Improvements to a Web-based Application for Physician Cancer Case Reporting

April A Austin
New York State Cancer Registry
NAACCR 2011 Annual Conference
June 21, 2011
Topics

- Pilot electronic physician reporting application (first used in 2009)
- Goals/factors influencing the redesign
- General features of the reporting application
- Brief overview of the web forms
- Description of six improvements made
Physician Reporting Pilot Application

- Pilot application used in 2009 and 2010 by physicians to respond to followback requests: death certificate- and laboratory-identified cases.

- Included:
  - NPCR-required fields
  - Combination of text fields and drop-down lists
  - Some single-field edits (required fields) and a couple of inter-field edits
Goals for Redesign

- Ability for “new” cancer case submissions
- Include more drop-down lists when feasible
- Incorporate additional edits for error detection (missing or inconsistencies)
Factors Influencing Redesign

- Expect variability of medical knowledge and experience of office staff designated to report.
- Create a more user-friendly environment.
  - Easily accessed help tools
  - No coding required
- Retain foundation of NPCR-required fields and add easily abstracted site-specific fields.
Factors Influencing Redesign, cont’d

- Focus on conditions diagnosed and treated/monitored in physician offices: melanoma, prostate cancer, hematopoietic malignancies.
- Reduce burden on Registry staff by incorporating more drop-down lists that can be mapped directly to the database.
General Features

- Reconfigured using Java programming language to incorporate help tools
- Three consecutive forms to be completed: patient information, cancer information, and treatment
- Six site-specific modules to collect cancer information
- Sixty-six fields included, some cancer-specific fields defaulted if appropriate
Brief Overview: HCS log in

Welcome to NYS DOH HCS

Please login to begin using the Health Commerce System

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New York State Cancer Registry

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7/7/2011
Brief Overview: HCS Home Page

New York State Cancer Registry
Brief Overview: Welcome page

Welcome to the Physician Cancer Case Reporting System

Use this site to respond to the New York State Cancer Registry’s request for information on specific cancer patients (followback cases) or to submit new cancer case reports.

Physician Name: Lynn A Smith
License Number: 706777

Select followback report or begin new case report OR Use these links to:

- Return to Physician Selection Page
- Go to the NYS Cancer Registry Physician Profile Page

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(revised: 10/21/2010 - version: 2.0) PHY102

New York State Cancer Registry
# Brief Overview: Patient Information

## Physician Cancer Case Reporting System

### Patient Information

<table>
<thead>
<tr>
<th>(*) Required field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. First Name*</td>
<td>MINNIE</td>
</tr>
<tr>
<td>2. Middle Name</td>
<td>MOURSE</td>
</tr>
<tr>
<td>3. Last Name*</td>
<td></td>
</tr>
<tr>
<td>4. Suffix</td>
<td></td>
</tr>
<tr>
<td>5. Birth Name</td>
<td>123456789</td>
</tr>
<tr>
<td>6. SSN</td>
<td></td>
</tr>
<tr>
<td>7. DOB (mm/dd/yyyy)*</td>
<td>01/01/1926</td>
</tr>
</tbody>
</table>

### Patient Address at Time of Cancer Diagnosis

| 16. Address 1* | 1234 MAIN ST |
| 17. Address 2 |       |
| 18. City       | ALBANY |
| 19. State      | New York |
| 20. Zip Code   | 12204 |
| 21. County     | Please Select |

### Patient Vital Status Information

| 22. Vital Status: | Please Select |
| 23. Date of Death |       |
| 24. Date of Last Contact | 01/01/2010 |

### Economic Information

<table>
<thead>
<tr>
<th>25. Select Type of Cancer (required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Melanoma</td>
</tr>
<tr>
<td>☐ Prostate</td>
</tr>
<tr>
<td>☐ Leukemia</td>
</tr>
<tr>
<td>☐ Lymphoma</td>
</tr>
<tr>
<td>☐ Hematopoetic - Other</td>
</tr>
<tr>
<td>☐ Other type of cancer</td>
</tr>
</tbody>
</table>

---

# Brief Overview: Treatment

## First Course of Treatment

<table>
<thead>
<tr>
<th>Patient Information</th>
<th>Cancer Information - Hematopoietic</th>
<th>Treatment</th>
</tr>
</thead>
</table>

**50. Summary Treatment Status**: Please Select

51. Date Treatment First Began (mm/dd/yyyy): [Input Field]

(Includes date of decision for active surveillance/watchful waiting)

**Surgery**

52. Type of Biopsy: Please Select

If the biopsy was an excisional biopsy and removed the entire tumor (e.g., lumpectomy or polypectomy), describe this in the Surgery of Primary Site field. Refer to the Physician's Cancer Reporting Manual for help.

53. Surgery of Primary Site (e.g., excisional biopsy: Limited to 250 characters): [Input Field]

54. Surgery Date: [Input Field]

55. Reason for No Surgery: Please Select

56. Regional Lymph Node Surgery: Please Select

57. # Lymph Nodes Positive: [Input Field]

58. # Lymph Nodes Examined: [Input Field]

59. Surgery of Other Sites: Please Select

**Other Treatment**

60. Radiation Therapy Start Date: [Input Field]

61. Reason for No Radiation: Please Select

62. Chemotherapy Start Date: [Input Field]

63. Immunotherapy Start Date: [Input Field]

64. Hormone Therapy Start Date: [Input Field]

65. Other Therapy Start Date: [Input Field]

66. Provide information about hospital/treatment facilities and other comments here (Limited to 250 characters): [Input Field]

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New York State Cancer Registry
Improvements

1. Mechanism to submit NEW cases
2. Site-specific modules to collect cancer information
3. More help tools
4. Almost exclusive use of drop-down lists
5. Inclusion of more required fields
6. More error edits that prompt users based on missing/inconsistent fields
1. Submit NEW or Followback Cases

Welcome to the Physician Cancer Case Reporting System

Use this site to respond to the New York State Cancer Registry's request for information on specific cancer patients (followback cases) or to submit new cancer case reports.

Physician Name: Lynn A Smith
License Number: 706777

Select followback report or begin new case report

[Case Report Type - Patient Name - DOB - (Date Last Edited)]

NEW - Begin New Cancer Case Report
DCO - BATHILDA BAGSHOT - 05/23/1919
DCO - HERMOINE GRANGER - 06/17/1920
LAB - MINNIE MOUSE - 05/04/1909
DCO - PAMSY PARKINSON - 04/20/1932

OR

Use these links to:

- Return to Physician Selection Page
- Go to the NYS Cancer Registry Physician Profile Page

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New York State Cancer Registry
1. Submit NEW Cases, cont’d

Select followback report or begin new case report

[Case Report Type - Patient Name - DOB - (Date Last Edited)]

NEW - Begin New Cancer Case Report
DCO - BATHILDA BAGSHOT - 05/23/1919
DCO - HERMOINE GRANGER - 06/17/1920
LAB - MINNIE MOUSE - 05/04/1909
DCO - PANSY PARKINSON - 04/20/1932

Continue
2. Site-specific Cancer Modules

25. Select Type of Cancer (required):
- Melanoma
- Prostate
- Leukemia
- Lymphoma
- Hematopoietic - Other
- Other type of cancer
3. Hover Help Tools ( ) for Most Fields

**Stage of Disease at Diagnosis**

40. Size of Tumor (mm):

41. Depth of Invasion (hundredths of mm):

42. Ulceration:

43. Tumor Extension:

44. Size/Extension Determined by:

45. Regional Lymph Node Involvement:

46. Metastasis at Diagnosis:

48. Clinical TNM Stage of Disease:

49. Pathologic TNM Stage of Disease:

Enter the depth of invasion (thickness, Breslow Measurement) in hundredths of millimeters (mm). This field is a three digit field; do not enter decimal points. For example: 0.06 mm = 006; 0.61 mm = 061; 6.1 mm = 610.
4. More Drop-Down Lists

Physician Cancer Case Reporting System

Physician Name: THOMAS VITO STELLATO
License Number: 116975

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name</td>
<td>HARRY NORTH</td>
</tr>
<tr>
<td>Patient Birthday</td>
<td>09/12/1926</td>
</tr>
<tr>
<td>Type of Care Report</td>
<td></td>
</tr>
<tr>
<td>Lab Reported Date</td>
<td>11/01/2007</td>
</tr>
</tbody>
</table>

**Cancer Information**

26. Pathology Report:
   (Limited to 1000 characters or about 175 words)

27. Diagnosis Date (mm/dd/yyyy)*:
28. Age at Diagnosis:
29. Histology:
30. Grade*:
31. Gleason Pattern:
32. Gleason Score:
33. PSA:
34. Source of Diagnostic Confirmation*:
35. Does this patient have a history of another primary
   if so, indicate the type(s) and diagnosis date(s):

**Stage of Disease at Diagnosis**

36. Size of Tumor(s):
37. Tumor Extension:
38. Size/Extension Determined by:
39. Regional Lymph Node Involvement:
40. Metastases at Diagnosis:
41. Clinical TNM Stage of Disease:

**Please Select**

Histology*:
Grade*:
Gleason Pattern:
Gleason Score:
PSA:
Source of Diagnostic Confirmation*:
## 5. More Required Fields

<table>
<thead>
<tr>
<th>Required Fields</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
</tr>
<tr>
<td>Type of Cancer †‡</td>
</tr>
<tr>
<td>Last Name</td>
</tr>
<tr>
<td>Diagnosis Date</td>
</tr>
<tr>
<td>Date of Birth</td>
</tr>
<tr>
<td>Primary Site</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Laterality †</td>
</tr>
<tr>
<td>Hispanic Origin</td>
</tr>
<tr>
<td>Histology</td>
</tr>
<tr>
<td>Race</td>
</tr>
<tr>
<td>Behavior</td>
</tr>
<tr>
<td>Address</td>
</tr>
<tr>
<td>Grade/Cell Line ††</td>
</tr>
<tr>
<td>City</td>
</tr>
<tr>
<td>JAK 2 Mutation (Hem Only) †‡</td>
</tr>
<tr>
<td>State</td>
</tr>
<tr>
<td>Diagnostic Confirmation†</td>
</tr>
<tr>
<td>Zip Code</td>
</tr>
<tr>
<td>Summary Treatment Status †‡</td>
</tr>
</tbody>
</table>

† Newly Required  ‡ New Field
6. Include More Edits (example 1)

- Error: Birth Date is required
- Error: Hispanic Origin required
- Error: Type of Cancer must be selected

New York State Cancer Registry
6. Include More Edits (example 2)

- Diagnosis Date [entered as 10-15-2010] cannot be after Date of Last Contact [entered as 10-01-2010]
- Error: JAK2 Required
6. Include More Edits (example 3)

- Error: Summary Treatment Status Required
- Date Treatment First Began cannot be before Diagnosis Date [entered as 10-15-2010]
Case Submissions

- 2009-2010 (pilot application)
  - 181 physicians submitted 658 followback case reports
- November 17, 2010 – June 3, 2011 (redesigned application)
  - 60 physicians submitted 736 new case reports.
  - 66 physicians submitted 349 followback case reports (since May/June)
Acknowledgements:

- Lynn A Bonanni*
- Amy R Kahn
- Colleen G Sherman
- Janice L Connell
- John W Hoey
- Maria J Schymura
- NYSCR staff for input and feedback
- Physicians and their staff who use the application and provide us with ideas for future improvements
For More Information

- Visit the NYSDOH website *(Cancer Reporting)*
- Scroll down to **Information for Physicians** for resources about our web-based application and other tools for physicians.
- Email me at aaa07@health.state.ny.us