

SUPREME COURT OF ILLINOIS

Southern Illinoisan v. Illinois Department of Public Health

218 Ill. 2d 390 (2006) · No. 98712 · Decided February 2, 2006

SUMMARY

The Illinois Supreme Court held that the Illinois Department of Public Health was required to disclose Cancer Registry data concerning neuroblastoma cases by cancer type, diagnosis date, and ZIP code. The court concluded that the requested information did not constitute a group of facts that reasonably tended to identify individuals under the Illinois Health and Hazardous Substances Registry Act and therefore was not exempt from disclosure under the Freedom of Information Act.

CASE DETAILS

COURT	Supreme Court of Illinois
WRITING FOR THE COURT	Justice McMorrow; Chief Justice Thomas; Justice Freeman; Justice Fitzgerald; Justice Kilbride; Justice Garman; Justice Karmeier
JURISDICTION	Illinois
DECIDED	February 2, 2006
DOCKET	98712
DISPOSITION	affirmed
PROCEDURAL POSTURE	The Illinois Department of Public Health appealed an appellate court judgment affirming a circuit court order requiring disclosure under the Illinois Freedom of Information Act of Cancer Registry data concerning neuroblastoma cases by cancer type, diagnosis date, and ZIP code. The Illinois Supreme Court granted leave to appeal and affirmed.
STANDARD OF REVIEW	Statutory interpretation is reviewed de novo. The circuit court's factual findings following the bench trial are reviewed for manifest error or whether they are against the manifest weight of the evidence. FOIA review in the circuit court is de novo, with the public body bearing the burden of establishing that an exemption applies.
PRECEDENTIAL VALUE	Published Illinois Supreme Court opinion; binding statewide precedent.
PARTIES	Illinois Department of Public Health, et al. v. Southern Illinoisan

TOPICS

health law

administrative law

judicial review of agency action

statutory interpretation

civil procedure

PRACTICE AREAS

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QUESTIONS PRESENTED

1. Whether Cancer Registry information consisting of cancer type, date of diagnosis, and patient ZIP code tends to lead to the identity of persons whose conditions or treatment are recorded in the Registry under section 4(d) of the Illinois Health and Hazardous Substances Registry Act.
2. Whether the requested information was therefore exempt from disclosure under section 7(1)(a) of the Illinois Freedom of Information Act.

HOLDINGS

1. Information tends to lead to the identity of Registry patients under section 4(d) only if the information can be used by the general public to make those identifications. The statute does not require insertion of the word "reasonably," but it establishes a flexible, case-specific standard rather than a per se exemption.
2. The Department failed to establish that the requested Cancer Registry information tended to lead to the identity of specific persons or fell within the FOIA exemption in section 7(1)(a). The requested information therefore had to be disclosed.

KEY QUOTATIONS

"In our view, by choosing to use the word "tends," the legislature has allowed for case-specific determinations with the respect to the release of Cancer Registry information, with the analysis meant to be adaptable to the particular circumstances presented." (at 405)

"Accordingly, in light of these public policies, we conclude that information "tends to lead to the identity" of Registry patients only if that information can be used by the general public to make those identifications." (at 407)

"As the FOIA is to be interpreted liberally, and the exemptions to disclosure are to be interpreted narrowly, we conclude that the lower courts properly instructed the Department to disclose to plaintiff the information contained in its FOIA request." (at 410)

FACTUAL BACKGROUND

The Southern Illinoisan requested Illinois Department of Public Health Cancer Registry information concerning neuroblastoma cases from 1985 onward, limited to cancer type, date of diagnosis, and patient ZIP code, without names or addresses. The Department denied the request under the FOIA and the Illinois Health and Hazardous Substances Registry Act, relying principally on expert testimony that individuals could be reidentified by combining the requested data with publicly available datasets. The expert successfully identified 18 of 20 Registry subjects using a multistep method requiring specialized knowledge, data sources, and approximately

\$2,000 in expenses. The courts found that the Department did not establish that members of the general public could duplicate that process.

PROCEDURAL HISTORY

The Department denied the newspaper's FOIA request, asserting that the information was exempt because the Illinois Health and Hazardous Substances Registry Act prohibited disclosure of information tending to lead to the identity of Registry patients. The circuit court initially granted summary judgment for the newspaper, but the appellate court reversed and remanded for a factual determination. After a bench trial, the circuit court again ordered disclosure, and the appellate court affirmed. The Illinois Supreme Court affirmed the appellate court.

DISPOSITION

affirmed

CASES CITED

- Donaldson v. Central Illinois Public Service Co., 199 Ill. 2d 63, 66 (2002)
- May v. Central Illinois Public Service Co., 260 Ill. App. 3d 41 (1994)
- People ex rel. Sherman v. Cryns, 203 Ill. 2d 264, 279 (2003)
- In re Madison H., 215 Ill. 2d 364, 372 (2005)
- Michigan Avenue National Bank v. County of Cook, 191 Ill. 2d 493, 504 (2000)
- Burger v. Lutheran General Hospital, 198 Ill. 2d 21, 40 (2001)
- Bowie v. Evanston Community Consolidated School District No. 65, 128 Ill. 2d 373, 378 (1989)
- Lieber v. Board of Trustees of Southern Illinois University, 176 Ill. 2d 401, 407-08 (1997)
- Illinois Education Ass'n v. Illinois State Board of Education, 204 Ill. 2d 456, 462-64 (2003)
- American Federation of State, County & Municipal Employees v. County of Cook, 136 Ill. 2d 334, 341 (1990)
- In re Estate of Dierkes, 191 Ill. 2d 326, 330 (2000)
- Southern Illinoisan v. Illinois Department of Public Health, 319 Ill. App. 3d 979, 986-87 (2001)
- Southern Illinoisan v. Illinois Department of Public Health, 349 Ill. App. 3d 431, 434-36 (2005)

OPINION

PER CURIAM.

Docket No. 98712. IN THE SUPREME COURT OF THE STATE OF ILLINOIS SOUTHERN ILLINOISAN, Appellee, v. THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH et al., Appellants. Opinion filed February 2, 2006. JUSTICE McMORROW delivered the judgment of the court, with opinion. Chief Justice Thomas and Justices Freeman, Fitzgerald, Kilbride, Garman and Karmeier concurred in the judgment and opinion.

OPINION Plaintiff, the Southern Illinoisan newspaper, requested the Illinois Department of Public Health (Department) to release from the Illinois Health and Hazardous Substances Registry (Cancer Registry) certain data about incidents of neuroblastoma, a rare form of childhood cancer.

The Department denied plaintiff's request. Thereafter, plaintiff filed a complaint in the circuit court of Jackson County pursuant to the Freedom of Information Act (FOIA) (5 ILCS 140/1 et seq. (West 1998)), requesting judicial review of the Department's denial.

The circuit court granted plaintiff summary judgment and ordered the Department to release the requested data. The appellate court reversed the judgment of the circuit court and remanded the cause for further proceedings. 319 Ill. App. 3d 979 (2001) (Southern Illinoisan I).

After a bench trial, the circuit court of Jackson County again ordered the release of the requested information. The appellate court affirmed the judgment of the circuit court and directed the Department to release the information requested by plaintiff. 349 Ill. App. 3d 431 (Southern Illinoisan II).

For the reasons that follow, we affirm the judgment of the appellate court. BACKGROUND We limit our discussion of the factual background and procedural history of the instant cause to only those points relevant to the issue presented in this appeal. Plaintiff, the Southern Illinoisan, is a daily newspaper published in Carbondale, Illinois.

On October 28, 1997, plaintiff made a written request, pursuant to the FOIA (5 ILCS 140/3 (West 1998)), that the Department provide plaintiff with copies of documents relating to the incidence of neuroblastoma 1 in Illinois from 1985 to the date of the request.

In its request, plaintiff wrote that it believed that these documents were Aavailable by type of cancer, zip code and date of diagnosis,@ and asked that the information be delivered to plaintiff in that format. Plaintiff did not request that the Department release any other identifying information, such as the patients= names or addresses.

In a letter dated November 18, 1997, the Department denied plaintiff's FOIA request. The Department based this denial on sections 7(1)(a) and (1)(b) of the FOIA (5 ILCS 140/7(1)(a), (1)(b) (West 1998)), which protects information that is specifically exempted from disclosure under state law. According to the Department, the Medical Studies Act (735 ILCS 5/8B2101 (West 1 Neuroblastoma is a cancer of the peripheral nervous system that typically develops in infants and young children.

Statistics reveal that neuroblastoma afflicts approximately 9 out of every 1 million children born. See Donaldson v. Central Illinois Public Service Co., 199 Ill. 2d 63, 66 (2002). -2- 1998)) prohibited the Department from disclosing any information Acollected in a medical study.@ On November 24, 1997, plaintiff appealed the denial of its FOIA request to Dr. John R. Lumpkin, the

Director of the Department.² In a letter dated December 4, 1997, Dr. Lumpkin reaffirmed the denial of plaintiff's FOIA request.

In his letter to plaintiff, Dr. Lumpkin explained the basis for the denial: AAfter reviewing the request, I must affirm the Department's denial of the information regarding the incidence of neuroblastoma by zip code and date of diagnosis based on the Medical Studies Act (735 ILCS 5/8B2101). I believe this information is, and should continue to be, protected as it is information collected in a medical study.@ On January 23, 1998, plaintiff filed a complaint in the circuit court of Jackson County, pursuant to section 11 of the FOIA (5 ILCS 140/11 (West 1998)).

The complaint requested, inter alia, judicial review of the Department's denial of plaintiff's information request. Plaintiff contended that no statutory disclosure exemption applied to the records it had requested from the Department. According to plaintiff, the records it sought to obtain from the Department under the FOIA were clearly of significant interest to the general public, as they would Areveal the existence or non-existence of cancer clusters in the State of Illinois.@ In support of its request for disclosure, plaintiff cited to the appellate court's decision in *May v. Central Illinois Public Service Co.*, 260 Ill. App.

3d 41 (1994), as controlling. On June 8, 2005, plaintiff filed in the circuit court a motion for judgment on the pleadings or, in the alternative, a motion for partial summary judgment. According to plaintiff, the Department, in its answer to plaintiff's complaint, failed to raise any statutory exemption as an affirmative defense to plaintiff's FOIA request for disclosure.

In addition, plaintiff asserted, the Department had failed to raise any factual basis in support of the claim that the documents were exempt from disclosure. Plaintiff argued that the instant cause was factually analogous to the appeal in *May*, wherein the appellate ² The Department notes that its current Director is Dr. Eric E. Whitaker, who immediately succeeded Dr. Lumpkin in that post. -3- court upheld the trial court's order directing the Department to disclose records identical to those requested in this cause.

Plaintiff noted that in *May*, the court held that the release of the records from the Cancer Registry by type of cancer, date of diagnosis and ZIP code would not result in an invasion of patient privacy. Accordingly, plaintiff asserted, a similar result was warranted here, and there existed no genuine issue of material fact to preclude entry of summary judgment in its favor.

Thereafter, the Department filed a response to plaintiff's summary judgment motion, as well as its own cross-motion for summary judgment. ³ The Department argued, inter alia, that because disclosure of the information sought by plaintiff was prohibited by the Illinois Health and Hazardous Substances Registry Act (Registry Act) (410 ILCS 525/1 et seq. (West 1998)), it was therefore exempt under section 7(1)(a) of the FOIA (5 ILCS 140/7(1)(a) (West 1998)).

The Department explained in its pleadings that it could not satisfy plaintiff=s FOIA request because although the FOIA provides that Aeach public body shall make available to any person for inspection or copying all public records@ (see 5 ILCS 140/3(a) (West 1998)), there are certain exceptions to disclosure, including A[i]nformation specifically prohibited from disclosure by *** State law or rules or regulations adopted under *** State law@ (see 5 ILCS 140/7(1)(a) (West 1998)).

The Department argued that the information requested by plaintiff was prohibited from disclosure under this provision because the Registry Act precludes disclosure of information which reveals A[t]he identity, or any group of facts which tends to lead to the 3 On the date it filed its response, the Department also filed a motion to file an amended answer.

The Department requested the court to allow it to amend its answer to reflect the affirmative defenses raised in the Department=s response to plaintiff=s summary judgment motion and in its own cross-motion for summary judgment. -4- identity, of any person whose condition or treatment is submitted to the Illinois Health and Hazardous Substances Registry.@ See 410 ILCS 525/4(d) (West 1998).

In support of its position, the Department attached the affidavit of Dr. Latanya Sweeney, Ph.D., a professor of computer science and public policy at Carnegie Mellon University. In her affidavit, Dr. Sweeney attested that, at the behest of the Department, she conducted an experiment to determine if persons listed in the Cancer Registry could be identified from only the three information fields requested by plaintiff: the type of cancer, the date of diagnosis, and the patient=s ZIP code.

According to Dr. Sweeney, she compared the data in these three information fields to other data sets that are available to the general public, such as patient names, addresses, phone numbers, financial information, and other medical information. Even though the data in the Cancer Registry did not have identifiers such as names, addresses and telephone numbers, Dr. Sweeney attested that through her experiment she could Ashow how persons can be re- identified from the Illinois Cancer Registry when the combination of data elements that includes only type of cancer, date of diagnosis, and zip code is provided.@ According to Dr. Sweeney, her experiment Aestablishe[d] that a significant number of individuals in the general public with access to a personal computer, using traditional database software, who purchase or acquire public data sets will be able to reidentify individuals in the Illinois Cancer Registry,@ as this Aseemingly anonymous information can be re-identified by linking the information to databases that are made available to the public.@ Finally, although the Department noted that plaintiff relied upon the May case, and also acknowledged that in May the court was faced with the same issue as in the instant matter, the Department attempted to draw one crucial difference between May and the instant cause: the court

in May was not presented with any definitive showing of how the data contained in the Cancer Registry could be reidentified.

The Department asserted that, based upon Dr. Sweeney's affidavit, it established how the dissemination of this information could tend to lead to a patient's identity, and, therefore, that the disclosure of the information was prohibited.

On December 31, 1998, the circuit court granted plaintiff's motion for summary judgment, and denied the Department's cross-motion for summary judgment. In the course of its ruling, the court noted that it had made an in camera inspection of the records requested by plaintiff under the FOIA and determined that the appellate court's decision in May was controlling.

Accordingly, in its order, the circuit court directed the Department to produce the Illinois Cancer Registry by listing the type of cancer, date of diagnosis and zip code of each cancer patient from 1985 to present. The circuit court also ordered that the parties were restricted from identifying or attempting to identify or contact cancer patients from information produced pursuant to this action. On July 22, 1999, the circuit court denied the Department's motion for reconsideration.

On appeal, the appellate court reversed the circuit court's grant of summary judgment to plaintiff. 319 Ill. App. 3d 979 (2001) (Southern Illinoisan I). Relevant to the instant appeal, the Department had argued, inter alia, that the disclosure exemption in section 7(1)(a) of the FOIA (5 ILCS 140/7(1)(a) (West 1998)), which exempts from release information specifically prohibited from disclosure by federal or state law, precluded the release of the information requested by plaintiff.

The Department asserted that disclosure of the information requested by plaintiff would violate section 4(d) of the Registry Act (410 ILCS 525/4(d) (West 1998)), which provides that the identity, or any group of facts that tends to lead to the identity, of any person whose condition or treatment is submitted to the Cancer Registry is confidential and not open to public inspection or dissemination.

The appellate court agreed with the Department that there was a genuine issue of material fact as to this issue. Although plaintiff argued that Dr. Sweeney's affidavit was conclusory, the appellate court disagreed. The appellate court held that Dr. Sweeney's affidavit raised a genuine issue of material fact, namely: Is the requested data that which tends to lead to the identity of any person whose condition is submitted to the Department? 319 Ill. App.

3d at 986. The appellate court held that in answering this question, the circuit court was to read in a reasonableness requirement in determining whether the requested information constituted a group of facts which tends to lead to the identity of cancer patients, within the meaning of section 4(d) of the Registry Act.

The appellate court explained its reasoning as follows: -6- AThe phrase >group of facts that tends to lead to the identity= must mean any group of facts that reasonably would tend to lead to the identity of specific persons.

The entire purpose of the Cancer Registry Act (see 410 ILCS 525/2(b), (c) (West 1998)) would be effectively repealed by subsection 4(d) if we did not impose the reasonableness requirement, because any fact, no matter how unrelated to identity can tend to lead to identity, and, therefore, any and every fact would be exempt under subsection 4(d).

However, since one purpose of the Cancer Registry Act is to provide information to the public, this cannot be what the legislature intended. If, however, one reads the statutory phrase as precluding the release of information that reasonably would tend to lead to identity, some information is exempt, while other information is not exempt.

In our judgment, whether the information sought in this case would reasonably tend to lead to the identity of particular individuals presents a question of fact.@ (Emphases in original.) 319 Ill. App. 3d at 987. Because the appellate court found that a genuine issue of material fact was presented, it therefore held that the trial court erred in entering summary judgment in favor of plaintiff.

Accordingly, the appellate court remanded this cause to the trial court for further proceedings. 319 Ill. App. 3d at 987. Upon remand, the circuit court held a bench trial on June 6, 2002. Because the FOIA places the burden of proof upon the public body to establish that its refusal of disclosure is in accordance with the FOIA (5 ILCS 140/11(f) (West 1998)), the Department put on its case first.

The Department=s first witness was Janice Snodgrass, the manager of the Cancer Registry. She testified that the Cancer Registry is a Acancer database surveillance system,@ meaning that it contains information that has been reported to the Department pursuant to the Registry Act from approximately 400 different reporting sources.

The Registry Act requires mandated reporting of cancer cases from all Illinois hospitals, as well as from ambulatory surgical centers and free-standing radiation treatment centers. In addition, there is voluntary reporting by some physicians, dermatologists, and pathology labs. Also, Snodgrass testified, there is -7- data exchange from 13 other states where Illinois patients might have migrated.

Snodgrass testified that the Cancer Registry is maintained on a computer, and the information in the Registry consists of demographic information that identifies the patient, including his or her address, the patient=s county of residence, the patient=s race and gender, and whether the patient used alcohol and/or tobacco.

The Cancer Registry also contains patient medical information, including the patient's type of cancer, how it was diagnosed, the date of diagnosis, how much it has spread, and treatment and survival information. Snodgrass testified that although the very specific information contained within the Cancer Registry—such as patient identity and residence—is kept strictly confidential, a public data set from the Cancer Registry is available on the Department's Web site.

This public data set contains very limited information, and provides this information at the state, county and ZIP code levels. According to Snodgrass, as the geographical areas become smaller, less information is available to protect patient confidentiality.

Although the Department provides public data sets of information from the Cancer Registry, Snodgrass testified that plaintiff's request for information was problematic because plaintiff asked that the Department disclose the specific number of neuroblastoma cases, along with date of diagnosis and the patient's ZIP code. According to Snodgrass, the public data sets do not specifically disclose whether a certain case is a neuroblastoma case.

Snodgrass testified that if an individual wishes to obtain information beyond that which is available in the public data set, the Registry Act provides that the requestor must fill out an application for access to the data, as well as sign a confidentiality agreement.

The application is then processed by an internal review board, which then determines whether disclosure will be made. According to Snodgrass, plaintiff did not avail itself of this procedure. On cross-examination, Snodgrass was asked if she was aware of recent occurrences of claims of neuroblastoma caused by site-specific environmental causes. She responded Ayes@ to this question.

Snodgrass testified, however, that the raw data is not information which is available to the public. A scientist or researcher, however, -8- could request this information from the Department if the purpose for the request was to perform an investigation.

The Department's second—and final—witness at trial was Dr. Latanya Sweeney. Dr. Sweeney testified that she is an assistant professor of computer science and public policy at Carnegie Mellon University, and also the University's director of the Laboratory for International Data Privacy. Dr. Sweeney joined Carnegie Mellon in 1998, and, prior to that, she worked as an instructor at Harvard University.

Dr. Sweeney stated that she has an undergraduate degree in computer science from Harvard University, a master's degree in computer science and electrical engineering from MIT, and a Ph.D in computer science from MIT. Dr. Sweeney testified that she has served as an expert witness in numerous cases involving data privacy questions and the anonymity of data, and that she has worked as a consultant for several governmental agencies.

Based upon her credentials, the circuit court qualified Dr. Sweeney as an expert witness on the subject of data anonymity. Dr. Sweeney testified that she was contacted by the Department in 1998, and asked whether she could reidentify individuals contained in the Cancer Registry based upon the Registry information and anything else she could find from other public sources.

The data fields she was given from the registry were the type of cancer, the date of the diagnosis and the ZIP code in which the patient resided. The identical fields of information requested by plaintiff in its FOIA request. Dr. Sweeney testified that in conducting this experiment she used a regular laptop computer, commercially available spreadsheet software, the information from the Cancer Registry sought by plaintiff, and any other information that she could obtain through Internet access.

Upon completion of her experiment, Dr. Sweeney testified, she was able to supply a single correct name for 18 of 20 sets of data given to her by the Department from the Cancer Registry. In addition, Dr. Sweeney was able to suggest two alternative names. One of which was correct. For the remaining two data sets. According to Dr. Sweeney, the information in the Cancer Registry requested by plaintiff. The date of diagnosis, patient's ZIP code and type of cancer. Could be correctly reidentified in from 80% to 87% of all instances. -9- Dr. Sweeney then went on to testify at length as to the exact steps that she took in order to arrive at these identifications.

The circuit court, fearing that Dr. Sweeney's testimony could serve as an instruction book for anyone attempting to replicate what Dr. Sweeney had done, sealed that portion of Dr. Sweeney's testimony in which she set forth the methodology she used to make these identifications.

We have thoroughly examined Dr. Sweeney's sealed testimony for the purposes of this appeal. Without divulging the specifics of the testimony placed under seal by the circuit court, we briefly outline, in general terms, the method employed by Dr. Sweeney in her experiment. Dr. Sweeney testified that she used a multistep method to identify the individuals in the Cancer Registry.

She stated that she began by researching the disease of neuroblastoma to familiarize herself with its symptoms, diagnosis and treatment. She then purchased several publicly available data sets, ranging in price from a few hundred dollars to over a thousand dollars. Dr. Sweeney testified that her costs associated with this experiment were approximately \$2,000.

Dr. Sweeney stated that she used some semi-public data sets, which she described as a slightly more expensive version of the public data set which contains the same information but in an easier-to-examine format. Dr. Sweeney testified that, in most instances, in order to obtain the information she used in her experiment, she had to fill out forms, wait for her request to be processed, and received the records in the mail in a CD-format.

Based upon what she learned through her research on neuroblastoma, Dr. Sweeney. With the assistance of a spreadsheet computer program. Then searched the public data sets for what she

believed would be relevant information leading to the identification of patients afflicted with this specific disease. Dr. Sweeney commented that some of the data sets she used consisted of files which contained About a million records.@ She stated that she scrutinized the data sets to determine what factors neuroblastoma cases may have in common.

At one point, Dr. Sweeney testified, she settled on a certain factor. However, when she used that factor as part of her analysis, she discovered that she had made a mistake, as that particular factor was far too broad and, accordingly, encompassed far too many cases other than those of neuroblastoma. Dr. Sweeney then went back to the data sets and focused on a second factor which she -10- believed was common to all neuroblastoma cases.

This time, Dr. Sweeney testified, when she ran this particular factor through her analysis, she had discovered that she had found a far more accurate match. She then gathered information from other on-line sources, as well as from libraries and newspaper archives, in order to accurately arrive at the names of 18 of 20 individuals listed in the Registry. Dr. Sweeney stated that she was able to make these identifications almost solely by use of the information she discovered in the publicly available data sets.

According to Dr. Sweeney, the use of the data that she received from the Cancer Registry performed two functions. First, the Cancer Registry information helped to narrow the fields of the ZIP codes that she used in her search of the public records.

Second, she was able to check the accuracy of her analysis by using the Registry information to verify that the individuals that she believed were afflicted with neuroblastoma actually had that disease. When asked whether she could identify neuroblastoma patients from the publicly available data sets without resorting to the information in the Cancer Registry, Dr. Sweeney responded, AYes, I can definitely identify neuroblastoma patients, but would I be accurate or would I be correct or accurate is a different question ***.@ In her testimony, Dr. Sweeney characterized the Cancer Registry as the Agold standard@ that allowed her to match the results she obtained from the public data sets for accuracy, and also informed her how good the profile of the neuroblastoma victim that she created was.

Dr. Sweeney stated that although she could identify the neuroblastoma patients without the information contained in the Cancer Registry, only relying upon the publicly available data sets, she also stated that she Acould not do it with that method with confidence, not with this kind of accuracy.@ Dr. Sweeney concluded her testimony by stating that, in her opinion, it is very easy for anyone to identify persons from the Cancer Registry using public data sets.

She explained: AIt is very easy in the following sense, all I used was commonly available PC technology *** [and] readily available software *** and all that was required were the simple programs of using [spreadsheets]. *** They come almost on every machine now days *** so they

don't require -11- you have any programming or require you to take a computer class, but they do require you to know the basics of how to use the machine and how to use those simple packages.@ Upon the conclusion of Dr. Sweeney's testimony, the Department rested its case.

Plaintiff presented no witnesses. The circuit court, in an oral ruling, delivered its judgment immediately after the parties concluded closing arguments. The circuit court focused on the issue as framed by the appellate court: whether the information sought by plaintiff reasonably tended to lead to the identity of any person whose condition or treatment is submitted to the Cancer Registry, thereby violating section 4(d) of the Registry Act, and in turn, making the information exempt under section 7(1)(a) of the FOIA.

The court answered this question in the negative, and explained its reasoning as follows: AI have to make a determination of what reasonable is, and to say that with the three factors that are requested by plaintiff, a reasonable person could walk to a computer and get thisBuse this information to determine what children in a given community have neuroblastoma, I don't think is correct.

They don't have the computer skills. They don't have the knowledge of information databases, I think don't have the knowledge as to how to doBor the analytical skills is what I am trying to say. *** [H]ow many people have the thousands of dollars and we'll even say hundreds of dollars necessary to secure the databases to get this done?

The key has to be that the information requested reasonably tends to lead to the identity of specific persons. It does not lead in this case. It affirms or confirms information which is gathered from other databases. *** Taking the [Cancer Registry] information in and of itself divorced from this other information *** leads nowhere. So, it is the finding of the court that the information requested will not reasonably tend to lead to the identification of individuals.

The right of the public to the information requested is best met by disclosure due to the substantial health risk of the condition for which the information is sought. The court orders that the information -12- requested be provided and that the plaintiff directly or indirectly shall not attempt to locate any individuals who may be an individual contained in the statistics released.@ On June 7, 2002, the circuit court entered a written order of judgment, memorializing the oral ruling it rendered on the previous day.

In holding that the information requested by plaintiff did not Areasonably tend to lead to the identity of specific persons,@ the court provided additional reasoning in support of its result: AThe knowledge which Dr. Sweeney acquired during her education and in her professional career provided her with a foundation upon which she drew in conducting her experiments.

This knowledge allowed her to know which data bases to look for and to cross index. The foundation of knowledge acquired by Dr. Sweeney is unique but not exclusive. It is not reasonable

to believe that someone with less knowledge, education and experience in this area would be as successful as Dr. Sweeney in using the information to arrive at the same result she achieved.

It was the unique data bases of information which were utilized by Dr. Sweeney that provided the identifying information rather than the information which was requested by the plaintiff. Even without the information requested by the plaintiff, Dr. Sweeney testified she would be able to identify specific individuals.

The information requested by the plaintiff does not lead to the identification of individuals. The information requested may confirm results of analysis of data retrieved from other sources. However, the information, in and of itself, does not lead to the identification. It is one *** piece of information in a melange of data which, when properly analyzed, could assist in confirming the identity of individuals.

This falls far short of >reasonably tending to lead to the identity of particular individuals.= @ On appeal, the appellate court affirmed the circuit court=s judgment directing the Department to release the data requested by plaintiff. 349 Ill. App. 3d 431 (Southern Illinoisan II).

The appellate court rejected the Department=s assertion that an individual did not need to be a professor from MIT to discover the identity of Cancer -13- Registry members from the data plaintiff requested in this case. AAlthough it is true, as the defendants contend, that Dr. Sweeney testified that she did her work on a simple laptop computer using standard, readily available software, we do not believe that it was Dr. Sweeney=s equipment alone or her equipment in conjunction with a passing knowledge of computing that made it possible for her to identify the subjects in question.

Rather, it was, as the circuit court noted, her knowledge, education, and experience that allowed her to make the identifications.@ Southern Illinoisan II, 349 Ill. App. 3d at 434. Accordingly, the appellate court found it difficult to believe that an average person with less knowledge, education and experience than Dr. Sweeney would have been able to construct and navigate the multistep methodology used to identify those listed as part of the Cancer Registry.

In addition, the appellate court found that Dr. Sweeney=s testimony failed to present the court with a reasoned measure of the threat that might exist from the release of this information to plaintiff or, for that matter, to the public in general.

The appellate court explained: A[W]hile the evidence presented by the defendants demonstrates that one expert in data anonymity was able to identify the subjects in question from the data requested by the plaintiff, following her own six-step process and drawing upon her years of education, knowledge, and experience to analyze the data to the extent necessary to identify the subjects in question, that evidence does not concretely and conclusively demonstrate that a threat exists that other individuals, even those with skills approaching those of Dr. Sweeney, likewise

would be able to identify the subjects or what the magnitude of such a threat would be, if it existed.

Are there two people in the entire State of Illinois who could replicate Dr. Sweeney's results with the same limited data or are there two thousand? Are there zero or are there a million? These questions are significant because without some sense of the magnitude of the alleged threat of which the defendants complain, it is very difficult for this court to determine whether the data in question reasonably tends to lead to the identity of specific persons.@ Southern Illinoisan II, 349 Ill. App.

3d at 435. -14- The appellate court noted that, in its prior opinion in Southern Illinoisan I, it held that it is necessary to impose a Reasonableness@ requirement in assessing whether the information requested by plaintiff from the Cancer Registry consists of a Group of facts that tends to lead to the identity@ of those listed in the Registry. Applying that rule to the facts presented, the appellate court held that the Department did not meet this burden.

The appellate court explained: A[T]he fact that one expert in data anonymity can manipulate data to determine identity does not necessarily mean, without more, that a threat exists that other individuals will be able to do so as well, nor does it in any way define the magnitude of such a threat or whether that threat, if it in fact even exists, renders the release of the data an act that reasonably tends to lead to the identity of specific persons.

To find otherwise would undermine the reasonableness requirement and would effectively remove it from our analysis, leading to a situation where if it could be shown that one expert could identify individuals from information released, then the release of that information would automatically be deemed to reasonably tend to lead to the identity of specific persons.@ Southern Illinoisan II, 349 Ill. App.

3d at 436. This court granted the Department's petition for leave to appeal pursuant to our Rule 315 (177 Ill. 2d R. 315). We also granted leave to the Associated Press, the Copley Press, Inc., Gannett Company, Inc., the Illinois Press Association and the Tribune Company to file an amicus curiae brief in support of plaintiff. ANALYSIS This appeal presents the sole question of whether the information requested from the Department by plaintiff pursuant to the FOIA Atends to lead to the identity@ of patients listed in the Cancer Registry, thereby violating section 4(d) of the Registry Act (410 ILCS 525/4(d) (West 1998)).

If so, then the information requested by plaintiff is exempt from disclosure under section 7(1)(a) of the FOIA (5 ILCS 140/7(1)(a) (West 1998)). The Department contends that the appellate court erred in affirming the circuit court's order that the Department disclose the -15- Cancer Registry information requested by plaintiff.

The Department begins its argument by observing that when a citizen of this state is diagnosed with cancer, that fact is mandatorily reported to the Department and the patient's information is recorded in the Cancer Registry.

The Department notes that the collection of such health information implicates the privacy concerns of the patients whose information is contained within the Registry. The Department asserts that the subsequent dissemination of the collected health information multiplies the potential privacy loss, especially if that dissemination is to a newspaper, such as plaintiff.

Accordingly, the Department maintains, the legislature sought to restrict the dissemination of the patient information contained within the Cancer Registry. To this end, the Department asserts, the legislature prohibited within section 4(d) of the Registry Act the disclosure not only of the identity of the patient, but also of any information or group of information that even tends to lead to the identity of any person whose condition or treatment is submitted to the Registry.

The Department contends that the lower courts applied an incorrect legal standard in this case, one that is at odds with the standard established by the General Assembly. According to the Department, the lower courts departed from the well-settled rule that in construing a statute, the plain language of the enactment must be used.

The Department maintains that the appellate court erred in reasoning that all information in some remote fashion would tend to lead to the identity of cancer patients, and therefore incorrectly advised the circuit court to determine whether the release of the information would reasonably tend to lead to the identity of specific persons.

Although the Department acknowledges in its brief to this court that the word tends is admittedly not very precise and potentially might be interpreted too broadly, the Department also takes the position that the legislature used the word tends to indicate a broader prohibition than just information that simply leads to the identity of cancer patients.

According to the Department, the appellate court's addition of the word reasonably to the tends to lead to the identity standard does not improve the analysis. The Department asserts that the word reasonably has the same imprecise quality as the word tends, and it can be interpreted so broadly that it nullifies the word tends and thwarts the legislative purpose in using that word. -16- The Department also argues that the uncontested evidence presented in the cause before us demonstrates that the Cancer Registry information requested by plaintiff tends to lead to the identity of cancer patients.

The evidence includes Dr. Sweeney's unrebutted assertion that 80% to 87% of the individuals in the Cancer Registry could be uniquely and correctly identified if the Department released the data requested by plaintiff.

The record also includes Dr. Sweeney's expert opinion that a number of individuals in the general public with access to a personal computer, using traditional database software, who purchase or acquire public data sets, will be able to identify individuals listed in the Cancer Registry.

Thus, the Department argues, the record establishes that the three data elements requested by plaintiff—the patient's type of cancer, the date of diagnosis and the patient's ZIP code—tend to lead to the identity of cancer patients and therefore violates section 4(d) of the Registry Act.

In addition, the Department asserts that the appellate court in *Southern Illinois II* significantly exaggerate[d] [the] complexity of Dr. Sweeney's experiment. The Department also states that even though Dr. Sweeney testified that the Cancer Registry information only assisted her in confirming the identity of the individuals, this testimony is sufficient to establish that the information requested by plaintiff under the FOIA tends to lead to the identities of the patients listed in the Registry.

With respect to the appellate court's prior decision in May, the Department asserts that Dr. Sweeney's testimony is a crucial distinguishing factor between that case and the instant matter. The Department asserts that the May court's observation that it could not see how dissemination of a person's ZIP code, type of cancer and date of diagnosis could tend to lead to the patient's identity describes a situation that is directly contrary to the factual evidence presented in the instant case as a result of Dr. Sweeney's testimony.

Finally, the Department also criticizes the lower courts for stressing only one of the purposes of the Cancer Registry—to provide information to the public—and connecting that purpose to the release of raw public data.

The Department asserts that the courts overlooked that the Registry Act has not one, but several, goals, and that releasing raw data is neither the only nor the best way to achieve the Act's purposes. For all of the above reasons, the Department concludes that the information requested by plaintiff from the Cancer Registry tends to lead to the identity of cancer patients included in the Registry.

Accordingly, the Department asserts, the information is prohibited from disclosure under section 4(d) of the Registry Act and, therefore, exempt from disclosure under section 7(1)(a) of the FOIA (5 ILCS 140/7(1)(a) (West 1998)).

In response, plaintiff asserts that the appellate court correctly affirmed the judgment of the circuit court requiring the Department to comply with plaintiff's FOIA request. Plaintiff contends that the FOIA is to be interpreted in favor of disclosure and that the exemptions from disclosure are to be read narrowly.

In addition, plaintiff asserts, the public policy concerns which underpin the Registry Act^{most} specifically that the Registry information be used to alert citizens about risks, early detection and treatment of cancers known to be elevated in their communities^{favor} disclosure of the information requested by plaintiff.

Although plaintiff acknowledges that the Registry Act has an ^{inherent} tension[@] between patient privacy and a community's right to know about elevated levels of cancer in its geographic area, plaintiff argues that the balance is tipped by the fact that the FOIA is to be given a liberal interpretation and that the exceptions to disclosure are narrow.

In addition, plaintiff contends, the lower courts correctly ruled that the Department did not meet its burden of proof in this case. Plaintiff emphasizes that under the FOIA, the Department bears the burden of proof to establish that an exemption from disclosure applies. According to plaintiff, a review of the record reveals that at no point did the Department demonstrate that release of the requested information would tend to lead to the identity of any person whose condition or treatment was submitted to the Cancer Registry.

With respect to Dr. Sweeney's experiment, plaintiff stresses that Dr. Sweeney is an expert at adeptly working with all types of data, and that she possesses knowledge through her education and career which allowed her to easily perform the experiment. Plaintiff asserts that, based upon Dr. Sweeney's testimony, it was apparent that she knew which data sets to use, how and where to obtain these data sets, ⁻¹⁸⁻ and the most efficient manner in which to review the applicable records.

Plaintiff also stresses that Dr. Sweeney testified that she used public data sets^{and} not the Cancer Registry information^{to} identify individual patients. Plaintiff notes that Dr. Sweeney testified that she used the Cancer Registry information only to verify her work.

In its brief to this court, plaintiff asserts that A[i]f this court adopts the privacy position asserted by the Department (that privacy is invaded by the release of data by diagnosis, date of diagnosis and zip code) then it would be impossible to meet the other goals of [the Registry] Act,[@] meaning that it will be impossible to inform health professionals and citizens of risks of cancer known to be elevated in their communities.

Plaintiff concludes its argument by noting that in May, the appellate court had occasion to examine section 4 of the Registry Act in relation to the release of Cancer Registry neuroblastoma information identical to that requested in this case.

In May, the appellate court held that the disclosure of the information was not prohibited. Plaintiff urges a similar outcome here. Plaintiff also notes that if disclosure of the information is ordered, it has agreed to be bound by the circuit court's order that it would not use the Cancer Registry information in any way to identify the individuals.

In conclusion, plaintiff urges this court to affirm the rulings of the lower courts directing the Department to comply with plaintiff=s FOIA request. In support of the position taken by plaintiff in the instant cause, the Associated Press, the Copley Press, Inc., Gannett Company, Inc., the Illinois Press Association and the Tribune Company have filed a brief with this court as amici curiae.

According to the amici news organizations, because they Adepend on FOIA to open government files to public scrutiny, they have a keen interest in both the outcome of this case and its impact on the future of FOIA.@ The amici argue that both the language and purpose of the FOIA instruct that public records cannot be withheld unless the government meets its burden of proving, by a preponderance of the evidence, that an invasion of privacy will occur if the records are released.

The amici emphasize that plaintiff is not seeking to expose private information about specific individuals. Rather, plaintiff has requested Amasked@ data that may shed light on possible links between hazardous substances and cancer, an issue of great public interest and one that the -19-legislature specifically contemplated in requiring the data collection under the Registry Act.

The amici assert that if the data were to show that an unusual type of cancer occurred in an extraordinary number of cases in one particular ZIP code, surely that would be of concern to everyone in that ZIP codeBand to people in other areas as well.

The amici argue that the lower courts correctly decided that plaintiff=s FOIA request should be granted, and that the requested information does not tend to lead to the identity of any patients listed in the Cancer Registry.

In the instant appeal, our inquiry is whether the circuit court properly granted plaintiff=s FOIA request for disclosure of Cancer Registry information relating to incidences of neuroblastoma by type of cancer, the date of diagnosis and the patient=s ZIP code.

We reject the arguments advanced by the Department, and agree with plaintiff that the lower courts correctly required disclosure of the requested information. Our analysis begins by examining the relationship between the FOIA and the Registry Act. Our review of the FOIA and the Registry Act is guided by several well-established principles of statutory construction.

It is well settled that the primary objective of this court when construing the meaning of a statute is to ascertain and give effect to the intent of the General Assembly. *People ex rel. Sherman v. Cryns*, 203 Ill. 2d 264, 279 (2003).

In determining legislative intent, our inquiry begins with the plain language of the statute, which is the most reliable indication of the legislature=s objectives in enacting a particular law. In *re Madison H.*, 215 Ill. 2d 364, 372 (2005). A fundamental principle of statutory construction is to view all provisions of a statutory enactment as a whole.

Accordingly, words and phrases should not be construed in isolation, but must be interpreted in light of other relevant provisions of the statute. *Michigan Avenue National Bank v. County of Cook*, 191 Ill. 2d 493, 504 (2000).

In construing a statute, we presume that the legislature, in its enactment of legislation, did not intend absurdity, inconvenience or injustice. *Burger v. Lutheran General Hospital*, 198 Ill. 2d 21, 40 (2001). The purpose of the FOIA is to open governmental records to the light of public scrutiny. *Bowie v. Evanston Community Consolidated School District No. 65*, 128 Ill. 2d 373, 378 (1989).

Accordingly, under the FOIA, public records are presumed to be open and accessible. *Lieber v. Board of Trustees of Southern Illinois University*, 176 Ill. 2d 401, 407 (1997); see also *Illinois Education Association v. Illinois State Board of Education*, 204 Ill. 2d 456, 462-63 (2003). This legislative intent is set forth by the General Assembly in section 1 of the FOIA: Pursuant to the fundamental philosophy of the American constitutional form of government, it is declared to be the public policy of the State of Illinois that all persons are entitled to full and complete information regarding the affairs of government and the official acts and policies of those who represent them as public officials and public employees consistent with the terms of this Act.

Such access is necessary to enable the people to fulfill their duties of discussing public issues fully and freely, making informed political judgments, and monitoring government to ensure that it is being conducted in the public interest. This Act is not intended to be used to violate individual privacy, *** or to disrupt the duly-undertaken work of any public body independent of the fulfillment of any of the forementioned rights of the people to access to information. *** These restraints on information access should be seen as limited exceptions to the general rule that the people have a right to know the decisions, policies, procedures, rules, standards, and other aspects of government activity that affect the conduct of government and the lives of any or all of the people.

The provisions of this Act shall be construed to this end. 5 ILCS 140/1 (West 1998). Based upon the legislature's clear expression of public policy and intent set forth in section 1 of the FOIA that the purpose of that Act is to provide the public with easy access to government information, this court has held that the FOIA is to be accorded a liberal construction to achieve this goal. *Bowie*, 128 Ill. 2d at 378.

Accordingly, we have, on several occasions, held that the exceptions to disclosure set forth in the FOIA are to be read narrowly so as not to defeat the FOIA's intended purpose. See, e.g., *Illinois Education Association*, 204 Ill. 2d at 463; *Lieber*, 176 Ill. 2d at 407; *American Federation of State, County & Municipal Employees (AFSCME) v. County of Cook*, 136 Ill. 2d 334, 341 (1990).

Therefore, When a public body receives a proper request for information, it must comply with that request unless one of the narrow statutory exemptions set forth in section 7 of the Act applies. @ Illinois Education Ass'n, 204 Ill. 2d at 463; Lieber, 176 Ill. 2d at 408; AFSCME, 136 Ill. 2d at 341; 5 ILCS 140/3(a) (West 1998) (AEach public body shall make available to any person for inspection or copying all public records, except as otherwise provided in Section 7 of this Act@).

Section 7 of the FOIA (5 ILCS 140/7 (West 1998)) sets forth a number of exemptions from disclosure, most of which are specific and identify the particular records that are shielded from disclosure. In the instant cause, the Department relies upon the exemption set forth in section 7(1)(a), which provides: A(1) The following shall be exempt from inspection and copying: (a) Information specifically prohibited from disclosure by federal or State law or rules and regulations adopted under federal or State law.@ 5 ILCS 140/7(1)(a) (West 1998)).

This court has held that A>[i]f the public body seeks to invoke one of the exemptions in section 7 as grounds for refusing disclosure, it is required to give written notice specifying the particular exemption claimed to authorize the denial.= @ Illinois Education Ass'n, 204 Ill. 2d at 464, quoting Lieber, 176 Ill. 2d at 408; 5 ILCS 140/9(b) (West 1998). Any person denied his or her request for disclosure under the FOIA may appeal the denial by sending a written notice of appeal to the head of the public body.

An individual has exhausted his or her administrative remedies with respect to the FOIA request if the head of the public body affirms the denial or fails to act within specified time limits. 5 ILCS 140/10 (West 1998). Thereafter, the party seeking disclosure of the requested information may challenge the denial in the circuit court. 5 ILCS 140/11(a) (West 1998).

Section 11(f) of the FOIA (5 ILCS 140/11(f) (West 1998)) sets forth the procedures to be followed by the circuit court in reviewing a denial of a FOIA request. This section provides that the court shall conduct the hearing Ade novo@ and shall conduct such in camera examination of the requested records as it finds appropriate to determine if such records or any part thereof may be -22- withheld under any provision of the FOIA (5 ILCS 140/11(f) (West 1998)).

The burden shall be on the public body to establish that its refusal to permit public inspection or copying is in accordance with the provisions of the FOIA and that the records fall within the exemption it has claimed. 5 ILCS 140/11(f) (West 1998); see also Illinois Education Ass'n, 204 Ill. 2d at 464; Lieber, 176 Ill. 2d at 407- 08. Applying this statutory framework to the matter before us, the Department bears the burden of establishing that the Cancer Registry records requested by plaintiff fall within the exemption contained in section 7(1)(a) of the FOIA: that the information is Aspecifically prohibited from disclosure by *** State law.@ 5 ILCS 140/7(1)(a) (West 1998).

The Department asserts that the disclosure of the requested information violates section 4(d) of the Registry Act because it tends to lead to the identity, of any person whose condition or treatment is submitted to the Illinois Health and Hazardous Substances Registry.@ 410 ILCS 525/4(d) (West 1998).

Accordingly, we turn to an examination of the Registry Act. In section 2 of the Registry Act, the General Assembly set forth its legislative findings. The General Assembly stated that a serious threat to public health and welfare is posed by hazardous substances, and thatBprior to the enactment of this legislationBthere existed no coordinated effort to collect and analyze information with respect to hazardous substances and their potential health effects.

410 ILCS 525/2(a)(i), (a)(ii) (West 1998). In addition, the legislature acknowledged that this Alack of comprehensive information has caused concern on the part of Illinois citizens and a lack of effective control by the State government.@ 410 ILCS 525/2(a)(iii) (West 1998).

In response to these concerns, the General Assembly enacted the Registry Act, because Ait is the obligation of the State government to inform and protect the citizens of Illinois by developing a comprehensive and integrated data system on hazardous substances and public health.@ 410 ILCS 525/2(a)(iv) (West 1998).

In sections 2(b) and (c), the legislature enumerated the purposes of the Registry Act: A(b) It is the purpose of this Act to establish a unified Statewide project to collect, compile and correlate -23- information on public health and hazardous substances. Such information is to be used to assist in the determination of public policy and to provide a source of information for the public, except when public disclosure of the information would violate the provisions of subsection (d) of Section 4 concerning confidentiality. (c) In particular, the purpose of the collection of cancer incidence information is to: (1) monitor incidence trends of cancer to detect potential public health problems, predict risks and assist in investigating cancer clusters; (2) more accurately target intervention resources for communities and patients and their families; (3) inform health professionals and citizens about risks, early detection and treatment of cancers known to be elevated in their communities; and (4) promote high quality research to provide better information for cancer control and to address public concerns and questions about cancer.@ 410 ILCS 525/2(b), (c) (West 1998).

Although it is apparent from the above-quoted sections of the Registry Act that the legislature intended the FOIA to facilitate public access to information with respect to hazardous substances and increased incidences of cancer, it is also apparent from section 4(d) of the Registry Act that, in certain instances, the General Assembly intended to limit public access to information in order to protect the privacy of cancer patients included in the Registry.

At the time plaintiff made its FOIA request to the Department, section 4(d) of the Registry Act provided in pertinent part: AThe identity, or any group of facts that tends to lead to the identity, of any person whose condition or treatment is submitted to the Illinois Health and Hazardous Substances Registry is confidential and shall not be open to public inspection or dissemination.@ 410 ILCS 525/4(d) (West 1998).

Subsequently, the legislature amended section 4(d) to include a new sentence immediately following the portion quoted above: -24- AFacts that tend to lead to the identity of a person include the following: name, social security number, address, and any other data element that, by itself or in combination with one or more other data elements, tends to identify any person.@ 410 ILCS 525/4(d) (West 1998) (as amended by Pub.

Act 90B607, '20, eff. June 30, 1998). The confidentiality requirements of the Registry Act are further underscored in section 4(e) of the Act, which mandates that A[t]he Department shall protect any information made confidential or privileged under law.@ 410 ILCS 525/4(e) (West 1998). Section 12 of the Registry Act similarly provides that AAll information contained in the Registry *** shall be made available to the public upon request; provided, however, nothing in this Act permits public disclosure of any information made confidential or privileged pursuant to this Act or any other statute.@ 410 ILCS 525/12 (West 1998).

Thus, a review of the pertinent statutory provisions underscores that the competing interests in this case are the interest in providing public access to meaningful information about potential Acancer clusters@ and the interest in minimizing the risk of invading the privacy of cancer patients. Indeed, these competing interests are captured in section 4(d) of the Registry Act, which prohibits the disclosure of otherwise publicly available information if it Atends to lead to the identity@ of the cancer patients listed in the Registry.

We find that under either the original version of section 4(d) of the Registry ActBwhich applies in this case, as it was the statute in effect at the time of the occurrenceBor the subsequently amended version of section 4(d), which sets forth a nonexclusive list of A[f]acts that tend to lead to the identity of a person,@ the relevant inquiry remains the same.

We must determine the meaning of the phrase Atends to lead to the identity@ as it is used in section 4(d) of the Registry Act. Because this is an issue of statutory interpretation, our review is de novo. In re Estate of Dierkes, 191 Ill. 2d 326, 330 (2000).

In general, Atend@ has been defined as meaning A[t]o be disposed toward (something),@ to Aserve, contribute or conduce in some degree or way,@ and A[t]o be directed or have a tendency to (an end, object, or purpose).@ Black=s Law Dictionary 1479 (7th ed. 1999).

In the -25- specific context of the Registry Act, we believe that the General Assembly selected to employ the word Atends@ in the phrase Atends to lead to the identity@ because it is a term that is

fluid and allows a case-by-case determination of whether the information at issue is subject to disclosure.

We agree with the Department that the word *Atends* is not very precise. We observe, however, that by employing the word *Atends*, the legislature deliberately allowed for flexibility, to the extent that, in some instances, disclosure of Registry information will be permissible and in other instances such disclosure will be prohibited.

As stated above, there are competing interests and therefore an inherent tension within the Registry Act: the purpose of the Act is to provide the public with information about hazardous substances and cancer, while at the same time the Act is intended to protect the identity of those patients afflicted with this disease.

The use of the term *Atends* indicates that the General Assembly wished to impose a somewhat heightened standard of confidentiality by prohibiting disclosure of Registry information other than just information that simply leads to the identity of cancer patients.

However, at the same time, the use of the word *Atends* also indicates that the legislature did not intend to erect a per se bar to the disclosure of Registry information, and we must, therefore, be mindful not to interpret this term too broadly.

In our view, by choosing to use the word *Atends*, the legislature has allowed for case-specific determinations with the respect to the release of Cancer Registry information, with the analysis meant to be adaptable to the particular circumstances presented.

However, we disagree with the appellate court below that, in order to preserve the intent of the legislature, the word *Areasonably* must be inserted immediately before the phrase *Atends* to lead to the identity in section 4(d) of the Registry Act.

We agree with the Department to the extent that it is neither appropriate nor necessary to insert the word *Areasonably* into section 4(d). It is apparent from the appellate court's opinions in *Southern Illinoisan I* and *II* that the addition of the word *Areasonably* by the appellate court below was driven by that court's concern that an extreme hypothetical situation could occur in which disclosure of any fact, no matter how unrelated to an individual's identity, could lead to identity of an individual listed in the Registry.

In turn, the appellate court feared, any and every fact would therefore be exempt from disclosure under section 4(d). *Southern Illinoisan I*, 319 Ill. App. 3d at 987; see also *Southern Illinoisan II*, 349 Ill. App. 3d at 432.

In other words, the court surmised that the word *Atends* could lead to a per se exemption from disclosure in each and every instance. However, as stated, we do not believe that this was the

intent of the legislature; rather, the intent, as we discern it, was to craft a flexible standard that would allow thoughtful consideration of each case upon its own unique facts.

Accordingly, it is our belief that the purposes of the Registry Act can be achieved using its plain language without inserting additional language into section 4(d). In the matter before us, the Department relies upon the testimony of Dr. Sweeney to support its position that the information requested by plaintiff is prohibited from disclosure pursuant to section 4(d) of the Registry Act because it consists of a group of facts that tends to lead to the identity of patients listed in the Cancer Registry.

However, we find that it is not entirely clear from section 4(d) of the Registry Act whether the legislature intended that disclosure of the Registry information is prohibited upon a showing by the Department that the challenged information tends to lead to the identity of Registry patients based upon experiments conducted by experts, such as Dr. Sweeney, or if disclosure is prohibited upon a showing that the general public at large is capable of making such identifications.

In other words, how revealing must the challenged information be, and to whom? Is the standard that an expert with knowledge and money can identify the Registry patients? Or is it that the general public, who may not have the same knowledge or funds, can make the identification?

In addition, how much money, effort, time, and expertise must be expended? Given this uncertainty in interpretation, we are especially mindful of the public policy which underpins both the Registry Act and the FOIA: to ensure public disclosure of government information that is not otherwise protected.

We also note, as stated above, that under the FOIA, public records are presumed to be open and accessible, with exceptions to disclosure to be read narrowly. Accordingly, in light of these public policies, we conclude that information tends to lead to the identity of Registry patients only if that information can be used by the general public to make those identifications.

In the instant matter, the Department through the testimony of Dr. Sweeney established that an expert with years of experience, specific knowledge of data systems, and the ability to adeptly manipulate data could identify patients listed in the Cancer Registry by using the information requested by plaintiff as one part of her multistep experiment.

We note, however, that the Department failed to establish that individual members of the general public could recreate what was accomplished by Dr. Sweeney. Through Dr. Sweeney's testimony, the Department showed that a dedicated computer professional, with knowledge of unfamiliar data sets, and with \$2,000 in funds to obtain the data, could identify the patients listed in the Cancer Registry.

However, at trial, the Department did not adduce competent evidence of whether a nonexpert could perform the multistep procedure performed by Dr. Sweeney to identify Cancer Registry patients. We note that the Department places great emphasis upon that portion of Dr. Sweeney=s testimony wherein she stated her opinion that the general public could identify the patients listed in the Cancer Registry.

Yet, other than Dr. Sweeney=s mere conclusion, the Department adduced no proof on this point. After carefully reviewing the testimony of Dr. Sweeney, the circuit court concluded that it was her Acknowledge, education and experience in this area@ that made it possible for her to identify the Registry patients. This factual finding is not against the manifest weight of the evidence.

The methodology Dr. Sweeney used to conduct her experiment was not as simple as sheBor the DepartmentBhas stated. We disagree with the Department=s assertion in its brief to this court that the appellate court in Southern Illinoisan II Asignificantly exaggerate[d] [the] complexity@ of Dr. Sweeney=s experiment.@ Our thorough examination of the record leads us to the conclusion that although Dr. Sweeney stated that the equipment and data sets that she used during her experiment would be readily available to the general public, the methodology she used during her experiment was unique to her education, training and experience, and not easily duplicated by the general public.

We agree with the appellate court=s assessment of Dr. Sweeney=s testimony and, therefore, quote with some length from its opinion in Southern Illinoisan II: ADr. Sweeney testified that she used a six-step method to identify the subjects in question. Without divulging information under seal, we note that this six-step method required knowledge that statistical information of the kind -28- she sought existed, skill in the gathering of that information, the integration and manipulation of the information from multiple sources so that a coherent picture of the relevance of each piece of information could be formed, the analysis of the information to determine its significance to the process of identification, and the solution of the sometimes complex problems that developed during the gathering, integration and manipulation, and analysis stages.

The defendants= assertions to the contrary notwithstanding, the identification process was not a simple task that almost anyone with a computer could accomplish. The process required not only the knowledge that relevant statistical data existed and the knowledge of where to look for that data but also the knowledge, education, experience, and skill to know what to do with that data once it was locatedBto put it all together so that it made sense.

For example, Dr. Sweeney testified that at one stage in her process she examined six cases to determine what each case had in common with the others. Initially, she settled on one factor, but when she sought medical records on the basis of that factor, she got a huge number of records back and recognized that the factor in question was far too broad to help her.

That Dr. Sweeney recognized that she had made a mistake, what the mistake was, and how to correct the mistake is indicative of her level of sophistication in this field of study. We find it difficult to believe that an individual with less knowledge, education, and experience than Dr. Sweeney has would have been able to navigate the six-step process as adeptly as she did.

Clearly, Dr. Sweeney's methodology required knowledge and analytical skills beyond that of the average person. The circuit court even engaged Dr. Sweeney in an extended discussion of her methodology. The trial judge stated, >I want to go through the project with you step by step as if I was a computer literate person attempting to recreate what you did.= Significantly, although Dr. Sweeney's responses to this line of questioning by the court indicate in great detail how she knew what to do, her responses lack concreteness and specificity regarding the extent to which others would be -29- able to do the same.

Nor did the defendants present any other evidence on this point. *** Had the defendants, with the many and varied resources available to a state agency, wished to present specific evidence on the extent to which other individuals possess the unique knowledge, experience, and analytical skills necessary to replicate Dr. Sweeney's work, they were free to do so.

Had they chosen to bring in other witnesses who also had been able to identify the subjects from the data in question, they were free to do that as well. Had they done one or both of these things, this court would be in a better position to evaluate the threat of which the defendants complain.

However, the defendants did not do so, and they now must stand by the evidence they actually presented, not by alarmist conjecture about the resounding policy implications of that somewhat limited evidence.@ Southern Illinoisan II, 349 Ill. App. 3d at 435-36.

In sum, we conclude, as did the lower courts in this matter, that the Department failed to demonstrate that the release of the Cancer Registry information requested by plaintiff tends to lead to the identity of the specific persons described in that data.

As we have noted, it was the Department's burden under the FOIA to establish that its refusal to release the requested material to plaintiff fell within the exemption set forth in section 7(1)(a) of the FOIA, by establishing that the information was prohibited from disclosure pursuant to section 4(d) of the Registration Act.

In the absence of more definitive proof that individuals of the general public would have the ability to duplicate Dr. Sweeney's multistep experiment, our decision is guided by the public policy of this state, which Aencourages a free flow and disclosure of information between government and the people.@ Bowie, 128 Ill. 2d at 378.

As the FOIA is to be interpreted liberally, and the exemptions to disclosure are to be interpreted narrowly, we conclude that the lower courts properly instructed the Department to disclose to

plaintiff the information contained in its FOIA request.

As a final matter, we note that in granting plaintiff access to the requested information from the Cancer Registry, the circuit court -30- ordered plaintiff not to identify those on the Cancer Registry list. We believe that the court=s order expressly forbidding plaintiff to use the information in an improper manner will ensure its confidentiality. CONCLUSION For the foregoing reasons, the judgment of the appellate court is affirmed.

Affirmed. -31-