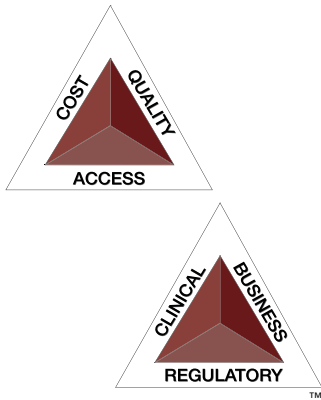


# AMERICAN HEALTH & DRUG BENEFITS®

SUPPLEMENT



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## The Strategic Role of Compendia in Cancer Drug Coverage, Part 2



# AMERICAN HEALTH & DRUG BENEFITS®



THE PEER-REVIEWED FORUM FOR EVIDENCE IN BENEFIT DESIGN™

## CLINICAL

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*An Interview with John Cox, MD, and Samuel M. Silver, MD, PhD*

*Dr Cox is a practicing oncologist at Methodist Hospital, Dallas, TX; Dr Silver is Assistant Dean for Research, Professor of Internal Medicine/Hematology-Oncology, University of Michigan Medical School, and Director of University of Michigan Cancer Center Network*

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*Al B. Benson, III, MD, FACP*

*Dr Benson is Professor of Medicine, Associate Director for Clinical Investigations, Robert H. Lurie Comprehensive Cancer Center of Northwestern University, Chicago, IL, and Chairman of the Board of National Comprehensive Cancer Network*

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*American Health & Drug Benefits is founded on the concept that health and drug benefits have undergone a transformation: the econometric value of a drug is of equal importance to clinical outcomes as it is to serving as the basis for securing coverage in formularies and drug benefit designs. Benefit designs are greatly affected by numerous clinical, business, and policy conditions.*

*This publication provides benefit design decision makers the integrated industry information they require to devise formularies and drug benefit designs that stand up to today's special healthcare delivery and business needs.*

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# Cancer Drug Compendia and the Quest for Value-Based Cancer Care

An Interview with John Cox, MD, and Samuel M. Silver, MD, PhD



John Cox



Samuel M. Silver

Two oncology experts explain their approaches to the current oncology compendia and their benefits for the various stakeholders involved in cancer care. Issues of cost, access, and quality comprise value in cancer care. The high cost of cancer agents complicates questions of long-term versus short-term survival and quality-of-life issues. The current compendia help access mainly. Lack of clinical trials for many drug uses complicate payment decisions for payers, purchasers, and physicians, since much of current cancer therapy involves off-label uses. Unlike some cancer treatment guidelines that are strictly based on clinical trial

evidence, the National Comprehensive Cancer Network guidelines provide experts' decisions based on variable levels of evidence, offering physicians necessary information in the absence of evidence. Oncologists often need guidance to questions for which no clinical trials are available. In contrast to treatment guidelines, compendia are designed to help in coverage and reimbursement decisions, including off-label drug use, an essential issue for physicians, who cannot prescribe treatment that is not covered by payers or purchasers because of the high price tag attached to cancer drugs. Reaching consensus among the different stakeholders is therefore particularly critical in cancer care; compendia enhance and facilitate such consensus. [AHDB. 2008;1(9 suppl):3-9.]

**Robert Henry:** American Health & Drug Benefits seeks to meet the triad of clinical, business, and regulatory criteria for cancer drug utilization and the challenges facing payers in resource allocation and utilization. We hope this discussion will highlight points in compendia yet to be designed to help payers and providers meet the quality, access, and cost issues that together comprise value for the patient.

**Samuel Silver:** Seven years ago, when I was director of bone marrow transplant at the University of Michigan, I remember saying that the cost for bone marrow transplant will be minor compared with the treatment of more common diseases owing to more expensive therapies. This is quite true now. In dealing with the treatment of some common malignancies, the benefit is measured in weeks, and the 1 year of life saved is measured in hundreds of thousands of dollars.

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*Dr Cox is a practicing oncologist at Methodist Hospital, Dallas, TX; Dr Silver is Assistant Dean for Research, Professor of Internal Medicine/Hematology-Oncology, University of Michigan Medical School, and Director of University of Michigan Cancer Center Network.*

Comparative effectiveness appears to be a current catch phrase, and the American Society of Clinical Oncology (ASCO) is talking about this very issue and forming committees to examine it.

**Henry:** This appears to be a case of incremental gains at anything but incremental increases in cost.

**Silver:** It appears to be.

**John Cox:** I agree. Your suggestion of quality and access over cost and how it defines value reminded me of the internal challenge our profession is going through: we are seeing all these “me-too” agents, even new and innovative drugs, which only push the rock up the hill a very short distance. This is interesting from a scientific point of view but not so exciting from a clinical point of view. When these agents come wrapped in these huge bills, it is frankly shocking. This is really a challenge for us. I cannot imagine running an insurance company or trying to set public policy related to these issues. I think comparative effectiveness and this type of evaluation is going to have to become a part of our system. Would you feel comfortable offering a very

expensive drug that provides only marginal benefit? If I were a patient, I don't think I would buy it.

**Henry:** In 1990, Professor Richard Peto (now Sir Richard Peto), codirector of the Clinical Trial Service Unit at Oxford University, presented results from his 10-year study on breast cancer treatment, noting the nominal improvements in mortality with the available treatments at that time. Professor Peto said he and his colleagues had embarked on their study expecting that patients would not be very interested in going through the ordeal of chemotherapy for nominal gains. Their analysis, however, showed that patients were eager to do anything that would extend their lives even just a little longer. Of course, the costs associated with minimal gains from new cancer drugs are anything but minimal or incremental.

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### The language of the NCCN compendium is more restrictive than the FDA language and perhaps more restrictive than some of the other compendia.

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**Cox:** From time to time we are reminded of the gains gauged from a cancer patient's perspective and how that affects our perception of what value is. Those extra 2 or 3 months or even few weeks can be a sizable amount of time to a patient, even though we may perceive it as a very minimal gain. Patients with cancer are seeing time through a lens that we cannot see. I certainly walk this economic and business side, but I can only imagine that this conversation would be a completely different context if I have the illness and am struggling to make decisions.

**Henry:** In this journal we like to look at the perspective of every stakeholder. As you say, when you must look through so many different lenses—from government to patient to payer to caregiver—it is amazing to arrive at a consensus at all. But it is healthy to have these perspectives; it's better for a payer, for example, to not pretend that he is a patient or vice versa. But how do cancer compendia represent the payers' expertise, for example?

**Silver:** This is a difficult question. Certainly the payer seeks a reasonable solution. They don't want to pay for things that clearly are not beneficial. So that is

the red line. The gray line now deals with comparative effectiveness. One of the recommendations from the National Comprehensive Cancer Network (NCCN) *Drugs & Biologics Compendium*—for first-line treatment of patients with locally advanced or metastatic pancreatic adenocarcinoma is erlotinib—which is indicated by the US Food and Drug Administration (FDA) as monotherapy for the treatment of locally advanced non-small-cell lung cancer—in combination with gemcitabine. It has been assigned a category 2A, meaning that the decision was not based on results from a randomized clinical trial but from less rigorous studies in the literature. Even though the decision cannot be backed by the highest level of evidence, it remained the overwhelming consensus of the committee.

The language of the NCCN compendium is more restrictive than the FDA language and perhaps more restrictive than some of the other compendia. We do have “compendia wars” with regard to language and a payer's decisions about the use of an agent and whether performance of an agent is evidence based. Because the NCCN guidelines are not purely evidence based, they have been criticized. Dr Roger Winn, who shepherded the NCCN guidelines, agreed that we need evidence-based guidelines, but adhering only to the highest-level evidence would leave us with guidelines that are full of holes and not very useful for the total practice of oncology. Clinicians need answers and guidance for multiple treatment decision points where no randomized clinical trials are available. In such cases we need to know whether a group of experts think a decision is reasonable. If so, we need to know what level of agreement there is on a decision. So the NCCN categorizes their experts' decisions—whether it is 2A or 2B, and so on.

Clinicians actually use these guidelines, and I think that a lot of payers have been using them too. Compendia do not slavishly adhere to evidence-based guidelines, because these do not always exist.

**Henry:** Is it more of an imperative for payers than for clinicians to drive the development of protocols into guidelines and guidelines into compendia? And is it more an imperative in terms of cost management or quality-of-care management?

**Silver:** Clinicians want to know what source to go to for a particular patient, and they want to understand what constitutes a reasonable therapy. Consider all the diseases we take care of. We want to know what's best for our patients, what's reasonable for them. Payers want to know if a therapy is reasonable and if it has

credible consensus behind it. The issue of therapeutic comparisons, so far as costs are concerned, is on the payers' minds, and I think the clinician is becoming cognizant of this and is conflicted.

The Centers for Medicare & Medicaid Services (CMS) states that cost is not a driving issue. CMS is seeking options that are "reasonable and necessary." However, when you are dealing with purchasers, you know that they seek solutions that are cost-effective. This is sometimes an elusive preoccupation.

**Henry:** *We currently know very little about the long-term effects of a cancer intervention or combination of interventions or no intervention. The burden for this is extended to all stakeholders, including caregivers. The more we know, the more health economists realize that they still have a lot to learn before they can define cost-effectiveness. Meanwhile, decisions have to be made immediately.*

**Silver:** A study not related to cancer recently calculated the lifetime medical costs of fit, thin members of the population, which turned out to be higher than the costs of smokers and people who are overweight, who end up dying early and therefore do not populate chronic care facilities with neurodegenerative disorders for years.

People often die before there are long-term consequences associated with medical therapy. But what we are doing with radiation or with other chemotherapy drugs is associated with long-term consequences. I see more and more women who were treated 20 years ago with radiation for Hodgkin's disease and who now have triple-negative breast cancer. So, we are finding out things that we just did not know 20 years ago when we treated these people.

**Henry:** *Payers and purchasers are interested in knowing if compendia offer practical guidance to payers via their coverage decisions.*

**Cox:** Dr Silver said it well early in his comments. There is this interesting intersect with compendia providing a collection of guidelines but of an evidence-base nature. So I think clinicians who want to do the right thing for their patients will often reference compendia or guidelines that are using the compendia to determine what the best thing is for their patients. They want to make sure they have not missed something. I myself am impressed about the urgency of compendia and guidelines. I am not sure that my colleagues are seeking out those guidelines and the compendia

entirely for the altruistic reason of wanting to know their patients or what is best for their patients. This is an area where cost and the payer's demand for more evidence-based care, and wanting to have documentation, is causing greater awareness of the need to be evidence based in our treatment, patient by patient. I think that has been a good thing. Paying attention to evidence-based practice and treatment is good. So my encouragement to readers of the journal and to payers, as well as to the purchasers of employee-based insurance plans, is to make sure that those companies are using compendia and guidelines (such as the NCCN guideline) as a base, to ensure that patients and employees have access to good expert-based oncology care. I would be fearful if insurance plans let cost be the arbiter here. I am making a plea for them to use the compendia, hold us accountable for these evidence-based decisions. I can say this a little more vigorously now than I could have 6 months ago, knowing that CMS has at least acknowledged the NCCN compendium. Now we also have Thomson Micromedex's DRUGDEX System and other private compendia getting their feet on the ground. Having several resources provides a good evidence source for purchasers of insurance and health plans on which they base oncology decisions.

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**Henry:** *You have made an important point. Compendia are holding in proper dynamic tension the balance between cost management and quality management. And it is not serving as just a cost-management or a quality-management tool, but it is protecting the balance of cost and quality.*

**Cox:** I see compendia as arbiters of that tension. Many times doctors and institutions are quite egocentric. We tend to march to our own drummers. And these third-party issues for compendia and guidelines processes help provide a necessary external measure of accountability regarding how we treat our patients. I would have loved this to have been completely grown out of our professionalism. Sam may argue that the NCCN process may be an expression of that professionalism.

**Silver:** There are 2 ongoing projects: one is ASCO's Quality Oncology Practice Initiative, which deals with private practices and institutions so that they can compare what they do with what their colleagues do. The second is the NCCN guidelines outcome project. This project deals mainly with breast cancer patients treated in academic institutions, but some community hospitals have joined this project, allowing those providers to compare what they do against the national norm to improve outcomes. They take a look at what evidence provides. I believe people are modifying their practices based on evidence, but it takes hard work. It takes time to examine data and compare oneself with others. If you do not adopt the best practices, the payers and purchasers will descend with a vengeance. That may happen anyway, but if you have a sort-of grassroots swell to this from community practice and academic practice, we will have some say in the game.

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**By and large physicians do not consult compendia to see what the next best therapy is. They seek out compendia to see whether the therapy will be covered.**

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How does this fit in with compendia? I think that John is right. By and large physicians do not consult compendia to see what the next best therapy is. They seek out compendia to see whether the therapy will be covered. That is how compendia are used, and that is how we think of them. We don't think of compendia as sources for what to do. We use them as validation that we are going to get paid for what we are about to do.

**Henry:** *Should this be changed?*

**Silver:** I don't think so; that's what compendia are designed for. The way they are presented, they are not good for determining care. Guidelines are, but not necessarily compendia. I think of compendia as more of the telephone directory of where you are allowed to go.

**Henry:** *That's a very interesting point. In the case of NCCN, which started with its guidelines and now has its compendium, what was the process of evolution?*

**Silver:** There are guidelines, and there are compendia. NCCN has combined the two. I don't believe the other compendia have been derived from guidelines.

**Cox:** Right. The guideline process, complete with algorithms that help you make treatment decisions, is what the NCCN compendium has been drawn from. Two other compendia are the American Society of Health-System Pharmacists' *AHFS DI* and Micromedex's *DRUGDEX System*, the successor to the *USP-DI*. Those 2 compendia are slavishly evidence driven. So, they are not drawn from a treatment guideline or from a professional consensus. They are drawn literally from the perspective of either a pharmaceutical company or a clinician who wants to use a particular drug for a particular cancer. So they conduct a literature review and see how their premises are expressed in the data that exist in published literature, and a slavish determination is made on the strength of evidence. So, these compendia arise from 2 different ways.

I do agree with Sam that we use compendia for confirmation of payment, and that's why I keep coming back to the purchasers of healthcare.

**Henry:** *How does the difference between the way data are obtained and analyzed affect the way payers use various compendia?*

**Silver:** I don't think we know yet.

**Cox:** I agree. We really have only had this robust group of compendia for a few months. Before that we were worried because our compendia system was not robust; it was practically broke. So, I don't think we know yet what effect they will have.

**Henry:** *NCCN is leading the pack in terms of what influences payers' decision-making process, but what payers want is a cross of all the guidelines and the supporting evidence. What appears to be missing is a decision-making tool, something that would guide the process rather than offer a number of treatments for a specific cancer.*

**Silver:** We should also note that CMS has just announced that it is adding another compendium—Elsevier's *Gold Standard's Clinical Pharmacology*.

**Henry:** *Do you see the compendia being used as a mechanism for aligning the activities and the interests of clinicians with those of payers?*

**Silver:** I think the compendia are going to have to use discretion. There may be interventions that are quite costly, and the jury is still out on drugs with a lower level of evidence that are not approved for a given indication, even though they are listed in a compendium.

**Henry:** *We talked about the importance of having purchasers and providers use compendia. What about regulatory agencies such as the FDA and patient advocacy groups?*

**Silver:** Compendia are not part of the purview of the FDA. Compendia are not their responsibility; they are totally independent of the FDA.

**Cox:** I worry that the FDA may monitor compendia only to watch the off-label promotions, but they are not involved in any of the systems of how compendia are developed or how they are deemed.

**Henry:** *With the FDA starting to consider surrogate end points as criteria for drug approvals, do you see this as having an impact on what we are talking about? Is there a difference in utilization or a different perspective between the 2 prongs of the oncology group, the community-based oncologists versus those in academia?*

**Silver:** Well, honestly I don't see any of my colleagues in academia talking about the compendia until they are denied payment for a drug. People who are writing clinical trials may want to look at compendia with regard to the insurers that are predominant among their patient population and the state laws that deal with off-label use of anticancer drugs. That's a whole different aspect, but I don't see academic physicians generally using the word "compendia" in their discussions. At the University of Michigan, we have standard order sets for most of the oncology diseases we treat. These are time tested and as far as insurability is concerned—at least as more agents are added—it is going to become more difficult. But compendia are not a topic of general discussion in the academic community.

**Cox:** The difference is only the insulation that possibly an institution-based physician may have from the budgetary issues that affect the business of a community-based physician. I think most community-based oncologists are very aware of the compendia or at least their practice managers, who are giving advice, are. Usually there is no degree of separation between those individuals. So, in academia, we are a little more

cognizant than we were 10 years ago about giving a drug that was not covered. Then you were able to absorb the cost or easily find a replacement drug. Today, there is no such thing as easy drug replacement, and there is no way you could absorb the cost of one of these drugs if you fail to be aware of whether it is going to be covered.

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### Compendia are not part of the purview of the FDA. Compendia are not their responsibility; they are totally independent of the FDA.

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**Henry:** *And to that end are diagnostics a big part of the compendium?*

**Cox:** By diagnostics, do you mean whether I conduct a computed tomography (CT) scan for a given situation?

**Henry:** *Or qualify patients before putting them on an expensive biologic agent.*

**Cox:** No, compendia are not that detailed.

**Henry:** *Do you think that's something that may be added to improve them?*

**Silver:** That is where guidelines come in. Actually, the NCCN guidelines are often not that detailed either, even though they will say you may consider a CT scan versus a positive emission tomography (PET) scan. The wording would be to "consider" versus it being a recommendation. They may not necessarily recommend CT scans or PET scans every 4 months for follow-up purposes. It gets vague when it comes to survival and maintenance issues. So, we have a long way to go for that. I know that in dealing with the standard of care in issues of clinical trial design, it becomes important to determine what the standard of care is as opposed to what the protocol pays as far as diagnostic tests. Investigators have a lot of trouble with that, because these issues are not clearly defined. As we get into more expensive ways of staging someone with breast cancer, for example, we need to determine if we can use magnetic resonance imaging scans. There is

tremendous debate about what is helpful or whether we are causing patients to have more mastectomies. These are very hot topics.

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### Good diagnostics are going to be essential to provide optimal use of the great new cancer agents that are coming down the pipeline.

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**Cox:** Yes. Imaging is a driving issue, and we do over-use it.

**Silver:** To the larger question of diagnostics as an integral part of obtaining value in the use of cancer drugs, this is an area of growing concern. The September 2006 issue of *Health Affairs* had several articles that examined biologics. Much of the discussion was related to cancer care. One of the articles pointed out that conventional drug cost-management tools do not work for biologics. At best, they are punitive. They do not really reduce costs or resource utilization overall, but they certainly manage to hurt a lot of patients who need the care. So, the industry is looking for ways to do cost management of biologics, while targeting the right patient with the right drug. Good diagnostics, it would seem to me, are going to be an essential component of trying to provide optimal use of the great new cancer agents that are coming down the pipeline. These are costly drugs, but they are doing some great things for patients.

**Cox:** You bring up an issue that is beyond the scope of this discussion, but what you have just described is where ideally there will be a tight-knit relationship between those who are paying the bills and those who are providing the care. To capture that, to know how I am dealing with my diagnostics and how that is concerned with a choice for an expensive biologic drug, you must have a good handle on the whole trajectory of care for that patient; you must be part of this case management team. And since most of our relationships with the payer are simply through the billing code, it does not capture whether we are using a first-line or second-line drug. I am sure there are sophisticated algorithms that Aetna or UnitedHealthcare use, but I think those are going to

have to be another step up of the discussion or information that is shared, and it may present as an opportunity for institutions such as the University of Michigan, or large groups such as Texas Oncology, of which I am a member, to develop case management relationships with Aetna or with UnitedHealthcare. Transplant communities may be used to this, but small community oncologists are not.

**Henry:** *If you had to identify one key factor that's driving cancer care today, what would that be?*

**Silver:** That's a very complex question, because cancer care is so multifaceted. I don't think there is one single issue that drives cancer care. I think there are many things, and some are totally independent of compendia—issues of survival; the complications and consequences of therapy; what to do with the increasing numbers of patients who have finished their therapy but certainly have not finished their assessment for disease, who should be taking care of these patients, and where they should be cared for; and use of the new expensive drugs on the market, at what cost for what little effect. These questions are almost impossible to answer.

**Henry:** *What do you consider to be some of the top priorities in cancer care?*

**Cox:** Every year you are in practice you begin to realize the schism between the wonderful science and the interesting things that are going on, and where it is taking us. Wonderful things are happening on every side of the triangle of clinical, business, and regulatory, but it is not necessarily pushing us all in the same direction. It goes back to Lewis Thomas, a wonderful essayist who wrote a lot for the *New England Journal of Medicine*. One of his essays was on the contrasting care of polio and the cost of polio and how this whole industry existed in the 1920s, 1930s, and 1940s, including specialist surgeons and fancy machines, and all this mechanism of taking care of the poor sufferers of the disease. And this entire problem was solved with a simple vaccine. Cancer does not lend itself to a simple solution. We are stuck with a huge mechanism that will continually challenge our viability as physicians and the viability of payers to cover all these mechanisms of care until science finds an elegant solution.

**Silver:** The other side of the coin is that we are constantly changing the care of cancer, and patients' families and anyone who sees me reading something about

cancer on an airplane, for example, will ask, “So, when is cancer going to be cured? I understand it may be in about 10 years or so.” And then you launch into a discussion about there being so many different cancers and even though we have done well with some, we are still struggling with many. The fact that we are changing many cancers from an acute disease to a chronic condition is good. But it is like diabetes, and we have not found a cure for diabetes yet.

**Cox:** I agree. The cure for cancer will not be similar to that found for polio.

**Henry:** Which point on the value triangle of cancer care—cost, quality, or access—do you think compendia are going to enhance?

**Silver:** Right now, I don’t think compendia are helping cost. They could help quality, and I think they have helped with access. The bottom line is—how many cancer drugs do we use that are off-label, and is it a huge number? We and the payers do not have a bible to consult. If we were restricted to the label indications, we would be left with a markedly diminished armamentarium for taking care of our patients. I am not even talking about the planned new drugs; I am talking about the old drugs that have been time tested for diseases that we treat every day but have never gone through the FDA-indication process and associated expenses.

**Cox:** I agree with Sam. I think that of the 3 parts of your triangle, access is the major point that a compendia could help. We already said that as the ability to know that when I prescribe something that is listed in the compendia I can get it, I can provide that service to a patient. Now, the other 2 arms are affected, and what we are saying is the payer knows that it has something to do with quality, because it has an exterior benchmark that says it belongs to that disease and for that particular patient. It also helps payers modestly to control costs, because they can ask for more information or get a better handle on a drug that may be very expensive, and that may not be provided for a diagnosis that is not included in the compendium.

**Henry:** Do you think that compendia will ever address end-of-life and palliative care issues? And when could that dialogue begin?

**Cox:** So far the compendia as we know them today do not deal with these issues. What I see is a case-man-

agement discussion regarding changing the physician’s relationship with the payer. It brings that triangle right into my own backyard. I do not know how we could do that otherwise, or how we are going to have to find the right leverage. Our oncology group is talking with a couple of the big payers. We deal with these very issues, because these are huge drivers for them.

**Right now, I don’t think compendia are helping cost. They could help quality, and I think they have helped with access.**

**Silver:** I agree, especially because when dealing with areas of care or hospice, we need to be specific about what palliative care is—for example, whether it is 10 years’ worth of low-grade therapy but not curative care. Definitions are indeed interesting and important and certainly are issues that we talk about with regard to erythropoiesis-stimulating agents (ESAs) these days; this is something about which we will talk more when the FDA makes its decision about ESAs. ■

## Cancer Compendia

The Centers for Medicare & Medicaid Services currently recognizes 4 cancer compendia for reimbursement purposes:

1. **American Society of Health-System Pharmacists’ AHFS DI**  
<http://www.ahfsdruginformation.com/>
2. **Elsevier’s Gold Standard’s Clinical Pharmacology**  
<http://www.goldstandard.com/ViewPress.aspx?ID=110>
3. **NCCN Drug & Biologics Compendium**  
[http://www.nccn.org/professionals/drug\\_compendium/content/contents.asp](http://www.nccn.org/professionals/drug_compendium/content/contents.asp)
4. **Thomson Micromedex’s DRUGDEX System**  
<http://www.micromedex.com/products/drugdex/>

# The NCCN Compendium: Unique Resource for Value-Based Cancer Drugs Coverage Decisions

Al B. Benson, III, MD, FACP



The National Comprehensive Cancer Network offers a new level of value to payers in an attempt to manage healthcare resource allocation. The *NCCN Clinical Practice Guidelines in Oncology*, which are reviewed and updated at least annually, are the basis for the *NCCN Drug & Biologics Compendium*. This direct link between the guidelines and the compendium ensures the ongoing timeliness and relevance of the compendium and makes it a unique tool for physicians, patients, and drug benefit decision makers. The guidelines focus on treatment, risk reduction, early detection, and supportive care. The compendium includes a list of appropriate agents for a site-specific cancer, including brand name, drug class, indication, histology, use recommendation, route of administration, level of evidence, and the ICD-9

code. Several private payers are using the guidelines in their coverage decisions for cancer drugs and biologics. And many of them are now considering adding the compendium into their coverage determinations. Free online access to the guidelines and the compendium is a great advantage for payers and providers and adds to the value provided by these tools. [AHDB. 2008;1(9 suppl):10-12.]

The National Comprehensive Cancer Network (NCCN) has brought a new level of value to payers in a continued attempt to manage healthcare resource allocation. The NCCN is unique in that it develops guidelines directly linked to practice—*NCCN Clinical Practice Guidelines in Oncology*—which are reviewed and updated continually. The NCCN's structure encourages rapid integration of new developments for a particular disease site, which then can be immediately integrated into the *NCCN Drug & Biologics Compendium*. Both the treatment guidelines and the compendium are kept current. This provides a unique resource for decision makers, because most compendia have not been able to respond even remotely rapidly to changes in cancer care. The NCCN compendium provides sound, scientific, evaluative information to the oncology community and is designed to inform decision-making and improve outcomes. It offers the unique feature of being linked to practice

guidelines and timeliness with regard to integrating new advances into the compendium.

Balancing population-based research with personalized medicine considerations can be challenging for the development of cancer treatment strategies. One of the problems with cancer-related clinical trials has been using empiric design strategies rather than identifying patients most likely to benefit from therapy (enriched populations). The development of biologic therapies has encouraged alternative trial designs that explore human biological profiles as important parameters. Since most cancers are heterogeneous, an individualized or personalized approach to cancer treatment is very desirable.

Although we are far from a universal personalized approach to cancer care, considerable progress has been made. Wherever prognostic and/or predictive tumor markers are important in treatment selection, these markers are integrated into the NCCN guidelines and the compendium. For example, there is evidence that patients with the Kras (Kirsten rat sarcoma 2 viral oncogene homolog) mutation will not benefit from anti-epithelial growth factor receptor therapy for metastatic colon cancer with either cetuximab or panitumumab. After the American Society of Clinical Oncology (ASCO) 2008 presentations and review of

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other retrospective reports, the NCCN Colorectal Cancer Panel met to alter the guidelines reflecting the use of Kras to determine treatment considerations. A personalized approach will be helpful in the case of rare diseases, where it is extremely difficult to conduct randomized phase 3 trials with sufficient numbers of patients in an acceptable time frame. By defining biologic profiles for treatment selection, it should be possible to conduct much smaller trials that will benefit patients with rare diseases.

### Key Challenges to Cancer Treatment

Challenges to cancer treatments remain, including a demographic shift (ie, aging of the baby boomers), the high cost of biologics, and ensuring therapeutic success of new treatment regimens, and the turning acute conditions into chronic conditions. The treatment guidelines do provide detail about how to manage patients over time, including appropriate follow-up procedures. Furthermore, the NCCN plans to address important survival issues. The NCCN is considering creating a list to include the cost of anticancer agents; however, the focus will remain on the level of evidence to support the use of biologics and chemotherapy agents for specific diseases. Given the breadth of the guidelines, NCCN does not have the resources to attempt cost-effectiveness analysis—a complex and very resource-intensive enterprise.

### Providing Value in Cancer Care

Because the guidelines are updated continually (at least annually) and represent an evidence-based approach whenever evidence is available, they offer value to providers, payers, and, ultimately, to patients. They provide evidence-based expert consensus in the absence of high-level evidence and are comprehensive across all stages and modalities, representing a multidisciplinary continuum of care.

The guidelines focus on treatment, risk reduction, early detection, and supportive care. With 44 panels representing more than 800 multidisciplinary cancer specialists, the guidelines also receive institutional review providing invaluable feedback to each panel. Thus, the guidelines provide a tool for improving the quality of care that should benefit payers and providers, and, most important, the patient.

The NCCN strongly supports clinical trials, which are critical to proving outcomes data and achieving the goal of providing personalized medicine. By encouraging appropriate cancer care, the hope is that institutions across the country will be better able to provide

it, while referring patients with complex and rare cancers for care that is not available locally. We hope this strategy will improve access to better cancer care across the country.

### Framing the Expectations of Payers and Providers

The great advantage of the NCCN structure is that the information is provided free online and in other formats. Therefore, all payers and providers presumably have ready access to the NCCN guidelines and compendium. The guidelines provide comprehensive information that is not restricted simply to drug therapy but also includes important diagnostic information (eg, surveillance, surgical, and radiation approaches). As a derivative product, the NCCN compendium makes recommendations about the use of drugs and biologics in the full context of care. The compendium offers a list of appropriate agents for a disease, including the brand name, pharmacologic class, US Food and Drug Administration (FDA) indication, histology, NCCN recommended use, route of administration, NCCN category level of evidence, and the International Classification of Diseases, Ninth Revision (ICD-9) code.

It is important for payers to recognize that guidelines are not prescriptive. The payer can be assured that if the guidelines are being followed for a particular patient, optimal care is being delivered. However, there are circumstances where alternatives may represent the individual patient's best interest. Such instances are usually handled on a case-by-case basis.

Private payers, such as the BlueCross BlueShield plans, UnitedHealthcare, Cigna, Aetna, and Humana, use the NCCN guidelines to make coverage determinations for drugs and biologics used in an anticancer chemotherapy regimen. UnitedHealthcare was the first payer to base its benefit coverage for chemotherapy drugs used in outpatient settings on the NCCN compendium, effective March 15, 2008. Cigna plans to synthesize the compendium into its clinical coverage materials. Discussions are ongoing with Humana and several BlueCross BlueShield plans about officially recognizing the compendium for coverage determinations.

### Obligations of the NCCN Panel

Clinical experts and NCCN member institutions (Table) review the literature for evidence to support updates to the NCCN guidelines and reach a consensus regarding the quality of evidence of their findings. For rare diseases, there is often a dearth of published randomized clinical trials; however, the panel does

review phase 2 trials to determine if a particular use appears appropriate.

It is also important to acknowledge that the use of many oncology agents is not indicated by the FDA. Off-label medication use is often determined by evidence from clinical trials. Lacking published clinical trials, the panel must avail itself of presentations and abstracts at national and international meetings, including ASCO and the American Society of Hematology.

The NCCN membership includes 21 of the leading cancer centers in the world, with multidisciplinary experts covering the broad spectrum of cancer and related diseases. Because each member institution provides a review of the guideline, the level of expertise in the process is automatically expanded.

### Approval of the NCCN compendium

The NCCN compendium is a tool designed to provide value by balancing quality, access, and effectiveness. The NCCN worked closely with the Centers for Medicare & Medicaid Services and UnitedHealthcare to enhance the electronic functionality of the NCCN compendium. The NCCN expanded the compendium's search capabilities and established an alphabetized listing of all drugs and biologics on the compendium homepage, with links to the complete information for each drug and biologic. NCCN also linked the drugs and biologics individually to their corresponding FDA labels, which provide extensive information on clinical pharmacology, warnings, cautions, adverse reactions, and drug interactions. An additional feature is electronic linking of the drugs with specific indications in the compendium to the relevant NCCN Chemotherapy Order Templates that contain references to support the indication and dosing. NCCN has also mapped the J-codes of the drugs and biologics found in the compendium to the corresponding ICD-9 codes.

### NCCN Chemotherapy Order Templates

To promote the safe use of potentially toxic agents and combinations of agents, the NCCN is linking each of the agents listed in the compendium to relevant chemotherapy orders templates. Because so much of oncology treatment consists of using agents in combination, it is important that clinicians understand the special requirements of multidrug, multiday, multicycle chemotherapy. The NCCN Chemotherapy Order Templates provide directions for using these regimens appropriately. The templates provide the dose and schedule of administration of each agent and any supportive care measures that are required. They also list

**Table** NCCN Member Institutions

- City of Hope Cancer Center, Los Angeles, CA
- Dana-Farber/Brigham & Women's Cancer Center/Massachusetts General Hospital Cancer Center, Boston, MA
- Duke Comprehensive Cancer Center, Durham, NC
- Fox Chase Cancer Center, Philadelphia, PA
- Huntsman Cancer Institute at the University of Utah, Salt Lake City, UT
- Fred Hutchinson Cancer Research Center/Seattle Cancer Care Alliance, Seattle, WA
- Arthur G. James Cancer Hospital & Richard J. Solove Research Institute, Ohio State University, Columbus, OH
- The Sidney Kimmel Comprehensive Cancer Center, Johns Hopkins, Baltimore, MD
- Robert H. Lurie Comprehensive Cancer Center of Northwestern University, Chicago, IL
- Memorial Sloan-Kettering Cancer Center, New York, NY
- H. Lee Moffitt Cancer Center & Research Institute, University of South Florida, Tampa, FL
- Roswell Park Cancer Institute, Buffalo, NY
- Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine, St. Louis, MO
- St. Jude Children's Research Hospital/University of Tennessee Cancer Institute, Memphis, TN
- Stanford Comprehensive Cancer Center, Stanford, CA
- University of Alabama at Birmingham Comprehensive Cancer Center, Birmingham, AL
- UCSF Comprehensive Cancer Center, San Francisco, CA
- University of Michigan Comprehensive Cancer Center, Ann Arbor, MI
- UNMC Eppley Cancer Center, Nebraska Medical Center, Omaha, NE
- The University of Texas M.D. Anderson Cancer Center, Houston, TX
- Vanderbilt-Ingram Cancer Center, Nashville, TN.

NCCN indicates National Comprehensive Cancer Network.

any monitoring or dose-holding recommendations associated with the regimen. Each order template lists the appropriate citation of data supporting the regimen's use and thus provides the user of the compendium with the evidence that supports the use of each agent listed in it. The compendium also provides links to the most recent FDA-approved product label for each agent. ■

For more information, visit [www.nccn.org](http://www.nccn.org).

# Hematology/Oncology: Medications, Indications, and ICD-9 Codes

## Indication Index

### Indications/Medications

### ICD-9 Code

**Acute lymphocytic leukemia** 204.0\_  
Asparaginase (Elspar, Kidrolase), clofarabine (pediatric; Clolar), cyclophosphamide (Cytoxan, Neosar), cytarabine (Cytislar-U), daunorubicin (Cerubidine), dexamethasone, doxorubicin (Adriamycin, RUBEX), etoposide (Toposar, VePesid), idarubicin (Idamycin), ifosfamide (Ifex), imatinib mesylate (Gleevec), mercaptopurine (Purinethol, 6-MP), methotrexate (Folex, Mexate), mitoxantrone (Novantrone),<sup>1</sup> nelarabine (Arranon), pegaspargase (Oncaspar), pentostatin (Nipent),<sup>2</sup> prednisone (Deltasone), teniposide (Vumon), thioguanine, vincristine (Oncovin, Vincasar)

**Acute nonlymphocytic leukemia (erythroleukemia, meningeal, monocytic, myelocytic, myelomonocytic, promyelocytic)** 205.0\_

Asparaginase (Elspar, Kidrolase),<sup>2</sup> azacitidine (AML, multilineage dysplasia; elderly who are not candidates for standard induction therapy; Vidaza),<sup>2</sup> busulfan (Myleran), cyclophosphamide (Cytoxan, Neosar), cytarabine (Cytislar-U), daunorubicin (Cerubidine), doxorubicin (Adriamycin, RUBEX), etoposide (Toposar, VePesid), fludarabine phosphate (Fludara),<sup>2,3</sup> gemtuzumab (Mylotarg), idarubicin (Idamycin), mercaptopurine (Purinethol, 6-MP), methotrexate (Folex, Mexate), mitoxantrone (Novantrone), thioguanine, tretinoin (Vesanoid), vincristine (Oncovin, Vincasar)<sup>2,3</sup>

**Acute prolymphocytic leukemia** 204.9\_  
Pentostatin (Nipent)

**Chronic anemia** 285.9, V58.11<sup>4</sup>  
Darbepoetin alfa (Aranesp), epoetin alfa (Procrit, Epogen)

**Chronic lymphocytic leukemia** 204.1\_  
Alemtuzumab (Campath), chlorambucil (Leukeran), cladribine (Leustatin),<sup>1</sup> cyclophosphamide (Cytoxan, Neosar), dasatinib (Sprycel), dexamethasone, doxorubicin (Adriamycin, RUBEX), fludarabine phosphate (Fludara), mechlorethamine (Mustargen), pentostatin (Nipent), prednisone (Deltasone), rituximab (Rituxan), sodium phosphate P32,<sup>1</sup> uracil mustard, vincristine (Oncovin, Vincasar)

### Indications/Medications

### ICD-9 Code

**Chronic myelocytic leukemia** 205.1\_  
Aldesleukin (Proleukin),<sup>1</sup> busulfan (Myleran), cyclophosphamide (Cytoxan, Neosar), cytarabine (Cytosar-U), dasatinib (Sprycel), daunorubicin (Cerubidine), dexamethasone,<sup>2</sup> etoposide (Toposar, VePesid),<sup>2</sup> hydroxyurea (Hydrea), imatinib mesylate (Gleevec), interferon alpha-2a (Roferon A), interferon alpha-2b (Intron A, Rebetron), mechlorethamine (Mustargen), melphalan (Alkeren), mercaptopurine (Purinethol, 6-MP), mitomycin (Mutamycin),<sup>1</sup> nilotinib (Tasigna), prednisone (Deltasone),<sup>2</sup> sodium phosphate P32,<sup>1</sup> thioguanine, topotecan (Hycamtin),<sup>1</sup> uracil mustard, vincristine (Oncovin, Vincasar)<sup>1</sup>

**Chronic myelomonocytic leukemia** 205.10  
Daunorubicin (Cerubidine), mitomycin (Mutamycin), topotecan (Hycamtin)<sup>1</sup>

**Cutaneous T-cell lymphoma** 202.1\_, 202.2\_, 202.8\_  
Bexarotene (Targretin), carmustine (BICNU),<sup>2</sup> chlorambucil (Leukeran),<sup>1</sup> cladribine (Leustatin),<sup>2</sup> denileukin diftitox (ONTAK), etoposide (Toposar, VePesid), fludarabine phosphate,<sup>2</sup> interferon alpha-2a (Roferon A), interferon alpha-2b (Intron A, Rebetron), mechlorethamine (Mustargen), methotrexate (Folex, Mexate),<sup>2</sup> pentostatin (Nipent), vinblastine (Velban), vincristine (Oncovin, Vincasar),<sup>1</sup> vorinostat (Zolinza)

**Hairy-cell leukemia** 202.4\_  
Chlorambucil (Leukeran), cladribine (Leustatin), fludarabine phosphate (Fludara),<sup>2</sup> interferon alpha-2a (Roferon A), interferon alpha-2b (Intron A, Rebetron), pentostatin (Nipent), rituximab (Rituxan)<sup>2</sup>

**Hodgkin's lymphoma** 201.\_\_  
Amifostine (Ethyol), bleomycin (Blenoxane), carboplatin (Paraplatin, Paraplatin solution),<sup>1</sup> carmustine (BICNU), chlorambucil (Leukeran), cisplatin (Platinol), cyclophosphamide (Cytoxan, Neosar), cytarabine (Cytosar-U),<sup>1</sup> dacarbazine (DTIC-Dome), dexamethasone, doxorubicin (Adriamycin, RUBEX), epirubicin hydrochloride (Ellence),<sup>1</sup>

**Indications/Medications****ICD-9 Code**

etoposide (Toposar, VePesid), gemcitabine hydrochloride (Gemzar),<sup>1</sup> ifosfamide (Ifex),<sup>1</sup> lomustine (CeeNU), mechlorethamine (Mustargen), melphalan (Alkeran),<sup>1</sup> mercaptopurine,<sup>2</sup> methotrexate (Folex, Mexate),<sup>1</sup> prednisone (Deltasone), procarbazine (Matulane, Natulan), thiotepa,<sup>1</sup> uracil mustard,<sup>2</sup> vinblastine (Velban), vincristine (Oncovin, Vincasar)

**Mantle-cell lymphoma**

200.4\_

Bortezomib (Velcade), rituximab (Rituxan)<sup>2</sup>

**Multiple myeloma**

203.0\_

Bortezomib (Velcade), carmustine (BICNU), cyclophosphamide (Cytoxan, Neosar), dexamethasone, doxorubicin (Adriamycin, RUBEX), doxorubicin liposomal,<sup>1</sup> etoposide (Toposar, VePesid),<sup>1</sup> interferon alpha-2a (Roferon A), interferon alpha-2b (Intron A, Rebetrone), lenalidomide (Revlimid),<sup>1</sup> lomustine (CeeNU),<sup>1</sup> melphalan (Alkeran), pamidronate disodium (Aredia), prednisone (Deltasone),<sup>1</sup> procarbazine (Matulane, Natulan),<sup>1</sup> thalidomide (Thalomid), vincristine (Oncovin, Vincasar), zoledronic acid (Zometa)<sup>1</sup>

**Myelodysplastic syndromes**238.71 to 238.76,  
238.79

Amifostine (Ethyol),<sup>1</sup> arsenic trioxide (Trisenox), azacitidine (Vidaza), cytarabine (Cytosar-U),<sup>1</sup> decitabine (Dacogen), epoetin alfa, filgrastim (Neupogen), imatinib mesylate (Gleevec), lenalidomide (Revlimid), sargramostim (Leukine), topotecan hydrochloride (Hycamtin)<sup>1</sup>

**Indications/Medications****ICD-9 Code****Neutropenia**288.00 to 288.04, 288.09,  
288.4, 288.50 to 288.51,  
288.59, 289.53

Filgrastim (chemotherapy-induced, associated with bone marrow transplant; Neupogen), pegfilgrastim (Neulasta), sargramostim (associated with bone marrow transplant, chemotherapy-induced, including chemotherapy associated with acute myelogenous leukemia; Leukine)

**Non-Hodgkin's lymphoma**

200.\_\_, 202.\_\_

Amifostine (Ethyol), asparaginase (Elspar, Kidrolase), bleomycin (Blenoxane), carboplatin (Paraplatin, Paraplatin Solution),<sup>1</sup> carmustine (BICNU), chlorambucil (Leukeran), cisplatin (Platinol), cladribine (Leustatin), cyclophosphamide (Cytoxan, Neosar), cytarabine (Cytosar-U), daunorubicin (Cerubidine),<sup>1</sup> dexamethasone,<sup>2</sup> doxorubicin (Adriamycin, RUBEX), epirubicin hydrochloride (Ellence),<sup>1</sup> etoposide (Toposar, VePesid), fludarabine phosphate (Fludara), gemcitabine hydrochloride (Gemzar),<sup>1</sup> ibritumomab tiuxetan (Zevalin), ifosfamide (Ifex), interferon alpha-2a (Roferon A), interferon alpha-2b (Intron A, Rebetrone), leucovorin (Leucovorin Calcium, Wellcovorin),<sup>1</sup> mechlorethamine (Mustargen), mercaptopurine (Purinethol, 6-MP), methotrexate (Folex, Mexate), mitoxantrone (Novantrone),<sup>1</sup> prednisone (Deltasone), procarbazine (Matulane, Natulan), rituximab (Rituxan), teniposide (Vumon),<sup>1</sup> tositumomab, iodine I-131 (Bexxar), uracil mustard, vinblastine (Velban), vincristine (Oncovin, Vincasar)

**Medication Index****Medications/Indications****ICD-9 Code****Aldesleukin (Proleukin)**

Chronic myelocytic leukemia

205.1\_

**Alemtuzumab (Campath)**

Chronic lymphocytic leukemia

204.1\_

**Amifostine (Ethyol)**

Hodgkin's lymphoma

201.\_\_

Myelodysplastic syndromes<sup>1</sup>238.71 to 238.76,  
238.79

Non-Hodgkin's lymphoma

200.\_\_, 202.\_\_

**Medications/Indications****ICD-9 Code****Arsenic trioxide (Trisenox)**

Myelodysplastic syndromes

238.71 to 238.76,  
238.79**Asparaginase (Elspar, Kidrolase)**

Acute lymphocytic leukemia

204.0\_

Acute nonlymphocytic leukemia<sup>2</sup>

205.0\_

Non-Hodgkin's lymphoma

200.\_\_, 202.\_\_

**Azacitidine (Vidaza)**Acute nonlymphocytic leukemia<sup>2</sup>

205.0\_

Myelodysplastic syndromes

238.71 to 238.76,  
238.79

Medications/Indications	ICD-9 Code	Medications/Indications	ICD-9 Code
<b>Bexarotene (Targretin)</b> Cutaneous T-cell lymphoma	202.1_, 202.2_, 202.8_	<b>Cyclophosphamide (Cytoxan, Neosar)</b> <i>(continued)</i> Acute nonlymphocytic leukemia	205.0_
<b>Bleomycin (Blenoxane)</b> Hodgkin's lymphoma Non-Hodgkin's lymphoma	201.__ 200.__, 202.__	Chronic lymphocytic leukemia	204.1_
<b>Bortezomib (Velcade)</b> Mantle-cell lymphoma Multiple myeloma	200.4_ 203.0_	Chronic myelocytic leukemia	205.1_
<b>Busulfan (Myleran)</b> Acute nonlymphocytic leukemia Chronic myelocytic leukemia	205.0_ 205.1_	Hodgkin's lymphoma	201.__
<b>Carboplatin (Paraplatin, Paraplatin Solution)</b> Hodgkin's lymphoma <sup>1</sup> Non-Hodgkin's lymphoma <sup>1</sup>	201.__ 200.__, 202.__	Multiple myeloma	203.0_
<b>Carmustine (BICNU)</b> Cutaneous T-cell lymphoma <sup>2</sup>	202.1_, 202.2_, 202.8_	Hodgkin's lymphoma <sup>1</sup>	201.__
Hodgkin's lymphoma Multiple myeloma Non-Hodgkin's lymphoma	201.__ 203.0_ 200.__, 202.__	Myelodysplastic syndromes <sup>1</sup>	238.71 to 238.76, 238.79
<b>Chlorambucil (Leukeran)</b> Cutaneous T-cell lymphoma <sup>1</sup>	202.1_, 202.2_, 202.8_	Non-Hodgkin's lymphoma	200.__, 202.__
Hairy-cell leukemia Hodgkin's lymphoma	202.4_ 201.__	<b>Dacarbazine (DTIC-Dome)</b> Hodgkin's lymphoma	201.__
<b>Cisplatin (Platinol)</b> Hodgkin's lymphoma Non-Hodgkin's lymphoma	201.__ 200.__, 202.__	<b>Darbepoetin alfa (Aranesp)</b> Chronic anemia	285.9, V58.11 <sup>4</sup>
<b>Cladribine (Leustatin)</b> Chronic lymphocytic leukemia <sup>1</sup> Cutaneous T-cell lymphoma <sup>2</sup>	204.1_ 202.1_, 202.2_, 202.8_	<b>Dasatinib (Sprycel)</b> Chronic lymphocytic leukemia Chronic myelocytic leukemia	204.1_ 205.1_
Hairy-cell leukemia Non-Hodgkin's lymphoma	202.4_ 200.__, 202.__	<b>Daunorubicin (Cerubidine)</b> Acute lymphocytic leukemia Acute nonlymphocytic leukemia Chronic myelocytic leukemia Chronic myelomonocytic leukemia Non-Hodgkin's lymphoma <sup>1</sup>	204.0_ 205.0_ 205.1_ 205.10 200.__, 202.__
<b>Clofarabine (Pediatric; Clolar)</b> Acute lymphocytic leukemia	204.0_	<b>Decitabine (Dacogen)</b> Myelodysplastic syndromes	238.71 to 238.76, 238.79
<b>Cyclophosphamide (Cytoxan, Neosar)</b> Acute lymphocytic leukemia	204.0_	<b>Denileukin (ONTAK)</b> Cutaneous T-cell lymphoma	202.1_, 202.2_, 202.8_
		<b>Dexamethasone</b> Acute lymphocytic leukemia Chronic lymphocytic leukemia Chronic myelocytic leukemia Hodgkin's lymphoma Multiple myeloma Non-Hodgkin's lymphoma <sup>2</sup>	204.0_ 204.1_ 205.1_ 201.__ 203.0_ 200.__, 202.__

Medications/Indications	ICD-9 Code	Medications/Indications	ICD-9 Code
<b>Diftitox</b>		<b>Fludarabine phosphate (Fludara) (continued)</b>	
Cutaneous T-cell lymphoma	202.1_, 202.2_, 202.8_	Non-Hodgkin's lymphoma	200.__, 202.__
<b>Doxorubicin (Adriamycin, RUBEX)</b>		<b>Gemcitabine hydrochloride (Gemzar)</b>	
Acute lymphocytic leukemia	204.0_	Hodgkin's lymphoma <sup>1</sup>	201.__
Acute nonlymphocytic leukemia	205.0_	Non-Hodgkin's lymphoma <sup>1</sup>	200.__, 202.__
Chronic lymphocytic leukemia	204.1_	<b>Gemtuzumab (Mylotarg)</b>	
Hodgkin's lymphoma	201.__	Acute nonlymphocytic leukemia	205.0_
Multiple myeloma	203.0_	<b>Hydroxyurea (Hydrea)</b>	
Non-Hodgkin's lymphoma	200.__, 202.__	Chronic myelocytic leukemia	205.1_
<b>Doxorubicin liposomal</b>		<b>Ibritumomab tiuxetan (Zevalin)</b>	
Multiple myeloma <sup>1</sup>	203.0_	Non-Hodgkin's lymphoma	200.__, 202.__
<b>Epirubicin hydrochloride (Ellence)</b>		<b>Idarubicin (Idamycin)</b>	
Hodgkin's lymphoma <sup>1</sup>	201.__	Acute lymphocytic leukemia	204.0_
Non-Hodgkin's lymphoma <sup>1</sup>	200.__, 202.__	Acute nonlymphocytic leukemia	205.0_
<b>Epoetin alfa (Procrit, Epogen)</b>		<b>Ifosfamide (Ifex)</b>	
Chronic anemia	285.29, V58.11 <sup>4</sup>	Acute lymphocytic leukemia	204.0_
Myelodysplastic syndromes <sup>1</sup>	238.71 to 238.76, 238.79	Hodgkin's lymphoma <sup>1</sup>	201.__
<b>Etoposide (Toposar, VePesid)</b>		Non-Hodgkin's lymphoma	200.__, 202.__
Acute lymphocytic leukemia <sup>1</sup>	204.0_	<b>Imatinib mesylate (Gleevec)</b>	
Acute nonlymphocytic leukemia	205.0_	Acute lymphocytic leukemia <sup>1</sup>	204.0_
Chronic myelocytic leukemia	205.1_	Chronic myelocytic leukemia	205.1_
Cutaneous T-cell lymphoma	202.1_, 202.2_, 202.8_	Myelodysplastic syndromes	238.71 to 238.76, 238.79
Hodgkin's lymphoma	201.__	<b>Interferon alpha-2a (Roferon A)</b>	
Multiple myeloma <sup>1</sup>	203.0_	Chronic myelocytic leukemia	205.1_
Non-Hodgkin's lymphoma	200.__, 202.__	Cutaneous T-cell lymphoma	202.1_, 202.2_, 202.8_
<b>Filgrastim (chemotherapy-induced, associated with bone marrow transplant; Neupogen)</b>		Hairy-cell leukemia	202.4_
Myelodysplastic syndromes	238.71 to 238.76, 238.79	Multiple myeloma	203.0_
Neutropenia	288.00 to 288.04, 288.09, 288.4, 288.50 to 288.51, 288.59, 289.53	Non-Hodgkin's lymphoma	200.__, 202.__
<b>Fludarabine phosphate (Fludara)</b>		<b>Interferon alpha-2b (Intron A, Rebetron)</b>	
Acute prolymphocytic leukemia	204.9_	Chronic myelocytic leukemia	205.1_
Acute nonlymphocytic leukemia <sup>2,3</sup>	205.0_	Cutaneous T-cell lymphoma	202.1_, 202.2_, 202.8_
Chronic lymphocytic leukemia	204.1_	Hairy-cell leukemia	202.4_
Cutaneous T-cell lymphoma <sup>2</sup>	202.1_, 202.2_, 202.8_	Multiple myeloma	203.0_
Hairy-cell leukemia	202.4_	Non-Hodgkin's lymphoma	200.__, 202.__
		<b>Lenalidomide (Revlimid)</b>	
		Multiple myeloma <sup>1</sup>	203.0_
		Myelodysplastic syndromes	238.71 to 238.76, 238.79

Medications/Indications	ICD-9 Code	Medications/Indications	ICD-9 Code
<b>Leucovorin (Leucovorin Calcium, Wellcovorin)</b> Non-Hodgkin's lymphoma <sup>1</sup>	200.__, 202.__	<b>Pamidronate disodium (Aredia)</b> Multiple myeloma	203.0_
<b>Lomustine (CeeNU)</b> Hodgkin's lymphoma Multiple myeloma <sup>1</sup>	201.__ 203.0_	<b>Pegaspargase (Oncaspar)</b> Acute lymphocytic leukemia	204.0_
<b>Mechlorethamine (Mustargen)</b> Chronic lymphocytic leukemia Chronic myelocytic leukemia Cutaneous T-cell lymphoma	204.1_ 205.1_ 202.1_, 202.2_, 202.8_	<b>Pegfilgrastim (Neulasta)</b> Neutropenia	288.00 to 288.04, 288.09, 288.4, 288.50 to 288.51, 288.59, 289.53
Hodgkin's lymphoma Non-Hodgkin's lymphoma	201.__ 200.__, 202.__	<b>Pentostatin (Nipent)</b> Acute lymphocytic leukemia <sup>2</sup> Acute prolymphocytic leukemia Chronic lymphocytic leukemia <sup>2</sup> Cutaneous T-cell lymphoma	204.0_ 204.9_ 204.1_ 202.1_, 202.2_, 202.8_
<b>Melphalan (Alkeren)</b> Chronic myelocytic leukemia Hodgkin's lymphoma <sup>1</sup> Multiple myeloma	205.1_ 201.__ 203.0_	Hairy-cell leukemia	202.4_
<b>Mercaptopurine (Purinethol, 6-MP)</b> Acute lymphocytic leukemia Acute nonlymphocytic leukemia Chronic myelocytic leukemia Hodgkin's lymphoma <sup>2</sup> Non-Hodgkin's lymphoma	204.0_ 205.0_ 205.1_ 201.__ 200.__, 202.__	<b>Prednisone (Deltasone)</b> Acute lymphocytic leukemia Chronic lymphocytic leukemia Chronic myelocytic leukemia <sup>2</sup> Hodgkin's lymphoma Multiple myeloma <sup>1</sup> Non-Hodgkin's lymphoma	204.0_ 204.1_ 205.1_ 201.__ 203.0_ 200.__, 202.__
<b>Methotrexate (Folex, Mexate)</b> Acute lymphocytic leukemia Acute nonlymphocytic leukemia Cutaneous T-cell lymphoma	204.0_ 205.0_ 202.1_, 202.2_, 202.8_	<b>Procarbazine (Matulane, Natulan)</b> Hodgkin's lymphoma Multiple myeloma <sup>1</sup> Non-Hodgkin's lymphoma	201.__ 203.0_ 200.__, 202.__
Hodgkin's lymphoma <sup>1</sup> Non-Hodgkin's lymphoma	201.__ 200.__, 202.__	<b>Rituximab (Rituxan)</b> Chronic lymphocytic leukemia Hairy-cell leukemia <sup>2</sup> Mantle-cell lymphoma <sup>2</sup> Non-Hodgkin's lymphoma	204.1_ 202.4_ 200.4_ 200.__, 202.__
<b>Mitomycin (Mutamycin)</b> Chronic myelocytic leukemia <sup>1</sup> Chronic myelomonocytic leukemia	205.1_ 205.10	<b>Sargramostim (associated with bone marrow transplant, chemotherapy-induced, including chemotherapy associated with acute myelogenous leukemia; Leukine)</b> Myelodysplastic syndromes Neutropenia	238.71 to 238.76, 238.79 288.00 to 288.04, 288.09, 288.4, 288.50 to 288.51, 288.59, 289.53
<b>Mitoxantrone (Novantrone)</b> Acute lymphocytic leukemia <sup>1</sup> Acute nonlymphocytic leukemia Non-Hodgkin's lymphoma	204.0_ 205.0_ 200.__, 202.__		
<b>Nelarabine (Arranon)</b> Acute lymphocytic leukemia	204.0_		
<b>Nilotinib (Tasigna)</b> Chronic myelocytic leukemia	205.1_		

Medications/Indications	ICD-9 Code	Medications/Indications	ICD-9 Code
<b>Sodium phosphate P32</b>		<b>Uracil mustard</b>	
Chronic lymphocytic leukemia	204.1_	Chronic lymphocytic leukemia	204.1_
Chronic myelocytic leukemia	205.1_	Chronic myelocytic leukemia	205.1_
<b>Teniposide (Vumon)</b>		Hodgkin's lymphoma <sup>2</sup>	201._ _
Acute lymphocytic leukemia	204.0_	Non-Hodgkin's lymphoma	200._ _, 202._ _
Non-Hodgkin's lymphoma <sup>1</sup>	200._ _, 202._ _	<b>Vinblastine (Velban)</b>	
<b>Thalidomide (Thalomid)</b>		Cutaneous T-cell lymphoma	202.1_, 202.2_, 202.8_
Multiple myeloma	203.0_	Hodgkin's lymphoma	201._ _
<b>Thioguanine</b>		Non-Hodgkin's lymphoma	200._ _, 202._ _
Acute lymphocytic leukemia	204.0_	<b>Vincristine (Oncovin, Vincasar)</b>	
Acute nonlymphocytic leukemia	205.0_	Acute lymphocytic leukemia	204.0_
Chronic myelocytic leukemia	205.1_	Acute nonlymphocytic leukemia <sup>2,3</sup>	205.0_
<b>Thiotepa</b>		Chronic lymphocytic leukemia	204.1_
Hodgkin's lymphoma <sup>1</sup>	201._ _	Chronic myelocytic leukemia <sup>1</sup>	205.1_
<b>Topotecan (Hycamtin)</b>		Cutaneous T-cell lymphoma <sup>1</sup>	202.1_, 202.2_, 202.8_
Chronic myelocytic leukemia <sup>1</sup>	205.1_	Hodgkin's lymphoma	201._ _
Chronic myelomonocytic leukemia <sup>1</sup>	205.10	Multiple myeloma	203.0_
Myelodysplastic syndromes <sup>1</sup>	238.71 to 238.76, 238.79	Non-Hodgkin's lymphoma	200._ _, 202._ _
<b>Tositumomab, iodine I-131 (Bexxar)</b>		<b>Vorinostat (Zolinza)</b>	
Non-Hodgkin's lymphoma	200._ _, 202._ _	Cutaneous T-cell lymphoma	202.1_, 202.2_, 202.8_
<b>Tretinoin (Vesanoid)</b>		<b>Zoledronic acid (Zometa)</b>	
Acute nonlymphocytic leukemia	205.0_	Multiple myeloma	203.0_

*Note:* Check with your local carrier on all indications before submitting a claim.

1. USP DI (no longer in print), formerly published by Thomson Micromedex (Thomson Reuters).
2. AHFS Drug Information. American Society of Health-System Pharmacists, Inc.
3. Check with your local Medicare carrier before submitting a claim for this indication.
4. Medicare may reimburse with this code; always check with your coding professional.

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- A balanced view of therapeutic options, including the use of generic drug names, will be provided
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- Commercial support will be acknowledged in the supplement
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