

Defensive Testing in Dutch Family Practice Is the Grass Greener on the Other Side of the Ocean?

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BACKGROUND. Ordering laboratory tests and diagnostic imaging can be part of the defensive behavior of the physician. How often does this occur in family practice in the Netherlands? Defensive behavior is defined as a clear deviation from the family physician's usual behavior and from what is considered to be good practice in order to prevent complaints or criticism by the patient or the patient's family.

METHODS. Over a 1-year period, 1989-1990, 16 family physicians in 11 practices with 31,343 patients recorded all episodes of care involving an order for laboratory tests or diagnostic imaging or both (n=8897). The physicians selected one or more reasons to order each test from a fixed list of clinical considerations. In addition, they recorded whether they acted defensively for every test order.

RESULTS. The participating physicians reported that some degree of defensive medicine was associated with 27% of all test orders. Defensive testing varied with the clinical reasons to order a test: the wish to exclude a disease or to reassure the patient was a much stronger motive for defensive testing than the intention to confirm a diagnosis or to screen. Defensive tests generally resulted in fewer abnormal findings.

CONCLUSIONS. Defensive testing is an important phenomenon in Dutch family practice: it forms a well-defined element of practice despite the variations implicit in the different clinical reasons to order a test. Defensive testing is associated with a lower probability of finding an abnormal test result. The analysis of family physicians' clinical reasons for ordering tests becomes more meaningful when defensive testing is included.

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Many similarities exist in the daily clinical work of family physicians on both sides of the Atlantic. The realistic possibilities of litigation, however, are distinctly different in the United States from those in countries such as the Netherlands and the UK.¹⁻⁴ A substantial percentage of North American family physicians have been involved at some time in a malpractice suit, and European family physicians find it difficult to appreciate how stressful a climate of litigation can be and the extent to which it can result in practice changes, eg, more tests, more referrals or consultations, more documentation.⁵⁻⁸ Nevertheless, the experiences of English or Dutch family physicians, who for decades have functioned as gatekeepers in a

managed care system (mainly capitated), are relevant to family practice in the United States because US family physicians also practice defensive medicine and they make changes in their practice because of it.⁹⁻¹²

In this article, data on defensive testing in Dutch family practice are used to illustrate that the professionally accepted range of clinical reasons to order a test can be supplemented by the physician's report on the degree of defensive medicine involved.^{9,13,14}

A large routine database collected in a patient population for which family physicians function as gatekeepers can help answer two important questions: Is it useful to distinguish defensive testing from the usual clinical reasons for the family physician to order a test? Are test results different when they are ordered defensively?

Although malpractice suits are almost unheard of in the UK and the Netherlands, the fear of

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TABLE 1

The Existence of Defensive Considerations and the Reason to Order the Test

Reason for Test (No.)	Defensive Considerations	
	Slightly, %	Clearly, %
Follow-up (2221)	7	1
Confirming a disease (1823)	9	2
Screening/prevention (854)	13	5
Excluding a malignancy (580)	25	6
Excluding other diseases (2562)	32	13
Requested by patient (1110)	32	28
Reassurance of patient (1127)	35	33

NOTE: More than one reason could be given per test order.

patients complaining and criticizing family physicians is substantial.^{9,11,12} The majority of family physicians in England have adjusted their professional behavior over the years for defensive considerations.¹¹ Defensive medicine has also been documented in Dutch general practice over the past decade as a substantial cause of overprescribing, overtesting, and over-referring.^{9,13,14} It represents a clear deviation from the family physician's usual behavior and from what is considered to be good practice in order to prevent complaints or criticisms from the patient or patient's family. Defensive testing should avoid the risk of a formal complaint by a Dutch patient to a disciplinary board, which can be as stressful as a malpractice suit in the United States. Although the consequences are almost never financial, the loss of professional prestige, the legal ramifications that often drag on over several years, and the nagging uncertainty about the verdict and its fairness are equally distressing.

Another reason that data from the Netherlands can be relevant is that the organizational differences between primary care delivery on both sides of the ocean are diminishing.^{15,16} The recent Institute of Medicine (IOM) report on the future of primary care indicates that the responsibility to care for the large majority of health care needs of patients under the constraints of the marketplace, guided by protocols and standards for good professional behavior, and dealing with sometimes critical and demanding consumers, is a core characteristic of primary care in the United States.^{1,17,18} This situation applies to Dutch family practice as well.^{19,20} Wherever they work, family physicians deal with uncertainty, want to have good relations with their patients, and wish to limit

the number of medical interventions both for the sake of the health of their patients and for budgetary reasons.^{4,7,15,19} A competing demand model describes this difficult balance in more general terms, and defensive testing can illustrate it in more detail.²¹⁻²³

METHODS

Data were used from the Transition project of the University of Amsterdam, which has been described in some detail in this journal and also in the IOM report.^{1,20} The Transition project is based on the routine collection of detailed data on episodes of care by a large number of family physicians during all encounters with their listed patients during at least 1 year. Reasons for encounters, diagnoses, and interventions are classified in accordance with the *International Classification of Primary Care* (ICPC) and organized into episodes of care.^{2,20,24} During the year 1989 to 1990, 16 family physicians and 2 residents in 11 family practices with an average total over the year of 31,343 enrolled patients recorded all episodes of care that included one or more orders for a laboratory test or diagnostic imaging (n=8897)¹⁴; 9425 patients were also included in the more detailed registration of the Transition project.²⁰

For each test, the family physician listed one or more reasons to order it (Table 1). The list contained commonly used clinical considerations, including strategies to deal with uncertainty in primary care.^{7,21,23,25-27} The physician also reported whether he or she had acted defensively, as defined above.^{9,10} This self-reporting was limited to active, or positive, defensive medicine: ordering inappropriate or unnecessary interventions out of fear of criticism or complaints. Passive, or negative, defensive medicine, ie, avoidance of appropriate interventions, was not included. To categorize defensive testing, a 4-point Likert-type scale was used with the following categories: not at all, slightly, clearly, and strongly defensive.

Both the coding of the reasons to order a test and the degree of defensive medicine reported reflected physicians' personal perspectives on their work. Multiple discussions with groups of participating family physicians resulted in a good understanding of the purpose of the study. A large-scale data collection, however, usually is based on a selected group of recorders willing to invest a major amount

of energy. They do so because they find the subject interesting and believe it to be important for the development of their profession.

RESULTS

None of the participating family physicians were faced with a formal complaint by a patient during the registration year. Some degree of defensive medicine considerations pertained in 27% of all test orders (Table 2); one third of them were "clearly defensive." (For the analysis, "strongly defensive" and "clearly defensive" were combined into "clearly defensive.") Diagnostic imaging showed the highest proportion of defensive test ordering, closely followed by blood tests. Papanicolaou smears and other tests (bacteriological, urine, function endoscopy, etc) were considerably less often defensive.

Not surprisingly, the reasons to order a test varied considerably (Table 1). Some coincided relatively often with defensive considerations. Excluding a malignancy or other disease was frequently defensive. Compliance with the request of the patient to be tested and the wish to reassure the patient were "defensive" in approximately two thirds of all tests, and in one third these were "clearly defensive." On the other hand, confirming the existence of a disease and follow-up were relatively seldom defensive.

The participating family physicians reported rather different rates of defensive testing: 48% to 68% of all test orders were not at all defensive; 12% to 41% were slightly defensive; and 2% to 14% were clearly defensive. Tests to reassure the patient were strongly associated with defensive considerations, and they also varied considerably between practices. It was not considered helpful in the context of the more general questions examined in this article to analyze this aspect of interpractice variation in more detail; also, the overall use of laboratory tests varied considerably between the practices. In addition, the difference between the overall use of laboratory tests by family physicians in the United States and those in the Netherlands is impressive: approximately 1 in every 3 visits in the Ambulatory Sentinel Practice Network in the United States, compared with 1 in 8 visits in the Netherlands.^{13,14,26}

For blood tests, all the results were categorized as abnormal (usually at least 2 standard deviations outside the distribution), marginally abnormal (values between the laboratory's reference value and abnor-

TABLE 2

The Existence of Defensive Considerations in Different Test Orders

Tests Ordered (No.)	Defensive Considerations, %	
	Slightly	Clearly
Blood tests (5140)	20	10
Diagnostic imaging (1867)	25	10
Papanicolaou smear (1008)	11	4
Other tests (1269)	14	5
All test orders (8897)	18	9

TABLE 3

The Existence of Defensive Considerations and the Result of Blood Tests (n=10,982)

Result	Defensive Considerations, %		
	None (n=6982)	Slightly (n=2590)	Clearly (n=1410)
Normal	62	81	85
Marginally abnormal	24	15	13
Abnormal	14	4	2

mal), and normal (results within the reference values) (Table 3).^{14,28} Not surprisingly, defensive medicine resulted in a high proportion of normal test results; the probability of finding an abnormal value was small.

An important aspect of diagnostic uncertainty in primary care is illustrated in Table 4, which shows five episodes of care with the symptom diagnosis as the final diagnosis. The proportion of each episode for which a test was ordered varies broadly, but the contribution of defensive testing is always considerable. The distribution of clinical reasons to test is relatively uniform: excluding a disease is the most important, followed by the wish to reassure the patient or to comply with a request. In localized abdominal pain and in low back pain there was a strong tendency to confirm the symptom diagnosis.

DISCUSSION

The central conclusion from our data is that Dutch family physicians do indeed distinguish defensive testing from clinical reasons to order a test. The inappropriateness from a medical perspective is important. Why are defensive considerations so strongly associated with the wish to exclude a diag-

TABLE 4

Percentages of Defensive Testing and Clinical Reasons to Test in Five Episodes of Care with a Symptom Diagnosis with a Test

	Episodes of Care with Symptom Diagnosis and a Test				
	Tiredness, General Weak- ness (n=643)	Localized Abdominal or Stomach Pain (n=175)	Low Back Pain (n=88)	Dizziness (n=68)	Cough (n=40)
Percentage of all symptom diagnoses for which a test was ordered	67	28	8	71	6
Percentage of tests with defensive considerations	56	38	52	62	42
Reasons for the test, %					
Confirming a diagnosis	10	20	21	7	10
Excluding malignancy	2	10	8	0	45
Excluding other diseases	53	61	54	74	48
Request of patient or third party	17	7	20	9	5
Reassurance of patient	25	19	16	19	18

nosis or to reassure the patient? Defensive testing was coded by physicians as either clearly (9%) or slightly (18%) defensive in 27% of all tests they ordered. Defensive medicine implies that the physician perceives a discrepancy between his or her clinical judgment and the implicit or explicit wishes and demands of the patient: in essence, they differ in opinion about the necessity of the test. This combination of "inappropriate" testing and the perceived difference of opinion with the patient results in a situation in which family physicians order a test with reluctance while, in general, compliance with the patient's demand is accepted as part and parcel of family practice.^{22,23,29,30}

Apparently, at times it is difficult for the family physician to comply.³¹ This is evident from the substantial proportion of "slightly defensive" considerations for the tests ordered to exclude a disease; while these tests can be defended from a clinical perspective, family physicians are reluctant to order them, because they apparently feel forced to do so. In the same vein, defensive medicine appears to be associated with the wish to reassure the patient. Reassuring a patient with a test may not always be as effective as we would like it to be, but it can still be acceptable from a clinical point of view.³² Nondefensive tests carry a considerably higher probability for abnormal results, and in our study, they

reflect the usual distribution of disease encountered in primary care settings.¹⁴ The results of defensive tests are rarely abnormal, and our study physicians indicated that they expected normal results even though they ordered the tests.^{7,14}

Is the presumption correct that patients who are thus reassured are more likely to terminate the episode of care for which the test was ordered? It seems logical to expect this for symptom diagnoses such as tiredness, abdominal pain, or low back pain, which experienced family physicians can be reasonably sure in advance are not due to pathological causes. We do not know from reliable episode data, however, whether this is true.

Are our findings relevant for family practice in the United States? It is difficult to compare the US and Dutch data with respect to defensive testing, especially since so many more tests are ordered in the United States despite the prevailing atmosphere of health care parsimony. Yet the competing demand model exists in both countries, and the financial, organizational, and professional constraints of the changing marketplace result in increased pressures on primary care physicians everywhere. Family physicians also share a tendency to feel guilty about interventions that they consider inappropriate from a strictly clinical point of view.³¹

This tendency has important consequences for

the implementation of an information-handling model in which evidence-based medicine is superior to dealing with health problems that objectively do not require medical intervention at all, a not unusual situation in primary care.²⁷ Family physicians are not necessarily behaving badly when they order more tests than they consider necessary from a clinical perspective, and especially not when the tests are at the patient's request or when the physician is trying to diminish the patient's anxiety. The physician-patient relationship in primary care is never purely rational, and it would be a mistake to assume that ideally this should be the case.¹⁹ The overall feeling in the group of recording family physicians in this study was that guilt feelings based on criteria for appropriateness that do not always apply in primary care make life unnecessarily difficult. It is to be hoped that as a result of our study, participating physicians will have a more relaxed attitude toward interventions that may not be sufficiently evidence based but are useful in daily family practice. In addition, since patients in the Netherlands must be enrolled with a family physician as gatekeeper, and since there is relatively small personal mobility within the country, continuity of care is very high.^{1,2,20} A more relaxed test ordering behavior in response to defensive considerations could paradoxically result in the long run in less testing; especially in continuous working relations, the overall pressure felt by the physician to test could diminish.

Finally, it must be emphasized again that the utility of testing in family practice on both sides of the Atlantic cannot be assessed properly without also considering the existence of defensive testing.

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