

# What are Clinical Trials?

## Introduction

The evolution of the clinical trial dates from the eighteenth century. Lind in his classical study on board the *Salisbury*, evaluated six treatments for scurvy in 12 patients. One of the two who were given oranges and lemons recovered quickly and was fit for duty in six days. The second was the best recovered of the others and was assigned the role of nurse to the remaining patients. Several other comparative studies were also conducted in the eighteenth and nineteenth centuries. The comparison groups comprised literature controls, other historical controls, and con-current controls.

Nowhere in business today is the phrase “Change is the only constant” more true than in the pharmaceutical industry. Myriad fundamental changes, from market globalization to an evolving industry

development and approval timelines, and increasing liability risks. These challenges have proved largely intractable by technology due to a legacy of stovepipe solutions that relied in innovative – but heterogeneous and incompatible – systems.

Pharmaceutical companies will spend upwards of \$30 billion in 2003 in clinical research. Bringing a new drug to market is a lengthy and expensive process. On average it costs between \$800 and \$900 million and takes from 7 – 14 years to take a drug from the initial stages of discovery to a marketable drug. Many new drug development initiatives are ultimately rejected and never make it to market. As a result companies have attempted to increase the efficiency of this process and either shorten the time it takes to bring a successful drug to market or quickly identify bad drugs that will never reach the market.

Until recently clinical trials were a very



structure to new sources of competition to a fluid regulatory environment, test the flexibility and responsiveness of pharmaceutical companies of every kind.

The pharmaceutical industry today is facing such challenges as cost pressures resulting from managed care, profit pressures, from lengthening of product de-

velopment and approval timelines, and increasing liability risks. The majority of information resided in forms that collected patient information and trial data. These forms, considered to be the records of the trial, were recorded, archived off and stored for the life of the drug. With increased pressure to expedite the trial and trial results, tremendous

# What are Clinical Trials?

---

efforts were put into automating the process using computerized systems.

This paper delineates and demonstrates Winchester Business Systems, Inc.'s (Winchester's) commitment to the pharmaceutical industry, showing how Winchester-developed computer applications act as catalysts for streamlined communications that crosses the boundaries that typically separate different parts of an organization. Winchester's applications allow teams with members from research and development, clinical operations, quality assurance, regulatory affairs, data management, and safety to work together through a single business process, thus reducing the development and delivery of a drug to market.

Specific examples reflect how Winchester's systems have been used by pharmaceutical companies to automate the clinical trial management business processes that have eluded automation in the past — Project Planning, Regulatory Document Management, Investigator and Patient Monitoring, Investigator Contact Management, Inventory Management, Grant Fee Payments, as well as many others.

Each of the topics that describe the components of clinical trials is addressed with an eye toward their tangible impact on the pharmaceutical business — reducing the time required to bring a product to market managing complex webs of relationships, eliminating redundancy and identifying opportunities — rather than focusing on the technology itself.

## What are clinical trials?

---

Researchers study many different compounds when looking for possible new treatments and therapies. During extensive preclinical research (such as computer models, test tube experiments, experiments with microorganisms and animal testing), researchers can identify compounds that may have the preferred traits and are shown to be reasonably safe. These compounds may then be selected for medical research studies, or clinical trials, involving humans.

Clinical trials may be conducted to test the effectiveness of new drugs and treatments, surgeries or medical procedures, and diagnostic and education methods.

A clinical trial is a type of medical research that focuses on the effects that treatments have on patients. These carefully planned scientific studies help doctors select the safest, most effective approaches to cancer treatment.

The basic question asked in any clinical trial is:

*“Is this treatment better and safer than the treatment(s) currently used to treat this disease?”*

New medical breakthroughs, which improve the lives of many people, emerge because they have been tested in clinical trials and found to be helpful.

Many forms of treatment are tested in clinical trials. New chemotherapy drugs, surgical and radiation techniques, vac-

# What are Clinical Trials?

---

cines, and biological therapies are a few of the treatments currently being studied in clinical trials as possible treatments for all types of indications and diseases. Clinical trials often involve adding a new treatment after standard treatment has been given.

Before any treatment is tested with patients it is studied first in *tissue culture* in the laboratory. If it is determined to be potentially effective, it is next tested with animals. Finally, it is tested with people.

**tissue culture:** the technique or process of keeping tissue alive and growing in a culture medium.

Clinical trials are an important method of evaluating new approaches to a disease such as cancer. Each study answers specific questions about a prevention or detection method, a quality of life intervention, or a treatment, whether it is a new drug or a new way to use standard drugs and treatments (such as surgery or radiation therapy) to improve their effectiveness.

Clinical trials are important because they represent a scientific way to test individual agents or procedures to ensure safety and effectiveness, as well as to compare two or more methods, with the objective of constantly improving current science and discovering better ways to prevent, detect and treat cancer. Clinical trials are designed so that variations that may affect the outcome of the study are taken into consideration and controlled for during the course of the study. This leads to results that are valid and relevant to the many different individuals who have cancer.

Not all treatment clinical trials compare two or more different treatments -- some trials compare an addition of a new drug or agent with standard therapy alone.

These trials may use a placebo so that the patient and her doctor will not know which treatment is being received. This "blinding" reduces the chance that the outcome will be biased in some way.

Typically, patients are assigned by chance, or randomized, to the treatment they receive -- again, to assure that the groups being analyzed are truly comparable.

Ethical, appropriately-designed randomized trials always seek to improve upon state-of-the-art treatment. One "arm" of the trial generally offers an accepted, standard approach, and the other (or others) hope to improve upon this approach based on promising research.

# What are Clinical Trials?

---

*What is the clinical trial process?*

A clinical trial is a research study that is performed in humans to determine if a new drug or therapy is both safe and effective for treating a disease or condition. All clinical trials are based on a set of rules called a protocol. A protocol describes what types of people may participate in the trial; the schedule of tests, procedures, medications, and dosages; and the length of the study.

Clinical trials are carried out in steps called phases. Patients may be eligible for studies in different phases, depending on their general condition, the type and stage of their disease, and what therapy, if any, they have already had. Trial participants are seen regularly by research staff to monitor their health and to determine the safety and effectiveness of their treatment.

On average, it takes twelve years for a drug to travel through the clinical testing phases to reach the patient population. Approximately one in five drugs that enter clinical testing are ultimately approved for patient use.

*What are Clinical Trial Phases?*

The Food and Drug Administration (FDA) oversees all clinical trials in which they will be asked to render a decision as to the benefit to the public of the drug or treatment being tested.

A new drug or other treatment goes through several different phases of clinical trials prior to FDA approval.

A clinical trial (also clinical research) is a research study in human volunteers to answer specific health questions. Carefully conducted clinical trials are the fastest and safest way to find treatments that work in people and ways to improve health. Interventional trials determine whether experimental treatments or new ways of using known therapies are safe and effective under controlled environments. Observational trials address health issues in large groups of people or populations in natural settings.

Once a new treatment has been tested in the laboratory and is proven safe for humans, clinical trials begin. Each trial phase is designed to answer specific questions about the treatment.

If the pre-clinical laboratory based studies have shown

# What are Clinical Trials?

---

promising results the health intervention may go to trial stage. The trials themselves have to progress through a set sequence of four "phases" to ensure the data collected is reliable and all those taking part are protected.

## **Pre-clinical Testing**

Before a drug can be tested in humans, pre-clinical testing is required. Laboratory studies are conducted to demonstrate safety in humans and the drugs' ability to fight against a targeted disease. Once the drug has been determined to have strong potential, it begins to be prepared for human delivery. Pre-clinical testing takes approximately three to four years.

Clinical trials are conducted in phases. Clinical trials consist of three phases prior to drug approval. The trials at each phase have a different purpose and help scientists answer different questions:

In **Phase I trials**, researchers test a new drug or treatment in a small group of people (20-80) for the first time to evaluate its safety, determine a safe dosage range, and identify side effects. The purpose of phase 1 is to determine how the drug acts in humans, including identifying possible side effects. If results from phase 1 trials are positive, the drug is tested in a larger group of patients to determine how it affects a specific disease and what its short-term side effects may be.

In **Phase II trials**, the study drug or treatment is given to a larger group of people (100-300) to see if it is effective and to further evaluate its safety. Phase 2 studies focus on comparing the new treatment with the current treatment or placebo. Phase 2 studies continue to test drug safety and are larger than phase 1 studies.

In **Phase III trials**, the study drug or treatment is given to large groups of people (1,000-3,000) to confirm its effectiveness, monitor side effects, compare it to commonly used treatments, and collect information that will allow the drug or treatment to be used safely. In phase 3 clinical trials, the drug is further studied for safety and efficacy in a much larger group of patients who have the disease being studied. If phase 3 results are successful, a New Drug Application is submitted and reviewed by the FDA.

In **Phase IV trials**, post marketing studies delineate addi-

# What are Clinical Trials?

---

*How are clinical trials designed?*

tional information including the drug's risks, benefits, and optimal use. Phase 4 clinical trials are conducted after a drug has been FDA-approved. These studies continue to evaluate a drug's long-term effects.

Clinical trials are designed to answer questions concerning the safety and efficacy of treatment with statistical validity, particularly in phase III studies where the issue of replacing or augmenting accepted therapies or developing effective interventions to prevent cancer is at stake. Randomization is used to ensure an unbiased assignment to treatment.

To more carefully balance the patient populations randomized to each arm, studies are usually stratified by factors known or expected to affect outcome. Such factors commonly include: patient age, histology and/or stage of disease, prior treatment, and presence or absence of prognostic factors.

Sometimes phase II studies are stratified to assure a balance in patient entry despite limited accrual. Some clinical trials with multiple regimens have a crossover design to allow patients who are not responding to their originally assigned treatment to try the other treatment.

Most phase II and III study designs include "early stopping rules" by which treatment is halted if too many patients experience unacceptable or unexpected toxicity or if treatment is significantly less (or more) effective than anticipated.

*Why are clinical trials important?*

Clinical trials are recognized as the only way to find and approve new treatments for patients. Many treatments and methods commonly used today are the result of past clinical trials.

One of the longest and most well-known clinical trials to date is the Framingham Heart Study. Started in 1948 to investigate the causes and risk factors of cardiovascular diseases, the Framingham study has taught us much about cardiovascular disease and related conditions and has resulted in over 1000 articles in medical journals.

Other clinical trials have demonstrated the effects of specific drugs. For example, clinical trials demonstrated the effectiveness of aspirin in reducing the risk of death when taken immediately during a heart attack.

*What are the benefits of*

Clinical trials offer trial subjects (patients) the opportu-

# What are Clinical Trials?

---

*participating in a clinical trial?*

nity to receive the best healthcare available and to help others currently affected by the indication under study and those who will be affected in the future. Subjects can choose to participate in a clinical trial and still work with his or her current healthcare team.

Clinical trials that are well-designed and well-executed are the best approach for eligible participants to:

- Play an active role in their own health care.
- Gain access to new research treatments before they are widely available.
- Obtain expert medical care at leading health care facilities during the trial.
- Help others by contributing to medical research.

*What are the **risks** of participating in a clinical trial?*

Great efforts are made to ensure safety for patients participating in clinical trials. Still, risks remain. These risks are greater in Phase I and II studies than in Phase III or IV studies. Discuss possible risks with your doctor.

There are risks to clinical trials.

- There may be unpleasant, serious or even life-threatening side effects to treatment.
- The treatment may not be effective for the participant.
- The protocol may require more of their time and attention than would a non-protocol treatment, including trips to the study site, more treatments, hospital stays or complex dosage requirements.

*Why participate in a clinical trial?*

Participants in clinical trials can play a more active role in their own health care, gain access to new research treatments before they are widely available, and help others by contributing to medical research.

*Who can participate in a clinical trial?*

All clinical trials have guidelines about who can participate. Using inclusion/exclusion criteria is an important principle of medical research that helps to produce reliable results. The factors that allow someone to participate in a clinical trial are called "inclusion criteria" and those that disallow someone from participating are called "exclusion criteria". These criteria are based on such factors as age, gender, the type and stage of a disease, previous treatment history, and other medical conditions. Before joining a clinical trial, a participant must qualify for the

# What are Clinical Trials?

---

study.

Some research studies seek participants with illnesses or conditions to be studied in the clinical trial, while others need healthy participants. It is important to note that inclusion and exclusion criteria are not used to reject people personally. Instead, the criteria are used to identify appropriate participants and keep them safe. The criteria help ensure that researchers will be able to answer the questions they plan to study.

No one trial is right for everyone, and some patients may not be eligible or appropriate for current trials. In order to most accurately evaluate the efficacy of a treatment, clinical trials must be quite focused; therefore, each trial has strict eligibility guidelines for who can participate. In most treatment trials, the results will only be reliable if everyone has certain specified, similar aspects of their disease.

Some common requirements are age, stage and extent of disease, previous treatment, and type of cancer. On a clinical trial protocol, these eligibility requirements will be clearly stated.

*What happens during a clinical trial?*

The clinical trial process depends on the kind of trial being conducted (See [What are the different types of clinical trials?](#)) The clinical trial team includes doctors and nurses as well as social workers and other health care professionals. They check the health of the participant at the beginning of the trial, give specific instructions for participating in the trial, monitor the participant carefully during the trial, and stay in touch after the trial is completed.

Some clinical trials involve more tests and doctor visits than the participant would normally have for an illness or condition. For all types of trials, the participant works with a research team. Clinical trial participation is most successful when the protocol is carefully followed and there is frequent contact with the research staff.

*What is informed consent?*

Informed consent is the process of learning the key facts about a clinical trial before deciding whether or not to participate. It is also a continuing process throughout the study to provide information for participants. To help someone decide whether or not to participate, the doctors and nurses involved in the trial explain the details of the study. If the participant's native language is not English,

# What are Clinical Trials?

---

translation assistance can be provided. Then the research team provides an informed consent document that includes details about the study, such as its purpose, duration, required procedures, and key contacts. Risks and potential benefits are explained in the informed consent document. The participant then decides whether or not to sign the document. Informed consent is not a contract, and the participant may withdraw from the trial at any time.

Informed consent is an important principle, not only for clinical trials but for all aspects of cancer treatment. It is crucial that an individual receive and clearly understand as much information as possible before agreeing to participate in a clinical trial or choosing a treatment modality. Patients must be aware of what the trial entails including medical procedures, side effects and the possible risks and benefits.

Laws in the United States require that all subjects (or their guardians) on clinical trials sign an informed consent document indicating an understanding of the research in which they are participating. Protocols from other countries also must adhere to some type of informed consent, but laws vary and some countries permit oral instead of written informed consent.

The informed consent should include an assessment of the risks and benefits of the study, the potential toxicities of treatments administered on study, other therapies that might benefit the patient, and financial responsibilities that will be incurred by participation in the study. Additionally, the confidentiality of patient records should be assured, and names and telephone numbers of appropriate people to contact with questions about the study are provided.

Potential participants must also be assured that refusal to participate in the study will in no way compromise their access to other available treatment, and that if they choose to participate, they can leave the study at any time.

*What are side effects and adverse reactions?*

Side effects are any undesired actions or effects of drug or treatment. Negative or adverse effects may include headache, nausea, hair loss, skin irritation, or other physical problems. Experimental treatments must be evaluated for both immediate and long-term side effects.

# What are Clinical Trials?

---

*How is the safety of the participant protected?*

The ethical and legal codes that govern medical practice also apply to clinical trials. In addition, most clinical research is federally regulated with built in safeguards to protect the participants. The trial follows a carefully controlled protocol, a study plan which details what researchers will do in the study. As a clinical trial progresses, researchers report the results of the trial at scientific meetings, to medical journals, and to various government agencies. Individual participants' names will remain secret and will not be mentioned in these reports (See [Confidentiality Regarding Trial Participants](#)).

*What should people consider before participating in a trial?*

People should know as much as possible about the clinical trial and feel comfortable asking the members of the health care team questions about it, the care expected while in a trial, and the cost of the trial. The following questions might be helpful for the participant to discuss with the health care team. Some of the answers to these questions are found in the informed consent document.

- What is the purpose of the study?
- Who is going to be in the study?
- Why do researchers believe the new treatment being tested may be effective? Has it been tested before?
- What kinds of tests and treatments are involved?
- How do the possible risks, side effects, and benefits in the study compare with my current treatment?
- How might this trial affect my daily life?
- How long will the trial last?
- Will hospitalization be required?
- Who will pay for the treatment?
- Will I be reimbursed for other expenses?
- What type of long-term follow up care is part of this study?
- How will I know that the treatment is working? Will results of the trials be provided to me?
- Who will be in charge of my care?
- Plan ahead and write down possible questions to

*What kind of preparation should a potential partici-*

# What are Clinical Trials?

---

*What should a participant make for the meeting with the research coordinator or doctor?*

ask.

- Ask a friend or relative to come along for support and to hear the responses to the questions.
- Bring a tape recorder to record the discussion to replay later.

Every clinical trial in the U.S. must be approved and monitored by an Institutional Review Board (IRB) to make sure the risks are as low as possible and are worth any potential benefits. An IRB is an independent committee of physicians, statisticians, community advocates, and others that ensures that a clinical trial is ethical and the rights of study participants are protected. All institutions that conduct or support biomedical research involving people must, by federal regulation, have an IRB that initially approves and periodically reviews the research.

*Does a participant continue to work with a primary health care provider while in a trial?*

Yes. Most clinical trials provide short-term treatments related to a designated illness or condition, but do not provide extended or complete primary health care. In addition, by having the health care provider work with the research team, the participant can ensure that other medications or treatments will not conflict with the protocol.

*Can a participant leave a clinical trial after it has begun?*

Yes. A participant can leave a clinical trial, at any time. When withdrawing from the trial, the participant should let the research team know about it, and the reasons for leaving the study.

*Where do the ideas for trials come from?*

Ideas for clinical trials usually come from researchers. After researchers test new therapies or procedures in the laboratory and in animal studies, the treatments with the most promising laboratory results are moved into clinical trials. During a trial, more and more information is gained about a new treatment, its risks and how well it may or may not work.

*Who sponsors clinical trials?*

Clinical trials are sponsored or funded by a variety of organizations or individuals such as physicians, medical institutions, foundations, voluntary groups, and pharmaceutical companies, in addition to federal agencies such as the National Institutes of Health (NIH), the Department of Defense (DOD), and the Department of Veteran's Affairs (VA). Trials can take place in a variety of locations, such as hospitals, universities, doctors' offices, or community clinics.

# What are Clinical Trials?

---

*What is a protocol?*

A protocol is a study plan on which all clinical trials are based. The plan is carefully designed to safeguard the health of the participants as well as answer specific research questions. A protocol describes what types of people may participate in the trial; the schedule of tests, procedures, medications, and dosages; and the length of the study. While in a clinical trial, participants following a protocol are seen regularly by the research staff to monitor their health and to determine the safety and effectiveness of their treatment.

*What is a placebo?*

A placebo is an inactive pill, liquid, or powder that has no treatment value. In clinical trials, experimental treatments are often compared with placebos to assess the treatment's effectiveness. In some studies, the participants in the control group will receive a placebo instead of an active drug or treatment.

*What is a control or control group?*

A control is the standard by which experimental observations are evaluated. In many clinical trials, one group of patients will be given an experimental drug or treatment, while the control group is given either a standard treatment for the illness or a placebo.

*What are the different types of clinical trials?*

**Treatment trials** test new treatments, new combinations of drugs, or new approaches to surgery or radiation therapy.

**Prevention trials** look for better ways to prevent disease in people who have never had the disease or to prevent a disease from returning. These approaches may include medicines, vitamins, vaccines, minerals, or lifestyle changes.

**Diagnostic trials** are conducted to find better tests or procedures for diagnosing a particular disease or condition.

**Screening trials** test the best way to detect certain diseases or health conditions.

**Quality of Life trials** (or Supportive Care trials) explore ways to improve comfort and the quality of life for individuals with a chronic illness.

*What is an "expanded access" protocol?*

Most human use of investigational new drugs takes place in controlled clinical trials conducted to assess safety and efficacy of new drugs. Data from the trials can serve as the basis for the drug marketing application. Sometimes, patients do not qualify for these carefully-controlled tri-

# What are Clinical Trials?

---

als because of other health problems, age, or other factors. For patients who may benefit from the drug use but don't qualify for the trials, FDA regulations enable manufacturers of investigational new drugs to provide for "expanded access" use of the drug. For example, a treatment IND (Investigational New Drug application) or treatment protocol is a relatively unrestricted study. The primary intent of a treatment IND/protocol is to provide for access to the new drug for people with a life-threatening or serious disease for which there is no good alternative treatment. A secondary purpose for a treatment IND/protocol is to generate additional information about the drug, especially its safety. Expanded access protocols can be undertaken only if clinical investigators are actively studying the new treatment in well-controlled studies, or all studies have been completed. There must be evidence that the drug may be an effective treatment in patients like those to be treated under the protocol. The drug cannot expose patients to unreasonable risks given the severity of the disease to be treated.

Some investigational drugs are available from pharmaceutical manufacturers through expanded access programs listed in ClinicalTrials.gov. Expanded access protocols are generally managed by the manufacturer, with the investigational treatment administered by researchers or doctors in office-based practice. If you or a loved one are interested in treatment with an investigational drug under an expanded access protocol listed in ClinicalTrials.gov, review the protocol eligibility criteria and location information and inquire at the Contact Information number.

See "FDA Finds New Ways to Speed Treatments to Patients" for more details. Link to:

<http://www.fda.gov/fdac/special/newdrug/speeding.html>

*What is an IND?*

**Investigational New Drug Application (IND)** -- After completing pre-clinical testing, an IND must be filed with the regulatory agency, the U.S. Food and Drug Administration (FDA). The IND outlines the results of pre-clinical testing and clearly defines how future studies will be conducted. The FDA has thirty days to review the IND. If they do not disapprove the IND within that time period, the drug can move on to a phase 1 trial where it can be tested in humans.

# What are Clinical Trials?

---

If the clinical trial is to evaluate a new drug, the first step is an action plan called the Investigational New Drug Application (IND) that is presented to the FDA. This application contains everything known about the therapy, including all the data from laboratory and animal tests. If the FDA feels that the therapy might possibly benefit people, it approves the IND and the first clinical trials can begin.

*What is a NDA and a BLA?*

**New Drug Application (NDA) / Biologics License Application (BLA)** -- Once all three clinical trial phases are complete and if the data demonstrates that the drug is safe and effective, an NDA/BLA is filed with the U.S. Food and Drug Administration (FDA). This NDA/BLA must contain all of the scientific information compiled over the course of the trials. The FDA is allowed at least six months to review the NDA/BLA. However, this review process can sometimes take up to two years depending on the procedures set forth by a specific country.

Once a product has successfully completed Phase I and II trials, the sponsor (usually a pharmaceutical company) files a New Drug Application (NDA) with the FDA. In this application, the sponsor requests permission to begin Phase III trials with the anticipation that the product will, at the completion of Phase III trials, show enough benefit both in safety (equal or improved quality of life compared to standard care) and efficacy (equal or greater reduction in tumor growth and extended life compared to standard treatment).

Every product for treatment that goes through review by the FDA has all the data for the studies examined by a committee comprised of leading oncologists from the around the United States. The committee also includes a survivor who brings the special patient/survivor perspective to the discussions.

*How does it get approved?*

Once the U.S. Food and Drug Administration approves the NDA/BLA, the drug becomes available for physicians to prescribe. Although the product is approved, it must continue to comply with regulatory requirements over time. For example, all cases of adverse events caused by the drug must be reported and quality control standards must be met. In some cases, the regulatory agency will also require post-marketing studies to evaluate the long-term effects of the drug.

# What are Clinical Trials?

---

*What happens after FDA Approval?*

Approval by the FDA generally means that insurance companies will pay for the treatment.

Once a product is approved by the FDA, it may be used by a physician in any way he or she feels it will be beneficial. A therapy approved for breast cancer, for example, may still be in clinical trials for mesothelioma but enough data is available so that your physician feels this therapy might benefit you. Your doctor could suggest to you that he or she treat you with that therapy.

However, some insurance companies will not pay for the use of a therapy that is not approved by the FDA for that particular disease. This is called “unapproved use” or “unapproved indications.” For instance, a therapy for breast cancer might not be paid for when it is used to treat mesothelioma. However, many cancer advocates and groups are working to ensure that these “unapproved uses” are paid for.

Some supportive care, prevention, and screening trials are not done in phases. These trials compare groups of people using a certain anticancer strategy (counseling, behavior change, detection method) with groups that do not receive the test strategy.

*What are post-marketing studies?*

Post-marketing studies, also called phase 4 studies, often have several objectives. One, these studies are often performed in special patient populations not previously studied (for example, pediatric or geriatric). Two, the studies are often designed to monitor a drug's long-term effectiveness and impact on a patient's quality of life. And, three, many studies are designed to determine the cost-effectiveness of a drug therapy relative to other traditional and new therapies.

# What are Clinical Trials?

---

## Contact Information:

Winchester Business Systems, Inc.  
304 Cambridge Road  
Woburn, MA 01801  
United States  
Phone 1-781-503-0200  
Fax: 1-781-503-0207  
<http://www.wbsnet.com>