

United States General Accounting Office

GAO

Briefing Report to the Chairman,
Committee on Labor and Human
Resources, U.S. Senate

February 1991

OFF-LABEL DRUGS

Initial Results of a National Survey



143222

**Program Evaluation and
Methodology Division**

B-242851

February 25, 1991

The Honorable Edward M. Kennedy
Chairman, Committee on Labor
and Human Resources
United States Senate

Dear Mr. Chairman:

In September 1989, you asked us to conduct a study on reimbursement denials by health insurers for off-label drug use. As you know, the Food and Drug Administration designates the specific clinical indications for which a drug has been proven effective on a label insert for each approved drug. "Off-label" drug use occurs when physicians prescribe a drug for clinical indications other than those listed on the label.

In response to your request, we surveyed a nationally representative sample of oncologists to determine:

- the prevalence of off-label use of anticancer drugs by oncologists and how use varies by clinical, demographic, and geographic factors;
- the extent to which third-party payers (for example, Medicare intermediaries, private health insurers) are denying payment for such use; and
- whether the policies of third-party payers are influencing the treatment of cancer patients.

We randomly selected 1,470 members of the American Society of Clinical Oncologists and sent them our survey in March 1990. The sampling was structured to ensure that our results would be generalizable both to the nation and to the 11 states with the largest number of oncologists. Our response rate was 56 percent, and a comparison of respondents to nonrespondents shows no noteworthy differences between the two groups.

We have briefed your staff on the results of our survey. Subsequently, it was agreed that the data from our survey should be made publicly available as quickly as possible so that they can be used in policy formulation efforts at the Department of Health and Human Services and at private health insurance firms. Toward that end, we have reprinted our survey instrument and provided the responses in summary form (see appendix I). We are currently completing our analysis of the responses and expect to forward a fully detailed report to you shortly.

We are sending copies of the survey responses to officials at the Food and Drug Administration, the Health Care Financing Administration, and the National Cancer Institute. We also will make copies available to pharmaceutical manufacturers, health insurers, and other interested parties upon their request.

If you have any questions or would like additional information, please call me at (202) 275-1854 or Robert L. York, Acting Director for Program Evaluation in Human Services Areas, at (202) 275-5885. Other major contributors to this report are listed in appendix II.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Eleanor Chelimsky". The signature is fluid and cursive, with a large, stylized initial "E" and a long, sweeping tail that ends in a hook.

Eleanor Chelimsky
Assistant Comptroller General

Survey Results

On the pages that follow, we have reproduced the questionnaire mailed to a random sample of the membership of the American Society of Clinical Oncology in March 1990. For each response category, we provide the number (or percent) of respondents that selected that response. The one exception is for questions from the patient-based portion of the questionnaire. The questionnaire requested information for three specific patients being treated by the respondent and was structured so that questions 1 through 11 dealt with the first patient, questions 12 through 21 with the second, and questions 22 through 31 with the third. In presenting the responses, we have summed across all patients (for example, 55 percent of all patients were female, not 55 percent of the first patients described by physicians). Consequently, questions numbered 12 through 31 do not appear in our report.

A total of 1,470 questionnaires were mailed and 680 responses were received. After adjusting for legitimate nonrespondents (for example, individuals who do not treat patients, who have retired, who do not use chemotherapy), the response rate was 56 percent.



United States General Accounting Office

Survey Of Off-Label Drug Use

The U.S. Senate Committee on Labor and Human Resources has asked the General Accounting Office (GAO) to conduct a study of the extent to which there are reimbursement denials when anticancer drugs are used for clinical indications other than that for which they received approval from the Food and Drug Administration. GAO is primarily interested in reimbursement problems as they relate to **off-label anticancer drug use** and the potential effects these problems might have on the therapies given to cancer patients.

This questionnaire is part of a national survey of oncologists and hematologists in private practice. Its purpose is to obtain information from which to determine the prevalence of off-label anticancer drug use; how off-label drug use varies by patient characteristics, indication, and therapeutic intent; the extent to which reimbursements are denied for off-label drug use; and the extent to which reimbursement problems have caused doctors to alter the way they treat their cancer patients. GAO is primarily interested in the use of anticancer drugs that are approved for marketing rather than those which are classified as investigational or Schedule C drugs.

INSTRUCTIONS: This questionnaire is divided into three parts and should be completed by the doctor, with the possible assistance of an office or insurance manager for Part III. The questionnaire should take about 35 minutes to complete. Although it may appear long, it is primarily composed of questions that ask you to check the drugs you frequently use in treating different types of cancer from a common list of drugs prepared by GAO.

The questionnaire begins by asking you to provide information about the **last three patients** you saw, prior to filling out this questionnaire, for whom you prescribed (or are about to prescribe) an anticancer drug therapy. GAO is only interested in the patients you are treating (or about to treat) with anticancer drugs and not the ones that you may have seen to counsel or render a second opinion. In order to answer these patient-based questions, you may want to have your receptionist pull the charts on these last three patients.

Please return the completed questionnaire in the enclosed preaddressed envelope **within two weeks**. If more than one doctor in a group practice receives a questionnaire, we request that each doctor respond separately.

RESULTS: Responses from all questionnaires will be aggregated for analysis and therefore no response will ever be associated with a particular practice or individual. The final report will provide objective information about this issue for congressional review and for the use of interested parties.

Thank you for your timely response. If you have any questions about the questionnaire, please call Tom Laetz at (303) 844-0082.

**Appendix I
Survey Results**

PART 1: PATIENT CHARACTERISTICS AND PRESCRIBED TREATMENT-- ALL THREE PATIENTS
(Questions 1 to 31)

The first part of the questionnaire solicits responses to questions about the last three patients for which you prescribed single drug or combination cytotoxic therapies. For each patient, you will be asked to provide background information about the patient, the disease characteristics, and the anticancer drugs prescribed for the patient's treatment regimen.

- | | |
|---|--|
| <p>1. Which of the following professions most closely matches your current position with this office? (Check one)</p> <ul style="list-style-type: none"> 1.2% Hematologist 54.2% Hematologist/Oncologist 5.9% Gynecologic or urologic oncologist 29.7% Medical oncologist 4.5% Surgical oncologist 4.5% Other, please specify: _____ <p>100.0% n=666</p> <p>2. In what age group does this patient belong? (Check one)</p> <ul style="list-style-type: none"> 7.1% Under 20 years old 26.5% 21 to 50 years old 24.1% 51 to 60 years old 27.5% 61 to 70 years old 13.4% 71 to 80 years old 1.4% Over 80 years old <p>100.0% n = 2014</p> <p>3. What is the sex of this patient?</p> <ul style="list-style-type: none"> 55.3% Female 44.7% Male <p>100.0% n = 2019</p> <p>4. Is the therapy for this patient being provided as part of a research study? (Check one)</p> <ul style="list-style-type: none"> 22.8% Yes 77.2% No <p>100.0% n = 2009</p> | <p>5. What is the primary site of the cancer in this patient? (Check one)</p> <ul style="list-style-type: none"> 2.1% Bladder 1.6% Bone and connective tissue 2.3% Brain 21.0% Breast 1.2% Cervix 13.9% Colorectal 2.2% Head or neck 2.2% Kidney 0.4% Liver 12.6% Lung 1.3% Pancreas 2.6% Prostate 6.9% Ovary 1.4% Skin 1.7% Stomach 1.3% Testis 0.1% Thyroid 1.2% Uterus 5.0% Other, please specify: (12 sites) 19.0% Not applicable, i.e., hematologic malignancies <ul style="list-style-type: none"> 0.5% Leukemia 2.2% ALL 1.9% ANLL 1.1% CLL 0.5% CML 0.5% Lymphoma 2.8% Hodgkins disease 6.9% Non-Hodgkins disease 2.6% Other <p>n = 2018</p> |
|---|--|

Appendix I
Survey Results

6. What is the stage of the cancer in this patient? (Check one)

- 0.3% In situ
- 8.4% Localized
- 5.4% Regional by direct extension only
- 14.5% Regional to lymph nodes only
- 9.6% Regional by direct extension and to lymph nodes
- 4.2% Regional, (NOS)
- 52.1% Distant metastasis
- 5.5% Unstaged, unknown or unspecified
- 100.0% n = 1943

7. What is the histology of the cancer?

Histology: (omitted)

8. What modalities of treatment has this patient had prior to the present prescribed treatment regimen? (Check all that apply)

- 1.8% Biological therapy
- 32.3% Chemotherapy
- 8.8% Hormonal therapy
- 0.8% Immunotherapy
- 22.2% Radiation
- 46.1% Surgery
- 25.8% No previous treatment
- 0.8% Other, please specify:
n = 2040

9. What will be the primary therapeutic intent of the present course of therapy? (Check one)

- 43.8% Curative
- 56.2% Palliative
- 100.0% n = 2004

10. What other modalities of treatment are being considered for this patient during the present course of treatment? (Check all that apply)

- 25.3% Radiation
- 7.9% Surgery
- 58.2% None other considered
- 8.9% Other, please specify: _____
n = 2040

**Appendix I
Survey Results**

11. Please check the anticancer drugs, including hormonal agents, that you prescribed for the patient's present therapeutic regimen by mode of administration.

Drug Names	Oral	Bolus/SQ	Infusion
Asparaginase, <i>Elspar</i>	0	37	2
Betamethasone, <i>Celestone</i>	1	2	1
Bleomycin, <i>Blenoxane</i>	3	80	41
Busulfan, <i>Myleran</i>	10	0	1
Carboplatin, <i>Paraplatin</i>	0	49	100
Carmustine, <i>BiCNU</i>	3	18	23
Chlorambucil, <i>Leukeran</i>	27	0	1
Cisplatin, <i>Platinol</i>	4	88	339
Cyclophosphamide, <i>Cytoxan, Neosar</i>	134	306	234
Cytarabine, <i>Cytosar-U</i>	1	36	60
Dacarbazine, <i>DTIC-Dome</i>	1	23	31
Dactinomycin, <i>Cosmegen</i>	0	18	13
Daunorubicin, <i>Cerubidine</i>	0	33	14
Doxorubicin, <i>Adriamycin</i>	7	318	170
Estramustine, <i>Emcyt</i>	3	0	1
Etoposide, <i>VePesid, VP-16</i>	15	102	217
Floxuridine, <i>FUDR</i>	0	7	12
Fluorouracil, <i>Efudex, 5-FU</i>	10	404	265
Hydroxyurea, <i>Hydrea</i>	14	2	3
Ifosfamide, <i>IFEX</i>	0	14	66
Interferon alfa 2a,2b, <i>Intron-A</i>	0	59	4
Lomustine, <i>CeeNU, CCNU</i>	11	1	2
Mechlorethamine, <i>Mustargen, HN2</i>	2	30	11
Melphalan, <i>Alkeran</i>	29	1	6
Mercaptopurine, <i>Purinethol</i>	23	3	5
Methotrexate	19	200	82
Mitomycin, <i>Mutamycin</i>	0	56	30
Mitoxantrone, <i>Novantrone</i>	0	25	17
Plicamycin, <i>Mithracin</i>	0	1	0

Drug Names	Oral	Bolus/SQ	Infusion
Procarbazine, <i>Matulane</i>	58	4	1
Thioguanine	12	2	0
Thiotepa	0	4	9
Vinblastine, <i>Velban</i>	2	112	37
Vincristine, <i>Oncovin</i>	7	252	83
HORMONAL OR OTHER DRUGS			
Aminoglutethimide, <i>Cytadren</i>	4	0	0
Chlorotrianisene, <i>TACE</i>	1	0	0
Diethylstilbestrol, <i>Stilphostrol</i>	5	0	2
Estradiol, <i>Estrace</i>	0	0	1
Fluoxymesterone, <i>Halotestin</i>	9	1	0
Flutamide, <i>Eulexin</i>	20	0	0
Leucovorin, <i>Folinic acid</i>	45	56	112
Leuprolide acetate, <i>Lupron</i>	0	23	0
Medroxyprogesterone, <i>Provera</i>	2	3	1
Megestrol acetate, <i>Megace</i>	24	1	1
Methyltestosterone, <i>Oreton</i>	0	0	0
Mitotane, <i>Lysodren</i>	0	0	0
Octreotide acetate, <i>Sandostatin</i>	0	0	0
Prednisone	244	22	4
Tamoxifen, <i>Nolvadex</i>	121	3	4
Testalactone, <i>Teslac</i>	0	0	0
INVESTIGATIONAL DRUGS			
Interleukin, <i>IL2, IL2 with LAK</i>	1	4	12
Levamisole	74	5	4
OTHER DRUGS:	27	25	46

PART II: DRUG USE FOR SPECIFIC DISEASES

The second part of the questionnaire asks you to respond to questions about the anticancer drugs that you usually prescribe in treating 11 types of cancer. For some of these cancers you will be asked to identify the combination of drugs that you usually prescribe in your first, second, and third lines of treatment. For other types of cancer you will be asked to identify all the drugs that you frequently use. In each case you will be asked to check the drugs you use from a common list of anticancer and hormonal drugs. We recognize, however, that your selection of drugs for each patient may vary for a number of reasons. The remaining section of this part then asks you to indicate if the drugs that you usually prescribe for these cancers differ from the drugs you would like to use and the reasons for any differences. Finally, we ask you to identify the sources you rely on for drug information.

32. Which of the following professions most closely matches your current position with this office?
(Check one)

- 1.4% Hematologist
- 55.3% Hematologist/Oncologist
- 5.7% Gynecologic or urologic oncologist
- 28.8% Medical oncologist
- 4.3% Surgical oncologist
- 4.5% Other, please specify: _____
- 100.0% n = 667

33. In your personal practice, about what percentage of your current patients are enrolled in clinical trials from any source? (Check one)

- 9.2% No patients on clinical trial
- 53.5% 01 to 10 percent
- 19.2% 11 to 30 percent
- 17.6% Over 30 percent
- .5% Unknown percentage
- 100.0% n = 578

Appendix I
Survey Results

34. What anticancer drug combinations do you usually prescribe in treating acute non-lymphocytic leukemia? Please check the combination of drugs used in your typical first, second, and third lines of treatment.

Drug Names	First	Second	Third
Asparaginase, <i>Elspar</i>	20	36	11
Betamethasone, <i>Celestone</i>	2	0	0
Bleomycin, <i>Blenoxane</i>	2	2	0
Busulfan, <i>Myleran</i>	2	10	2
Carboplatin, <i>Paraplatin</i>	0	8	28
Carmustine, <i>BiCNU</i>	0	2	1
Chlorambucil, <i>Leukeran</i>	1	0	0
Cisplatin, <i>Platinol</i>	0	3	6
Cyclophosphamide, <i>Cytoxan, Neosar</i>	14	30	19
Cytarabine, <i>Cytosar-U</i>	459	271	54
Dacarbazine, <i>DTIC-Dome</i>	0	0	0
Dactinomycin, <i>Cosmegen</i>	5	2	0
Daunorubicin, <i>Cerubidine</i>	395	36	6
Doxorubicin, <i>Adriamycin</i>	44	20	4
Estramustine, <i>Emcyt</i>	0	1	0
Etoposide, <i>VePesid, VP-16</i>	28	96	107
Floxuridine, <i>FUDR</i>	0	1	0
Fluorouracil, <i>Efudex, 5-FU</i>	0	0	0
Hydroxyurea, <i>Hydrea</i>	3	10	32
Ifosfamide, <i>IFEX</i>	0	3	5
Interferon alfa 2a,2b, <i>Intron-A</i>	0	0	1
Lomustine, <i>CeeNU, CCNU</i>	0	0	0
Mechlorethamine, <i>Mustargen, HN2</i>	0	0	0
Melphalan, <i>Alkeran</i>	0	0	0
Mercaptopurine, <i>Purinethol</i>	5	10	13
Methotrexate	12	19	12
Mitomycin, <i>Mutamycin</i>	0	3	3
Mitoxantrone, <i>Novantrone</i>	56	171	75
Plicamycin, <i>Mithracin</i>	1	0	0

Drug Names	First	Second	Third
Procarbazine, <i>Matulane</i>	1	0	0
Thioguanine	144	25	13
Thiotepa	2	3	2
Vinblastine, <i>Velban</i>	3	5	6
Vincristine, <i>Oncovin</i>	36	11	9
HORMONAL OR OTHER DRUGS			
Aminoglutethimide, <i>Cytadren</i>	0	0	0
Chlorotrianisene, <i>TACE</i>	0	0	0
Diethylstilbestrol, <i>Stilphostrol</i>	0	0	0
Estradiol, <i>Estrace</i>	0	0	0
Flooxymesterone, <i>Halotestin</i>	0	0	0
Flutamide, <i>Eulexin</i>	0	0	0
Leucovorin, <i>Folinic acid</i>	2	2	1
Leuprolide acetate, <i>Lupron</i>	0	0	0
Medroxyprogesterone, <i>Provera</i>	0	0	0
Megestrol acetate, <i>Megace</i>	0	0	0
Methyltestosterone, <i>Oreton</i>	0	0	0
Mitotane, <i>Lysodren</i>	0	0	0
Octreotide acetate, <i>Sandostatin</i>	0	0	0
Prednisone	39	20	10
Tamoxifen, <i>Nolvadex</i>	0	0	0
Testalactone, <i>Teslac</i>	0	0	0
INVESTIGATIONAL DRUGS			
Interleukin, <i>IL2, IL2 with LAK</i>	0	0	0
Levamisole	0	0	0
OTHER DRUGS: (8) BMT = 5			
	7	20	25

n = 493

Appendix I
Survey Results

35. What anticancer drugs, including hormonal agents, do you frequently use in treating breast cancer in premenopausal women with adjuvant therapy? Please check all the drugs used.

Drug Names	Frequently Used Drugs
Asparaginase, <i>Elspar</i>	0
Betamethasone, <i>Celestone</i>	0
Bleomycin, <i>Blenoxane</i>	0
Busulfan, <i>Myleran</i>	0
Carboplatin, <i>Paraplatin</i>	0
Carmustine, <i>BiCNU</i>	2
Chlorambucil, <i>Leukeran</i>	0
Cisplatin, <i>Platinol</i>	11
Cyclophosphamide, <i>Cytoxan, Neosar</i>	568
Cytarabine, <i>Cytosar-U</i>	0
Dacarbazine, <i>DTIC-Dome</i>	0
Dactinomycin, <i>Cosmegen</i>	0
Daunorubicin, <i>Cerubidine</i>	9
Doxorubicin, <i>Adriamycin</i>	457
Estramustine, <i>Emcyt</i>	0
Etoposide, <i>VePesid, VP-16</i>	7
Floxuridine, <i>FUDR</i>	17
Fluorouracil, <i>Efudex, 5-FU</i>	550
Hydroxyurea, <i>Hydrea</i>	0
Ifosfamide, <i>IFEX</i>	0
Interferon alfa 2a,2b, <i>Intron-A</i>	0
Lomustine, <i>CeeNU, CCNU</i>	0
Mechlorethamine, <i>Mustargen, HN2</i>	0
Melphalan, <i>Alkeran</i>	14
Mercaptopurine, <i>Purinethol</i>	3
Methotrexate	530
Mitomycin, <i>Mutamycin</i>	19
Mitoxantrone, <i>Novantrone</i>	45
Plicamycin, <i>Mithracin</i>	1

Drug Names	Frequently Used Drugs
Procarbazine, <i>Matulane</i>	0
Thioguanine	0
Thiotepa	22
Vinblastine, <i>Velban</i>	38
Vincristine, <i>Oncovin</i>	118
HORMONAL OR OTHER DRUGS	
Aminoglutethimide, <i>Cytadren</i>	16
Chlorotrianisene, <i>TACE</i>	0
Diethylstilbestrol, <i>Stilphostrol</i>	3
Estradiol, <i>Estrace</i>	1
Fluoxymesterone, <i>Halotestin</i>	22
Flutamide, <i>Eulexin</i>	0
Leucovorin, <i>Folinic acid</i>	32
Leuprolide acetate, <i>Lupron</i>	2
Medroxyprogesterone, <i>Provera</i>	7
Megestrol acetate, <i>Megace</i>	55
Methyltestosterone, <i>Oreton</i>	1
Mitotane, <i>Lysodren</i>	0
Octreotide acetate, <i>Sandostatin</i>	0
Prednisone	118
Tamoxifen, <i>Nolvadex</i>	345
Testalactone, <i>Teslac</i>	2
INVESTIGATIONAL DRUGS	
Interleukin, <i>IL2, IL2 with LAK</i>	0
Levamisole	0
OTHER DRUGS: (4)	8

n = 573

Appendix I
Survey Results

36. What anticancer drugs, including hormonal agents, do you frequently use in treating breast cancer in postmenopausal women with adjuvant therapy? Please check all the drugs used.

Drug Names	Frequently Used Drugs
Asparaginase, <i>Elspar</i>	0
Betamethasone, <i>Celestone</i>	1
Bleomycin, <i>Blenoxane</i>	0
Busulfan, <i>Myleran</i>	0
Carboplatin, <i>Paraplatin</i>	0
Carmustine, <i>BiCNU</i>	1
Chlorambucil, <i>Leukeran</i>	5
Cisplatin, <i>Platinol</i>	5
Cyclophosphamide, <i>Cytoxan, Neosar</i>	510
Cytarabine, <i>Cytosar-U</i>	1
Dacarbazine, <i>DTIC-Dome</i>	0
Dactinomycin, <i>Cosmegen</i>	0
Daunorubicin, <i>Cerubidine</i>	14
Doxorubicin, <i>Adriamycin</i>	280
Estramustine, <i>Emcyf</i>	0
Etoposide, <i>VePesid, VP-16</i>	3
Floxuridine, <i>FUDR</i>	17
Fluorouracil, <i>Efidex, 5-FU</i>	493
Hydroxyurea, <i>Hydrea</i>	0
Ifosfamide, <i>IFEX</i>	0
Interferon alfa 2a,2b, <i>Intron-A</i>	0
Lomustine, <i>CeeNU, CCNU</i>	0
Mechlorethamine, <i>Mustargen, HN2</i>	0
Melphalan, <i>Alkeran</i>	9
Mercaptopurine, <i>Purinethol</i>	0
Methotrexate	478
Mitomycin, <i>Mutamycin</i>	12
Mitoxantrone, <i>Novantrone</i>	31
Plicamycin, <i>Mithracin</i>	0

Drug Names	Frequently Used Drugs
Procarbazine, <i>Matulane</i>	0
Thioguanine	1
Thiotepa	14
Vinblastine, <i>Velban</i>	25
Vincristine, <i>Oncovin</i>	86
HORMONAL OR OTHER DRUGS	
Aminoglutethimide, <i>Cytadren</i>	29
Chlorotrianisene, <i>TACE</i>	1
Diethylstilbestrol, <i>Stilphostrol</i>	10
Estradiol, <i>Estrace</i>	3
Fluoxymesterone, <i>Halotestin</i>	24
Flutamide, <i>Eulexin</i>	1
Leucovorin, <i>Folinic acid</i>	20
Leuprolide acetate, <i>Lupron</i>	1
Medroxyprogesterone, <i>Provera</i>	11
Megestrol acetate, <i>Megace</i>	120
Methyltestosterone, <i>Oreton</i>	2
Mitotane, <i>Lysodren</i>	2
Octreotide acetate, <i>Sandostatin</i>	2
Prednisone	107
Tamoxifen, <i>Nolvadex</i>	560
Testalactone, <i>Teslac</i>	1
INVESTIGATIONAL DRUGS	
Interleukin, <i>IL2, IL2 with LAK</i>	0
Levamisole	0
OTHER DRUGS: (2)	3

n = 570

Appendix I
Survey Results

37. What anticancer drug combinations, including hormonal agents and disregarding menopausal or estrogen receptor status, do you usually prescribe in treating metastatic breast cancer? Please check the combination of drugs used in your typical first, second, and third lines of treatment.

Drug Names	First	Second	Third
Asparaginase, <i>Elspar</i>	0	0	0
Betamethasone, <i>Celestone</i>	0	1	0
Bleomycin, <i>Blenoxane</i>	0	1	7
Busulfan, <i>Myleran</i>	0	0	0
Carboplatin, <i>Paraplatin</i>	0	7	24
Carmustine, <i>BICNU</i>	2	0	8
Chlorambucil, <i>Leukeran</i>	2	2	3
Cisplatin, <i>Platinol</i>	4	25	97
Cyclophosphamide, <i>Cytoxan, Neosar</i>	49	131	23
Cytarabine, <i>Cytosar-U</i>	0	1	1
Dacarbazine, <i>DTIC-Dome</i>	0	1	2
Dactinomycin, <i>Cosmegen</i>	0	0	3
Daunorubicin, <i>Cerubidine</i>	11	8	3
Doxorubicin, <i>Adriamycin</i>	26	257	41
Estramustine, <i>Emcyt</i>	0	1	1
Etoposide, <i>VePesid, VP-16</i>	3	22	68
Floxuridine, <i>FUDR</i>	11	6	6
Fluorouracil, <i>Efudex, 5-FU</i>	481	128	71
Hydroxyurea, <i>Hydrea</i>	0	2	2
Ifosfamide, <i>IFEX</i>	2	6	14
Interferon alfa 2a,2b, <i>Intron-A</i>	1	3	10
Lomustine, <i>CeeNU, CCNU</i>	0	1	2
Mechlorethamine, <i>Mustargen, HN2</i>	1	1	1
Melphalan, <i>Alkeran</i>	4	4	8
Mercaptopurine, <i>Purinethol</i>	4	1	0
Methotrexate	328	122	29
Mitomycin, <i>Mutamycin</i>	2	133	23
Mitoxantrone, <i>Novantrone</i>	24	76	63
Plicamycin, <i>Mithracin</i>	0	2	3

Drug Names	First	Second	Third
Procarbazine, <i>Matulane</i>	0	0	1
Thioguanine	0	0	0
Thiotepa	10	68	64
Vinblastine, <i>Velban</i>	10	184	226
Vincristine, <i>Oncovin</i>	63	104	40
HORMONAL OR OTHER DRUGS			
Aminoglutethimide, <i>Cytadren</i>	4	48	195
Chlorotrianisene, <i>TACE</i>	0	0	0
Diethylstilbestrol, <i>Stilphostrol</i>	6	12	31
Estradiol, <i>Estrace</i>	1	2	6
Floxymesterone, <i>Halotestin</i>	12	52	112
Flutamide, <i>Eulexin</i>	0	1	2
Leucovorin, <i>Folinic acid</i>	10	38	45
Leuprolide acetate, <i>Lupron</i>	1	2	10
Medroxyprogesterone, <i>Provera</i>	3	28	10
Megestrol acetate, <i>Megace</i>	22	297	44
Methyltestosterone, <i>Oreton</i>	1	1	0
Mitotane, <i>Lysodren</i>	0	0	4
Octreotide acetate, <i>Sandostatin</i>	0	0	2
Prednisone	62	38	33
Tamoxifen, <i>Nolvadex</i>	430	32	36
Testalactone, <i>Teslac</i>	0	2	7
INVESTIGATIONAL DRUGS			
Interleukin, <i>IL2, IL2 with LAK</i>	0	2	2
Levamisole	0	0	1
OTHER DRUGS: (4) BMT = 2	5	1	9

n = 560

Appendix I
Survey Results

38. What anticancer drugs do you frequently use in treating Dukes' C colon cancer with adjuvant therapy? Please check all the drugs used.

Drug Names	Frequently Used Drugs
Asparaginase, <i>Elspar</i>	0
Betamethasone, <i>Celestone</i>	0
Bleomycin, <i>Blenoxane</i>	0
Busulfan, <i>Myleran</i>	0
Carboplatin, <i>Paraplatin</i>	0
Carmustine, <i>BiCNU</i>	2
Chlorambucil, <i>Leukeran</i>	1
Cisplatin, <i>Platinol</i>	9
Cyclophosphamide, <i>Cytoxan, Neosar</i>	1
Cytarabine, <i>Cytosar-U</i>	0
Dacarbazine, <i>DTIC-Dome</i>	1
Dactinomycin, <i>Cosmegen</i>	0
Daunorubicin, <i>Cerubidine</i>	0
Doxorubicin, <i>Adriamycin</i>	2
Estramustine, <i>Emcyt</i>	0
Etoposide, <i>VePesid, VP-16</i>	0
Floxuridine, <i>FUDR</i>	19
Fluorouracil, <i>Efudex, 5-FU</i>	539
Hydroxyurea, <i>Hydrea</i>	3
Ifosfamide, <i>IFEX</i>	0
Interferon alfa 2a,2b, <i>Intron-A</i>	10
Lomustine, <i>CeeNU, CCNU</i>	19
Mechlorethamine, <i>Mustargen, HN2</i>	0
Melphalan, <i>Alkeran</i>	0
Mercaptopurine, <i>Purinethol</i>	0
Methotrexate	13
Mitomycin, <i>Mutamycin</i>	20
Mitoxantrone, <i>Novantrone</i>	0
Plicamycin, <i>Mithracin</i>	0

Drug Names	Frequently Used Drugs
Procarbazine, <i>Matulane</i>	0
Thioguanine	0
Thiotepa	0
Vinblastine, <i>Velban</i>	1
Vincristine, <i>Oncovin</i>	22
HORMONAL OR OTHER DRUGS	
Aminoglutethimide, <i>Cytadren</i>	0
Chlorotrianisene, <i>TACE</i>	0
Diethylstilbestrol, <i>Stilphostrol</i>	0
Estradiol, <i>Estrace</i>	0
Fluoxymesterone, <i>Halotestin</i>	0
Flutamide, <i>Eulexin</i>	0
Leucovorin, <i>Folinic acid</i>	336
Leuprolide acetate, <i>Lupron</i>	2
Medroxyprogesterone, <i>Provera</i>	0
Megestrol acetate, <i>Megace</i>	0
Methyltestosterone, <i>Oreton</i>	0
Mitotane, <i>Lysodren</i>	0
Octreotide acetate, <i>Sandostatin</i>	1
Prednisone	0
Tamoxifen, <i>Nolvadex</i>	1
Testalactone, <i>Teslac</i>	0
INVESTIGATIONAL DRUGS	
Interleukin, <i>IL2, IL2 with LAK</i>	1
Levamisole	442
OTHER DRUGS:	

n = 548

Appendix I
Survey Results

39. What anticancer drugs do you frequently use in treating metastatic colon cancer? Please check all the drugs used.

Drug Names	Frequently Used Drugs
Asparaginase, <i>Elspar</i>	0
Betamethasone, <i>Celestone</i>	0
Bleomycin, <i>Blenoxane</i>	0
Busulfan, <i>Myleran</i>	0
Carboplatin, <i>Paraplatin</i>	5
Carmustine, <i>BiCNU</i>	18
Chlorambucil, <i>Leukeran</i>	0
Cisplatin, <i>Platinol</i>	93
Cyclophosphamide, <i>Cytosan, Neosar</i>	7
Cytarabine, <i>Cytosar-U</i>	0
Dacarbazine, <i>DTIC-Dome</i>	3
Dactinomycin, <i>Cosmegen</i>	0
Daunorubicin, <i>Cerubidine</i>	0
Doxorubicin, <i>Adriamycin</i>	13
Estramustine, <i>Emcyt</i>	0
Etoposide, <i>VePesid, VP-16</i>	3
Floxuridine, <i>FUDR</i>	102
Fluorouracil, <i>Efudex, 5-FU</i>	543
Hydroxyurea, <i>Hydrea</i>	7
Ifosfamide, <i>IFEX</i>	2
Interferon alfa 2a,2b, <i>Intron-A</i>	78
Lomustine, <i>CeeNU, CCNU</i>	37
Mechlorethamine, <i>Mustargen, HN2</i>	0
Melphalan, <i>Alkeran</i>	1
Mercaptopurine, <i>Purinethol</i>	0
Methotrexate	74
Mitomycin, <i>Mutamycin</i>	181
Mitoxantrone, <i>Novantrone</i>	2
Plicamycin, <i>Mithracin</i>	1

Drug Names	Frequently Used Drugs
Procarbazine, <i>Marulane</i>	0
Thioguanine	0
Thiotepa	0
Vinblastine, <i>Velban</i>	2
Vincristine, <i>Oncovin</i>	32
HORMONAL OR OTHER DRUGS	
Aminoglutethimide, <i>Cytadren</i>	0
Chlorotrianisene, <i>TACE</i>	0
Diethylstilbestrol, <i>Stilphostrol</i>	0
Estradiol, <i>Estrace</i>	0
Fluoxymesterone, <i>Halotestin</i>	0
Flutamide, <i>Eulexin</i>	0
Leucovorin, <i>Folinic acid</i>	455
Leuprolide acetate, <i>Lupron</i>	2
Medroxyprogesterone, <i>Provera</i>	0
Megestrol acetate, <i>Megace</i>	2
Methyltestosterone, <i>Oreton</i>	0
Mitotane, <i>Lysodren</i>	0
Octreotide acetate, <i>Sandostatin</i>	2
Prednisone	3
Tamoxifen, <i>Nolvadex</i>	1
Testalactone, <i>Teslac</i>	0
INVESTIGATIONAL DRUGS	
Interleukin, <i>IL2, IL2 with LAK</i>	14
Levamisole	35
OTHER DRUGS: (4)	12

n = 555

**Appendix I
Survey Results**

40. What anticancer drug combinations do you usually prescribe in treating Stage III B or IV A,B Hodgkin's disease?
Please check the combination of drugs you typically prescribe for your first, second, and third lines of treatment.

Drug Names	First	Second	Third
Asparaginase, <i>Elspar</i>	1	1	2
Betamethasone, <i>Celestone</i>	2	3	1
Bleomycin, <i>Blenoxane</i>	419	179	16
Busulfan, <i>Myleran</i>	1	1	4
Carboplatin, <i>Paraplatin</i>	0	6	14
Carmustine, <i>BiCNU</i>	18	61	58
Chlorambucil, <i>Leukeran</i>	4	15	30
Cisplatin, <i>Platinol</i>	1	61	83
Cyclophosphamide, <i>Cytoxan, Neosar</i>	44	65	59
Cytarabine, <i>Cytosar-U</i>	0	35	44
Dacarbazine, <i>DTIC-Dome</i>	307	150	10
Dactinomycin, <i>Cosmegen</i>	12	6	2
Daunorubicin, <i>Cerubidine</i>	7	7	1
Doxorubicin, <i>Adriamycin</i>	428	178	22
Estramustine, <i>Emcyt</i>	0	1	1
Etoposide, <i>VePesid, VP-16</i>	7	138	162
Floxuridine, <i>FUDR</i>	0	0	0
Fluorouracil, <i>Efudex, 5-FU</i>	0	0	1
Hydroxyurea, <i>Hydrea</i>	0	0	2
Ifosfamide, <i>IFEX</i>	1	18	52
Interferon alfa 2a,2b, <i>Intron-A</i>	0	3	16
Lomustine, <i>CeeNU, CCNU</i>	2	48	59
Mechlorethamine, <i>Mustargen, HN2</i>	398	135	10
Melphalan, <i>Alkeran</i>	0	7	5
Mercaptopurine, <i>Purinethol</i>	2	0	0
Methotrexate	4	25	38
Mitomycin, <i>Mitomycin</i>	0	3	3
Mitoxantrone, <i>Novantrone</i>	3	23	36
Plicamycin, <i>Mithracin</i>	0	0	2

Drug Names	First	Second	Third
Procarbazine, <i>Matulane</i>	424	155	19
Thioguanine	1	0	0
Thiotepa	0	3	8
Vinblastine, <i>Velban</i>	411	189	55
Vincristine, <i>Oncovin</i>	436	162	25
HORMONAL OR OTHER DRUGS			
Aminoglutethimide, <i>Cytadren</i>	0	0	0
Chlorotrianisene, <i>TACE</i>	0	0	0
Diethylstilbestrol, <i>Stilphostrol</i>	0	0	0
Estradiol, <i>Estrace</i>	0	0	0
Fluoxymesterone, <i>Halotestin</i>	0	2	0
Flutamide, <i>Eulexin</i>	0	0	0
Leucovorin, <i>Folinic acid</i>	0	3	5
Leuprolide acetate, <i>Lupron</i>	0	0	0
Medroxyprogesterone, <i>Provera</i>	1	0	1
Megestrol acetate, <i>Megace</i>	0	0	0
Methyltestosterone, <i>Oreton</i>	0	0	0
Mitotane, <i>Lysodren</i>	0	0	0
Octreotide acetate, <i>Sandostatin</i>	1	0	0
Prednisone	424	189	61
Tamoxifen, <i>Nolvadex</i>	0	0	0
Testalactone, <i>Teslac</i>	0	0	0
INVESTIGATIONAL DRUGS			
Interleukin, <i>IL2, IL2 with LAK</i>	0	0	16
Levamisole	0	0	0
OTHER DRUGS: (5) BMT = 18	1	18	20

n = 582

**Appendix I
Survey Results**

41. What anticancer drugs do you frequently use in treating hormone refractory prostate cancer? Please check all the drugs used.

Drug Names	Frequently Used Drugs
Asparaginase, <i>Elspar</i>	0
Betamethasone, <i>Celestone</i>	1
Bleomycin, <i>Blenoxane</i>	0
Busulfan, <i>Myleran</i>	0
Carboplatin, <i>Paraplatin</i>	26
Carmustine, <i>BiCNU</i>	1
Chlorambucil, <i>Leukeran</i>	3
Cisplatin, <i>Platinol</i>	151
Cyclophosphamide, <i>Cytoxan, Neosar</i>	287
Cytarabine, <i>Cytosar-U</i>	1
Dacarbazine, <i>DTIC-Dome</i>	0
Dactinomycin, <i>Cosmegen</i>	0
Daunorubicin, <i>Cerubidine</i>	5
Doxorubicin, <i>Adriamycin</i>	318
Estramustine, <i>Emcyt</i>	68
Etoposide, <i>VePesid, VP-16</i>	21
Floxuridine, <i>FUDR</i>	8
Fluorouracil, <i>Efudex, 5-FU</i>	282
Hydroxyurea, <i>Hydrea</i>	10
Ifosfamide, <i>IFEX</i>	12
Interferon alfa 2a,2b, <i>Intron-A</i>	7
Lomustine, <i>CeeNU, CCNU</i>	0
Mechlorethamine, <i>Mustargen, HN2</i>	0
Melphalan, <i>Alkeran</i>	7
Mercaptopurine, <i>Purinethol</i>	0
Methotrexate	80
Mitomycin, <i>Mutamycin</i>	48
Mitoxantrone, <i>Novantrone</i>	15
Plicamycin, <i>Mithracin</i>	1

Drug Names	Frequently Used Drugs
Procarbazine, <i>Matulane</i>	1
Thioguanine	0
Thiotepa	3
Vinblastine, <i>Velban</i>	27
Vincristine, <i>Oncovin</i>	12
HORMONAL OR OTHER DRUGS	
Aminoglutethimide, <i>Cytadren</i>	63
Chlorotrianisene, <i>TACE</i>	4
Diethylstilbestrol, <i>Stilphostrol</i>	31
Estradiol, <i>Estrace</i>	4
Fluoxymesterone, <i>Halotestin</i>	0
Flutamide, <i>Eulexin</i>	111
Leucovorin, <i>Folinic acid</i>	32
Leuprolide acetate, <i>Lupron</i>	75
Medroxyprogesterone, <i>Provera</i>	3
Megestrol acetate, <i>Megace</i>	66
Methyltestosterone, <i>Oreton</i>	0
Mitotane, <i>Lysodren</i>	0
Octreotide acetate, <i>Sandostatin</i>	1
Prednisone	88
Tamoxifen, <i>Nolvadex</i>	11
Testalactone, <i>Teslac</i>	0
INVESTIGATIONAL DRUGS	
Interleukin, <i>IL2, IL2 with LAK</i>	2
Levamisole	1
OTHER DRUGS: (5)	29

n = 517

Appendix I
Survey Results

42. What anticancer drug combinations do you usually prescribe in treating limited or extensive small cell lung cancer? Please check the combination of drugs used in your typical first, second, and third lines of treatment.

Drug Names	First	Second	Third
Asparaginase, <i>Elspar</i>	0	0	0
Betamethasone, <i>Celestone</i>	0	0	0
Bleomycin, <i>Blenoxane</i>	3	0	5
Busulfan, <i>Myleran</i>	1	0	0
Carboplatin, <i>Paraplatin</i>	49	65	53
Carmustine, <i>BiCNU</i>	2	11	31
Chlorambucil, <i>Leukeran</i>	1	0	0
Cisplatin, <i>Platinol</i>	361	158	13
Cyclophosphamide, <i>Cytoxan, Neosar</i>	339	220	56
Cytarabine, <i>Cytosar-U</i>	1	0	1
Dacarbazine, <i>DTIC-Dome</i>	0	4	4
Dactinomycin, <i>Cosmegen</i>	0	0	0
Daunorubicin, <i>Cerubidine</i>	11	9	2
Doxorubicin, <i>Adriamycin</i>	310	192	16
Estramustine, <i>Emcyt</i>	0	1	0
Etoposide, <i>VePesid, VP-16</i>	439	180	47
Floxuridine, <i>FUDR</i>	0	0	0
Fluorouracil, <i>Efudex, 5-FU</i>	2	4	17
Hydroxyurea, <i>Hydrea</i>	0	0	3
Ifosfamide, <i>IFEX</i>	0	30	66
Interferon alfa 2a,2b, <i>Intron-A</i>	2	2	5
Lomustine, <i>CeeNU, CCNU</i>	7	53	110
Mechlorethamine, <i>Mustargen, HN2</i>	0	1	2
Melphalan, <i>Alkeran</i>	0	0	1
Mercaptopurine, <i>Purinethol</i>	0	0	1
Methotrexate	14	61	133
Mitomycin, <i>Mutamycin</i>	2	8	24
Mitoxantrone, <i>Novantrone</i>	1	9	11
Plicamycin, <i>Mithracin</i>	0	0	0

Drug Names	First	Second	Third
Procarbazine, <i>Matulane</i>	3	23	40
Thioguanine	0	0	2
Thiotepa	0	1	2
Vinblastine, <i>Velban</i>	13	21	33
Vincristine, <i>Oncovin</i>	278	195	37
HORMONAL OR OTHER DRUGS			
Aminoglutethimide, <i>Cytadren</i>	0	1	0
Chlorotrianisene, <i>TACE</i>	0	0	0
Diethylstilbestrol, <i>Stilphostrol</i>	0	0	0
Estradiol, <i>Estrace</i>	0	0	0
Fluoxymesterone, <i>Halotestin</i>	0	0	0
Flutamide, <i>Eulexin</i>	0	0	0
Leucovorin, <i>Folinic acid</i>	1	3	4
Leuprolide acetate, <i>Lupron</i>	0	0	0
Medroxyprogesterone, <i>Provera</i>	0	0	0
Megestrol acetate, <i>Megace</i>	1	0	1
Methyltestosterone, <i>Oreton</i>	0	0	0
Mitotane, <i>Lysodren</i>	0	0	0
Octreotide acetate, <i>Sandostatin</i>	0	0	0
Prednisone	7	11	10
Tamoxifen, <i>Nolvadex</i>	0	0	0
Testalactone, <i>Teslac</i>	0	0	0
INVESTIGATIONAL DRUGS			
Interleukin, <i>IL2, IL2 with LAK</i>	0	1	8
Levamisole	0	0	1
OTHER DRUGS: (5)	1	5	14

n = 543

Appendix I
Survey Results

43. What anticancer drugs do you frequently use in treating metastatic non-small cell lung cancer? Please check all the drugs used.

Drug Names	Frequently Used Drugs
Asparaginase, <i>Elspar</i>	0
Betamethasone, <i>Celestone</i>	0
Bleomycin, <i>Blenoxane</i>	18
Busulfan, <i>Myleran</i>	0
Carboplatin, <i>Paraplatin</i>	136
Carmustine, <i>BiCNU</i>	6
Chlorambucil, <i>Leukeran</i>	1
Cisplatin, <i>Platinol</i>	487
Cyclophosphamide, <i>Cytoxan, Neosar</i>	189
Cytarabine, <i>Cytosar-U</i>	2
Dacarbazine, <i>DTIC-Dome</i>	2
Dactinomycin, <i>Cosmegen</i>	0
Daunorubicin, <i>Cerubidine</i>	9
Doxorubicin, <i>Adriamycin</i>	199
Estramustine, <i>Emcyt</i>	1
Etoposide, <i>VePesid, VP-16</i>	394
Floxuridine, <i>FUDR</i>	4
Fluorouracil, <i>Efudex, 5-FU</i>	128
Hydroxyurea, <i>Hydrea</i>	3
Ifosfamide, <i>IFEX</i>	53
Interferon alfa 2a,2b, <i>Intron-A</i>	4
Lomustine, <i>CeeNU, CCNU</i>	38
Mechlorethamine, <i>Mustargen, HN2</i>	1
Melphalan, <i>Alkeran</i>	0
Mercaptopurine, <i>Purinethol</i>	0
Methotrexate	84
Mitomycin, <i>Mutamycin</i>	256
Mitoxantrone, <i>Novantrone</i>	11
Plicamycin, <i>Mithracin</i>	1

Drug Names	Frequently Used Drugs
Procarbazine, <i>Matulane</i>	19
Thioguanine	1
Thiotepa	2
Vinblastine, <i>Velban</i>	273
Vincristine, <i>Oncovin</i>	77
HORMONAL OR OTHER DRUGS	
Aminoglutethimide, <i>Cytadren</i>	0
Chlorotrianisene, <i>TACE</i>	0
Diethylstilbestrol, <i>Stilphostrol</i>	0
Estradiol, <i>Estrace</i>	0
Fluoxymesterone, <i>Halotestin</i>	0
Flutamide, <i>Eulexin</i>	0
Leucovorin, <i>Folinic acid</i>	13
Leuprolide acetate, <i>Lupron</i>	0
Medroxyprogesterone, <i>Provera</i>	2
Megestrol acetate, <i>Megace</i>	4
Methyltestosterone, <i>Oreton</i>	0
Mitotane, <i>Lysodren</i>	0
Octreotide acetate, <i>Sandostatin</i>	0
Prednisone	26
Tamoxifen, <i>Nolvadex</i>	0
Testalactone, <i>Teslac</i>	0
INVESTIGATIONAL DRUGS	
Interleukin, <i>IL2, IL2 with LAK</i>	10
Levamisole	1
OTHER DRUGS: (3)	
	17

n = 530

Appendix I
Survey Results

44. What anticancer drugs do you frequently use in treating metastatic melanoma? Please check all the drugs used.

Drug Names	Frequently Used Drugs
Asparaginase, <i>Elspar</i>	0
Betamethasone, <i>Celestone</i>	1
Bleomycin, <i>Blenoxane</i>	74
Busulfan, <i>Myleran</i>	1
Carboplatin, <i>Paraplatin</i>	32
Carmustine, <i>BiCNU</i>	169
Chlorambucil, <i>Leukeran</i>	2
Cisplatin, <i>Platinol</i>	279
Cyclophosphamide, <i>Cytoxan, Neosar</i>	34
Cytarabine, <i>Cytosar-U</i>	1
Dacarbazine, <i>DTIC-Dome</i>	446
Dactinomycin, <i>Cosmegen</i>	34
Daunorubicin, <i>Cerubidine</i>	3
Doxorubicin, <i>Adriamycin</i>	46
Estramustine, <i>Emcyt</i>	0
Etoposide, <i>VePesid, VP-16</i>	22
Floxuridine, <i>FUDR</i>	0
Fluorouracil, <i>Efudex, 5-FU</i>	11
Hydroxyurea, <i>Hydrea</i>	29
Ifosfamide, <i>IFEX</i>	6
Interferon alfa 2a,2b, <i>Intron-A</i>	180
Lomustine, <i>CeeNU, CCNU</i>	82
Mechlorethamine, <i>Mustargen, HN2</i>	2
Melphalan, <i>Alkeran</i>	12
Mercaptopurine, <i>Purinethol</i>	0
Methotrexate	8
Mitomycin, <i>Mutamycin</i>	1
Mitoxantrone, <i>Novantrone</i>	1
Plicamycin, <i>Mithracin</i>	0

Drug Names	Frequently Used Drugs
Procarbazine, <i>Matulane</i>	13
Thioguanine	0
Thiotepa	4
Vinblastine, <i>Velban</i>	94
Vincristine, <i>Oncovin</i>	74
HORMONAL OR OTHER DRUGS	
Aminoglutethimide, <i>Cytadren</i>	2
Chlorotrianisene, <i>TACE</i>	1
Diethylstilbestrol, <i>Stilphostrol</i>	1
Estradiol, <i>Estrace</i>	0
Fluoxymesterone, <i>Halotestin</i>	0
Flutamide, <i>Eulexin</i>	1
Leucovorin, <i>Folinic acid</i>	1
Leuprolide acetate, <i>Lupron</i>	1
Medroxyprogesterone, <i>Provera</i>	4
Megestrol acetate, <i>Megace</i>	7
Methyltestosterone, <i>Oreton</i>	0
Mitotane, <i>Lysodren</i>	0
Octreotide acetate, <i>Sandostatin</i>	0
Prednisone	12
Tamoxifen, <i>Nolvadex</i>	153
Testalactone, <i>Teslac</i>	0
INVESTIGATIONAL DRUGS	
Interleukin, <i>IL2, IL2 with LAK</i>	140
Levamisole	2
OTHER DRUGS: (8) BM = 2	25

n = 533

**Appendix I
Survey Results**

45. We have heard that sometimes doctors face barriers to the optimal treatment of certain types of cancer. For any of the 11 types of cancer for which you just provided drug treatment information, is there a difference between how you treat these diseases and how you would like to treat them? Please check the specific reasons for any differences.

Types of Cancer	No Difference	Off label use of preferred drug denied reimbursement	Your concern about cost of drugs	Patient's concern about cost of drugs	Outpatient treatment denied reimbursement	Other reasons (please note)	
1. Acute non-lymphocytic leukemia	87.4%	1.8%	0.6%	2.4%	3.3%	4.5%	n = 491
2. Localized breast cancer in premenopausal women	88.5%	1.0%	1.0%	5.7%	3.4%	0.4%	n = 525
3. Localized breast cancer in postmenopausal women	87.4%	1.0%	1.1%	7.1%	3.0%	0.4%	n = 523
4. Metastatic breast cancer	73.3%	6.1%	2.3%	7.2%	8.2%	2.9%	n = 512
5. Localized or regional colon cancer	67.8%	10.4%	2.2%	7.2%	8.6%	3.8%	n = 500
6. Metastatic colon cancer	61.6%	10.4%	4.9%	7.5%	13.0%	2.6%	n = 509
7. Stage III or IV Hodgkin's disease	90.1%	2.2%	0.4%	2.8%	3.2%	1.3%	n = 534
8. Hormone refractory prostate cancer	70.7%	6.9%	4.2%	9.2%	6.6%	2.4%	n = 498
9. Small cell lung cancer	78.7%	6.5%	1.6%	3.4%	8.0%	1.8%	n = 507
10. Non-small cell lung cancer	73.7%	8.3%	3.2%	4.7%	7.5%	2.6%	n = 507
11. Metastatic melanoma	67.6%	10.6%	2.2%	6.4%	9.4%	3.8%	n = 499

12. Other reasons, please specify: 19.6%

**Appendix I
Survey Results**

46. Other than your training as an oncologist or hematologist, to what extent, if at all, do you rely on each of the following resources to learn more about chemotherapy agents?

Technical Resource						n
	Little or no extent	Some extent	Moderate extent	Great extent	Very great extent	
1. <i>Physician's Desk Reference</i>	60.5	31.6	5.5	1.6	0.8	n = 638
2. American Hospital Formulary Service's <i>Drug Information</i>	78.5	16.2	3.8	1.3	0.2	n = 629
3. American Medical Association's <i>Drug Evaluations</i>	81.6	15.2	2.3	0.8	0.1	n = 619
4. Drug company publications	30.6	50.3	15.0	3.3	0.8	n = 638
5. Food and Drug Administration's <i>Drug Bulletin</i>	40.4	36.9	18.2	3.9	0.6	n = 634
6. U.S. Pharmacopeia's <i>Drug Information</i>	78.5	15.9	4.1	1.0	0.5	n = 603
7. Consultation with other doctors	5.3	26.7	36.3	23.1	8.7	n = 644
8. Local/national conferences	0.2	4.4	21.2	42.2	32.0	n = 656
9. Oncology journals	0.2	1.1	7.1	33.1	58.5	n = 659
10. National Cancer Institute's <i>PDQ</i>	32.5	28.1	18.7	14.0	6.7	n = 630
11. Participation in clinical research	9.5	17.0	17.5	20.6	35.4	n = 652
12. Any other significant resource you use, <i>please specify:</i>	31.0	9.5	19.0	14.3	26.2	n = 84

PART III: EXTENT OF REIMBURSEMENT PROBLEMS

The last part of this questionnaire can be answered with the assistance of an office or insurance manager. In this part, we solicit responses to questions regarding the extent to which this practice has faced problems in obtaining adequate or timely reimbursement from third party payers. Specifically, GAO is interested in reimbursement denials that occurred when approved anticancer drugs were prescribed for off-label indications. Responses to these questions are based on reimbursement problems the doctor's individual practice has faced over the last 12 months.

47. Which of the following professions most closely matches your current position with this office?
(Check one)

- 1.0% Hematologist
 - 56.2% Hematologist/Oncologist
 - 6.1% Gynecologic or urologic oncologist
 - 25.0% Medical oncologist
 - 1.6% Oncology nurse
 - 1.3% Insurance manager
 - 2.6% Office manager
 - 0.5% Secretary or bookkeeper
 - 0.0% Billing agency representative
 - 5.7% Other, please specify: _____
- 100.0% n = 617

48. In which state is this practice located?

State: (see last page) _____

49. To what extent, if at all, does this individual practice find it difficult to keep up with the reimbursement policies of third party payers? (Check one)

- 15.2% Little or no extent
 - 18.9% Some extent
 - 30.2% Moderate extent
 - 22.2% Great extent
 - 13.7% Very great extent
- 100.0% n = 599

50. During the last 12 months, how much of an increase, if any, has this individual practice experienced in the time it takes to receive reimbursement from third party payers? (Check one)

- 9.7% No increase
 - 19.7% Some increase
 - 30.4% Moderate increase
 - 19.9% Great increase
 - 9.8% Very great increase
 - 10.5% No basis to judge
- 100.0% n = 589

51. In the last 12 months, has this individual practice experienced any drug-related reimbursement problems from third party payers for the following reasons? (Check all that apply)

- 50.7% Outpatient drug administration, e.g., infusion
- 51.7% Use of an anticancer drug for off-label indications
- 44.1% Use of an investigational anticancer drug
- 9.7% Other reasons, please specify:
n= 617

52. Of your cancer patients who could normally receive outpatient treatment, approximately how many, if any, has this individual practice admitted to a hospital in the last three months because a third party payer would not reimburse for the outpatient administration (e.g., by infusion) of anticancer drugs? (Check one)

- 37.9% None
 - 35.5% 1 to 5 patients
 - 13.6% 6 to 10 patients
 - 5.5% 11 to 15 patients
 - 2.6% 16 to 20 patients
 - 4.9% More than 20 patients
- 100.0% n = 586

**Appendix I
Survey Results**

53. Have oncologists and hematologists in this state reached any formal agreements with third party payers, such as Medicare intermediaries, regarding reimbursement for off-label anticancer drug use? By off-label we mean that an approved anticancer drug was prescribed for indications other than those suggested on the package insert. (Check one)

- 7.2% Yes
- 43.1% No
- 49.7% No basis to judge
- 100.0% n = 610

54. If this practice has had reimbursement problems in the last 12 months, have any reimbursement denials been due to the use of an anticancer drug for an off-label indication? (Check one)

- 47.8% Yes -- GO TO THE NEXT QUESTION
- 33.7% No -- STOP, GO TO THE LAST PAGE
- 18.5% No basis to judge -- STOP, GO TO THE LAST PAGE
- 100.0% n = 600

55. During the last 12 months, has this individual practice experienced any increase in reimbursement denials for off-label anticancer drug use? (Check one)

- 20.1% Little or no increase
- 38.4% Some increase
- 22.8% Moderate increase
- 9.4% Great increase
- 5.5% Very great increase
- 3.8% No basis to judge
- 100.0% n = 289

56. In the last 12 months, has this individual practice been confronted by a new patient, arriving from another state, who seeks treatment with an approved anticancer drug (previously reimbursable) for which third party payers in your state are not willing to provide adequate or timely reimbursement? (Check one)

- 15.4% Yes
- 63.1% No
- 21.5% No basis to judge
- 100.0% n = 293

57. In the last 12 months, which of the following third party payers have caused this individual practice to alter the way it would like to treat cancer patients? (Check all that apply)

- 57 CHAMPUS
- 158 Health Maintenance Organization
- 215 Medicare intermediaries
- 79 Preferred Physicians Organization
- 146 Private third party insurer
- 143 Public insurer, e.g., Medicaid
- 33 Self administered employer insurer
- 16 Other, please specify:

58. Please list by name up to three third party insurers or managed care plans that have caused this individual practice the most "hassle" regarding reimbursement for off-label anticancer drug use.

1. Medicare (36.6%), Blue Cross (19.7%)
n= 238
2. Blue Cross (25.8%), Medicare (17.2%)
n= 186
3. Medicare (19.2%), Blue Cross (15.4%)
n= 104

**Appendix I
Survey Results**

59. If possible, please identify the anticancer drugs that were prescribed for off-label indications for which reimbursement was denied during the last 12 months. Please identify these drugs by indicating the primary site of the cancer for which they were prescribed.

Drug Names	Primary Site
Asparaginase, <i>Elspar</i>	1 (1)
Betamethasone, <i>Celestone</i>	0 (0)
Bleomycin, <i>Blenoxane</i>	4 (4)
Busulfan, <i>Myleran</i>	1 (1)
Carboplatin, <i>Paraplatin</i>	105 (17)
Carmustine, <i>BiCNU</i>	10 (4)
Chlorambucil, <i>Leukeran</i>	0 (0)
Cisplatin, <i>Platinol</i>	35 (12)
Cyclophosphamide, <i>Cytoxan, Neosar</i>	12 (5)
Cytarabine, <i>Cytosar-U</i>	5 (4)
Dacarbazine, <i>DTIC-Dome</i>	2 (2)
Dactinomycin, <i>Cosmegen</i>	1 (1)
Daunorubicin, <i>Cerubidine</i>	1 (1)
Doxorubicin, <i>Adriamycin</i>	9 (5)
Estramustine, <i>Emcyt</i>	0 (0)
Etoposide, <i>VePesid, VP-16</i>	42 (11)
Floxuridine, <i>FUDR</i>	12 (4)
Fluorouracil, <i>Efudex, 5-FU</i>	19 (8)
Hydroxyurea, <i>Hydrea</i>	2 (2)
Ifosfamide, <i>IFEX</i>	58 (15)
Interferon alfa 2a,2b, <i>Intron-A</i>	169 (14)
Lomustine, <i>CeeNU, CCNU</i>	9 (8)
Mechlorethamine, <i>Mustargen, HN2</i>	0 (0)
Melphalan, <i>Alkeran</i>	1 (1)
Mercaptopurine, <i>Purinethol</i>	2 (1)
Methotrexate	11 (7)
Mitomycin, <i>Mutamycin</i>	10 (8)
Mitoxantrone, <i>Novantrone</i>	66 (7)
Plicamycin, <i>Mithracin</i>	0 (0)

Drug Names	Primary Site
Procarbazine, <i>Matulane</i>	1 (1)
Thioguanine	0 (0)
Thiotepa	6 (4)
Vinblastine, <i>Velban</i>	9 (5)
Vincristine, <i>Oncovin</i>	5 (5)
HORMONAL OR OTHER DRUGS	
Aminoglutethimide, <i>Cytadren</i>	2 (1)
Chlorotrianisene, <i>TACE</i>	0 (0)
Diethylstilbestrol, <i>Stilphostrol</i>	0 (0)
Estradiol, <i>Estrace</i>	0 (0)
Fluoxymesterone, <i>Halotestin</i>	1 (1)
Flutamide, <i>Eulexin</i>	13 (2)
Leucovorin, <i>Folinic acid</i>	85 (11)
Leuprolide acetate, <i>Lupron</i>	26 (6)
Medroxyprogesterone, <i>Provera</i>	2 (2)
Megestrol acetate, <i>Megace</i>	12 (5)
Methyltestosterone, <i>Oreton</i>	1 (1)
Mitotane, <i>Lysodren</i>	0 (0)
Octreotide acetate, <i>Sandostatin</i>	5 (3)
Prednisone	1 (1)
Tamoxifen, <i>Nolvadex</i>	4 (3)
Testalactone, <i>Teslac</i>	0 (0)
OTHER DRUGS:	32 (14)

Note: The first number is the number of oncologists that responded to the question.
The second number () is the number of sites reported.

Appendix I
Survey Results

60. If you have any comments to make about this questionnaire or reimbursement problems pertaining to the off-label use of anticancer drugs, please express your thoughts in the space provided. Thank you.

Responses to question 48

AK	1
AL	5
AR	2
AZ	9
CA*	47
CO	4
CT	11
DC	5
DE	4
FL*	44
GA	7
HI	0
IA	3
IL*	60
IN	7
KS	8
KY	12
LA	3
MA*	28
MD	25
ME	3
MI*	38
MN	15
MO	13
MS	4
NC*	44
ND	3
NE	2
NH	0
NJ*	33
NM	5
NV	1
NY*	58
OH*	54
OK	4
OR	5
PA*	59
SC	2
TN	1
TX*	38
VA	11
WA	1
WI	2

n = 681

* States for which generalizations can be made from the data.

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