B.D. Minsky, MD. Abstract ID: #2817**
- ***Factors Related to Type of Radiotherapy Used for Treatment of Prostate Cancer: The CDC Patterns of Care Study.*** **Presenter: J.B. Owen, Ph.D. Abstract ID: #2316**

Practice Quality Improvement Aims:

The 2007 QRRO National Process Survey as a Practice Quality Improvement Project (PQI) for accrediting agencies is designed to:

- Reflect activities related to delivery of care that are patient-centered, safe, effective and equitable
- Compare practice performance with peers and/or evidence-based guidelines and explicit expert consensus
- Use proven quality improvement assessment methodology
- Standardize practice performance, improve workflow, improve efficiency of practice
- Enhance competencies in practice-based learning and improvement, systems-based practice and patient care

- **To provide benchmark data that will allow radiation oncologists to assess quality of care in their own practices by**
  - Measuring CPM
  - Comparing individual to national practice

Clinical Performance Measure (CPM) Development Content:

- A brief description of the measure
- The type of measure (e.g. access, process, outcome , etc.)
- The measure defined in quantifiable terms (e.g. a rate or percentage)
- The numerator
- The denominator
- Denominator exclusions
- The rationale for the measure (with direct reference to clinical recommendation statements from expert consensus, published studies and referenced clinical guidelines to represent an evidence base for the measure)

CPM Development Implementation Process:

- The developmental teams were determined by disease site
- The defined content criterion for indicator/measure development was deployed
- The integration of the indicators/measures into the Process Survey was ensured

Integration of the CPMs into the QRRO Process Survey:

- The data elements required for each indicator/measure were defined
- The data elements were identified in the survey data collection tools

QRRO Clinical Performance Measure (CPM) Example:

Radiation Oncology – Non small cell lung cancer
Measure #1: Proper radiation therapy dose
Type of Measure: This measure is appropriately used as a quality improvement measure
Clinical Performance Measure Quantifiable Measure: Percentage of patients with stage III non small cell lung cancer (NSCLC) receiving external beam radiotherapy to the thorax with concurrent chemotherapy who receive daily radiation therapy doses to a total dose between 60-74 Gy
Numerator: Patients with stage III non small cell lung cancers (NSCLC) who are prescribed daily radiation therapy doses to a total dose between 60-74 Gy of thoracic radiation with concurrent chemotherapy
Denominator: All patients with stage III non-small cell lung cancer who receive external beam radiotherapy to the thorax with concurrent chemotherapy
Denominator exclusions: Documentation of any of the following reasons (that the patient received a different radiation dose): Patient on an IRB approved protocol; Radiation treatment stopped early for any reason; Patients for whom surgery is a component of the treatment plan; Patients with external beam radiotherapy administered as hyperfractionation or split course.
Rationale for the measure: Several prospective studies have demonstrated that radiation doses ranging from 60-74 Gy (delivered once a day) should be prescribed for patients with stage III non small cell lung cancer patients receiving definitive radiation concurrently with chemotherapy. Data elements required for the measure can be captured and the measure is actionable by the physician.
The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure: In the definitive concurrent chemoradiation setting, a total radiation dose up to 74 Gy should be used to treat all volumes of gross disease (NCCN*) (Category 2b) (Note: The lower dose of 60 Gy is taken from the current intergroup randomized trial for stage III NSCLC patients receiving chemoradiation in which the standard dose arm is 60 Gy).
QRRO Survey Form Questions: E1 – 1, 29 - 41, 42, 45, 71, 73, 74, 76, 77, 139, 140, 151, 180, 182.
References 1. National Comprehensive Cancer Network (NCCN). Clinical Practice Guidelines in Oncology. Non-small cell lung cancer. Version 1.2008. Available at:

The Survey Data Collection Process Defined:

- The case data were collected via retrospective review of patient medical records.
- Case data covering multiple disease sites were collected simultaneously.
- The time period of the case data abstracted was disease site specific based upon prevalence.
- The Case data covered a span of time from one-year to three years all ending in 2007.
- The number of abstractors collecting the data was limited.
- A comprehensive training manual was provided to the clinical data abstractors.
- Abstractor inter rater reliability testing was performed.

QRRO Survey - Probability Sampling:

QRRO designed the study to include a two-stage stratified random sample of radiation oncology facilities nationwide. Strata for facilities were defined based on academic or non-academic status and treatment capacity with the goal of assigning each facility to a group likely to be approximately homogenous in quality.

- In the first stage of the sampling process, the investigators randomly selected facilities within each stratum.
- In the second stage of the sampling process the investigators randomly selected cases from each facility for the defined cancer disease sites. For each disease site case eligibility was determined based on clearly defined eligibility criteria.

The stratification achieved two goals; reducing overall variability by grouping patients in strata believed to be more homogeneous than the overall population and enhancing precision of comparisons of the strata means.

- The first stage of the partial replacement design the investigators selected facilities from each substratum using simple random sampling.
- The second stage of the design, the investigators randomly selected patients from the sampled facilities within each stratum and reduced costs by surveying clustered patients from each participating facility.

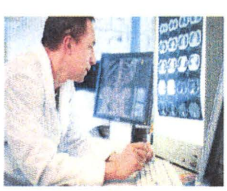
Evidence of QRRO CPMs Reliability and Validity:

- Reliability:
  - Data review shows the data collection results were constant and consistent.
- Validity[1]:
  - Scientific evidence supported the validity of the measure(s).
  - All individuals in the denominators were equally eligible for inclusion in the numerators.
  - The measure(s) result was under control of those whom the measure(s) evaluates.
  - The measure specifications captured the event that is the subject of the measure.
  - The measure provided for fair comparisons of the performance of the providers, facilities or geographic areas as they apply.

[1]Agency for Healthcare Research and Quality (AHRQ)- Using the NQMC Template of Measure Attributes to Assess the Validity of Measures

Conclusion:

- Analyses has verified that the measure design and refinements provides an accurate assessment of current practice compliance.
- Analyses has identified opportunities for improvement.
- The Data can be used to establish National Benchmarks



- "**QRRO®: Shifting the Focus to Practice Quality Improvement in Radiation Oncology**" Cheryl L. Crozier; Beth Erickson-Wittmann; Benjamin Movsas; Jean B. Owen; Najma Khalid; J. Frank Wilson has been accepted by the *Journal for Healthcare Quality.*

Phase IV

QRRO Philosophy and Aspirations

Continuous quality research is essential to evaluate the standards being met in the national radiation oncology practice, to identify practice deficiencies, and to provide benchmark data against which practice improvement can be monitored. In the future, Phase IV of the QRRO project will expand upon strategies for evaluating the correct and appropriate use of emerging technologies. Unification of research and clinical care through real time electronic data collection will allow contemporaneous evaluation of care as it is being delivered in a continuing effort to enhance clinical outcomes experienced by our patients.

Quality Research in Radiation Oncology
Proposed Future Study

- Build a new clinical IT infrastructure for Comparative Effectiveness research in Limited Stage Small Cell Lung Cancer and Early Stage Prostate Cancer

Idea

- Build a novel multidisciplinary network
- Perform CER analyses

Objectives

- Unique network and infrastructure
- Unprecedented real-time access to large data sets
- Advanced CER in Cancer Care
- Test hypotheses of Comparative Effectiveness in Lung and Prostate
- Conduct Prospective Observational Cohort Studies using
- Practice-based Evidence (PBE) methodology

Methods

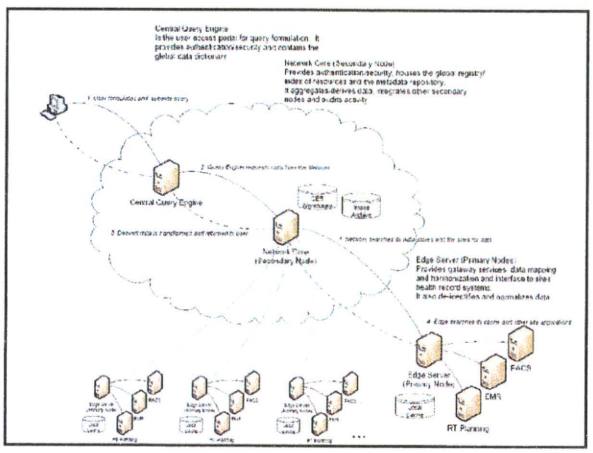
- Network of embedded Edge Servers at collaborating centers
- Feed into a super server
- Real-time local data retrieval
- Local de-identification
- Local data validation
- Central Common Aggregation
- Levering existing technologies

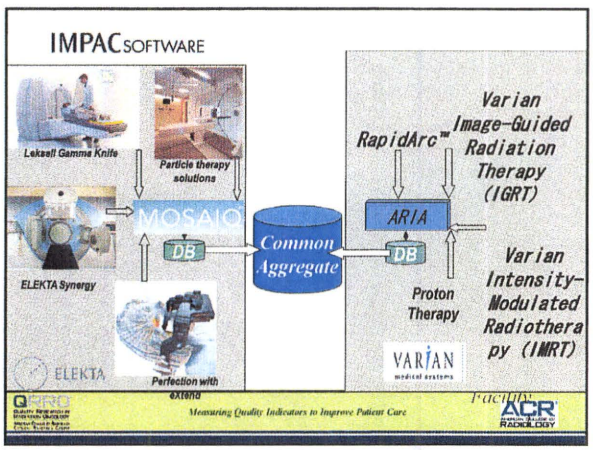
What should this get us?

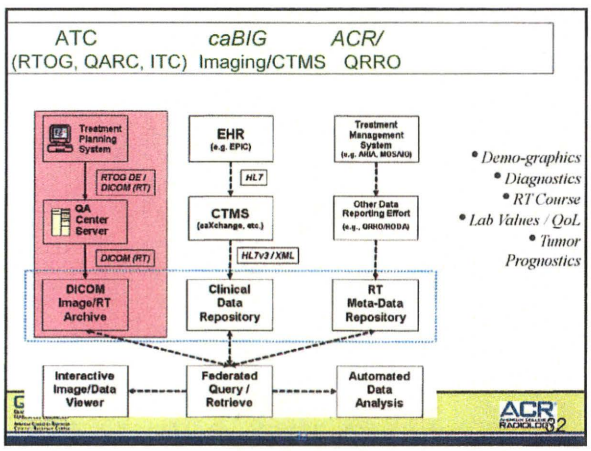
- Ongoing real-time practice evidence
- Data-driven conclusions
- Data transfer tools
- Analytic tools – reusable
- Advanced remote data
  - Extraction
  - Mining
  - Retrieval

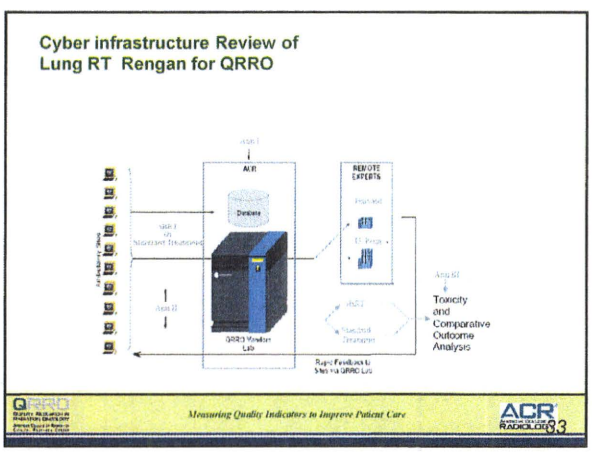
Overall goals

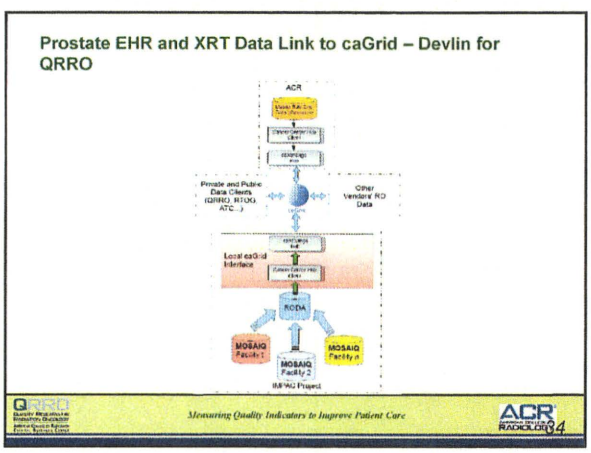
- Address important clinical questions for which RCT's are not possible but that can be validly answered with CER analysis
- These studies will test hypotheses of Comparative Effectiveness where varied treatment approaches appear to have similar outcomes.
- Address questions where guidelines may affect outcomes
- Address questions where advanced technologies rapidly enter national/international practice without adequate testing by traditional scientific methodologies











QRRO-ATC Projects

- Current QRRO Survey Prostate Brachytherapy – electronic image, structure dose file transfers, reanalysis and measurements of variance
- PA Cure Proof of Principle Study: Lung Cancer Quality Metrics (RODA) /Remote Retrieval/Central Aggregation from different EMR platforms (ARIA + Impac)
- Economic Stimulus Challenge Grants Proposed: Prostate BT Lung SBT
- Collaborate with ATC for QA endpoints for comprehensive case Remote Retrieval/Central Aggregation/Automated Analysis and Reporting – to include Dicom Image, Structure and Dose Files, and CERR/MiMVista, and development of advanced analytic tools.
- Participating CA-BIG Image Space Working Group: Developing RT use cases. Making connections between Coop Group Image Space champions and parallel efforts in NCI. Initiating dialog between interoperability champions in IHE(RO) and parallel activities in NCI workspaces.

THE DREAM!

- "We will restore the science
- to its rightful place and wield technology's
- wonders to raise healthcare quality
- and lower its costs."

- J. Frank Wilson, MD
  - [redacted]
- Jean Owen, PhD
  - [redacted]
- Phillip M. Devlin MD
  - [redacted]

QRRO-PROSPECT Study: Building New Clinical Infrastructure for Comparative Effectiveness Research on Prostate and Lung Cancer

Project Summary / Abstract

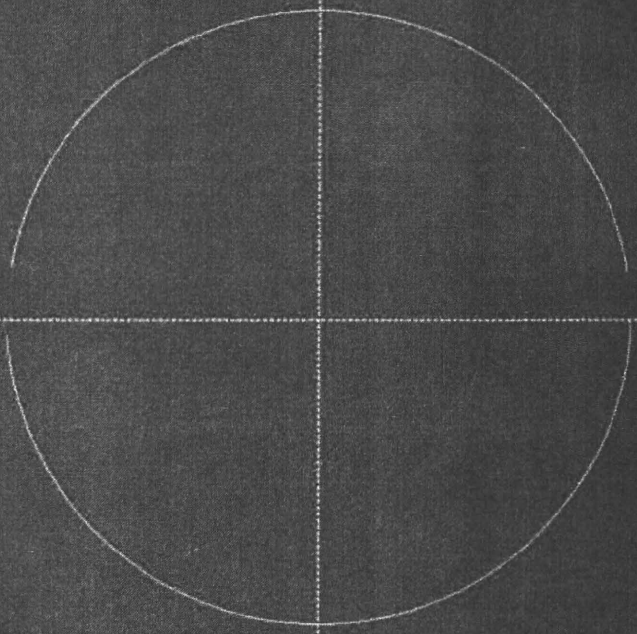
This project proposes to build a novel national multi-disciplinary network and perform comparative effectiveness analyses of different approaches in the treatment of early-stage prostate and lung cancer with an emphasis on the effectiveness of radiation therapy. Two major objectives focus on 1) creating a unique electronic network and infrastructure to provide unprecedented real-time access to large datasets for advanced comparative effectiveness research (CER) in cancer care and 2) testing hypotheses of comparative effectiveness of different approaches to early-stage prostate and limited stage small cell lung cancer using this novel infrastructure and conducting prospective observational cohort studies with practice-based evidence (PBE) methodology.

These aims will be accomplished by developing a network of embedded edge servers at collaborating centers feeding into a super-server to allow ongoing real-time local data retrieval and de-identification, data validation, and common aggregation for advanced CER analysis that will provide ongoing practice-based evidence, data-driven conclusions, data transfer tools, and reusable analytic tools, while leveraging existing technologies. By using advanced remote data extraction, mining, and analytic tools to retrieve data with common and consistent definitions, the project team will address important clinical questions for which randomized clinical trials are not possible but that can be validly answered by comparative effectiveness analyses. These studies will test hypotheses of comparative effectiveness in diseases where varied treatment approaches appear to have similar outcomes, where compliance with guideline recommendations may affect outcomes, and where advanced technologies are rapidly entering national practice without adequate testing by traditional scientific methods.

Measuring Quality Indicators to Improve Patient Care

AMERICAN SOCIETY FOR RADIATION ONCOLOGY
2010 YEAR IN REVIEW

TARGET SAFELY



ASTRO

TARGETING CANCER CARE

Patient safety and quality assurance

After a systemic review of the Society's patient safety and quality assurance projects during the Board of Director's January 28-31, 2010, meeting, the Board developed a **six-point patient protection plan to improve safety and quality** and reduce the chances of medical errors during radiation treatments. **The plan was named Target Safely** and serves to reinforce dedication to improving patient care through education, clinical practice, advancement of science and advocacy.

"ASTRO's highest priority has always been ensuring **patients receive the safest, most effective treatments by providing tools and professional guidance to our members.** We have been developing and refining many of these programs for years and they have been making a huge difference in the quality of cancer treatment. By committing to this plan, we are redoubling our efforts in this essential area of our specialty."

Tim R. Williams, M.D.
ASTRO Chairman

Contents

ASTRO, immediately went to work on your behalf to assure the public and regulators of the overall safety of radiation. . . . The result was our Target Safely campaign, a major action plan that collects all our quality efforts, places them under one umbrella and accelerates their timelines.