of future experimental evaluation of post-MI smoking cessation interventions.

Moving on from the patient with established cardiovascular disease to people classified as "at risk," it is found that a number of large controlled trials of risk reduction have demonstrated that counseling on individual specific risk factors and exposure to smoking cessation techniques can be effective. These trials have been discussed in detail in the 1983 Report of the Surgeon General The Health Consequences of Smoking (USDHHS 1983). Rose and Hamilton and their colleagues (Rose 1977; Rose and Hamilton 1978; Rose et al. 1982) have found higher abstinence levels in a group given intense advice and education as compared with a control group. The Multiple Risk Intervention Trial (MRFIT) (Ockene et al. 1982b), with 12,866 high risk men, reported 40 percent abstinence in the special intervention group and 21 percent in the usual care group. Similar results were found in Britain (Rose et al. 1980) as part of the WHO multifactorial trial (WHO European Collaborative Group 1982). Other smaller scale studies have generally found that high risk men are susceptible to risk-reduction interventions (Cooper et al. 1982; Malotte et al. 1981; Powell and Arnold 1982). For the most part, these studies have been well designed and many have included objective validation of verbal reports.

The Use of Nicotine Chewing Gum

A pharmacological aid to smoking cessation designed to decrease the smoker's desire for nicotine and to relieve withdrawal symptoms has recently become available as a prescription product in the United States after development in Europe: current information and research has been summarized (Grabowski and Hall, in press; Hughes and Miller, unpublished manuscript). The new aid is a chewing gum containing 2 mg nicotine bound to an ion exchange resin for controlled release and buffered for rapid absorption through the buccal mucosa. Compared with the rapid elevation of blood nicotine levels achieved after smoking a cigarette, peak blood levels with 2 mg gum are lower and are achieved more slowly (Russell et al. 1976a; McNabb et al. 1982). Although blood levels may peak within minutes following smoking, peak levels occur after 20 to 30 minutes of chewing the gum, presumably not reproducing the pleasure of smoking because of the slower, nonbolus release of nicotine (Russell et al. 1980). Nicotine chewing gum is indicated as a temporary aid to the cigarette smoker seeking to give up his or her smoking habit while participating in a behavioral modification program under medical supervision. The efficacy of nicotine chewing gum use without concomitant participation in a behavioral modification program has not been established. Thus, nicotine gum could aid
in the cessation process by allowing the smoker to break the smoking habit with abrupt cigarette cessation, while gradually withdrawing from nicotine. In controlled studies, evidence has been offered that nicotine gum can relieve withdrawal symptoms (Jarvis et al. 1982; Schneider and Jarvik 1984; Schneider et al. 1983; Hughes et al. 1984; West et al. 1984).

According to Hughes and Miller (unpublished manuscript), contraindications include recent MI's or life-threatening arrhythmias, severe or worsening angina, or active temporomandibular joint disease. Nicotine may aggravate coronary heart disease, vasoconstrictive diseases, hypertension, diabetes, and hyperthyroidism. Because nicotine is swallowed during use of the gum, people with peptic ulcer or esophagitis may be particularly at risk. These contraindications are based on known or presumed relationships between nicotine and these conditions, and not upon direct tests of nicotine gum use. Women who are pregnant or nursing should also avoid gum use because nicotine decreases fetal breathing movements and is secreted in maternal milk (USDHHS 1980).

Common side effects of use include air swallowing, belching, jaw ache, sore mouth or throat, upset stomach, hiccups, nausea, and mouth ulceration (Fagerstrom 1982; Jarvis et al. 1982; Russell et al. 1980; Schneider et al. 1983). Most side effects can be diminished by proper instruction on mode of chewing. The percentage of subjects who may become dependent upon gum use is not well known. In two studies, 3 to 7 percent of all subjects were considered dependent by the investigators (Jarvis et al. 1982; Raw et al. 1980).

Given that nicotine gum does appear to alleviate withdrawal symptoms, to what extent has it been efficacious in cessation? Early studies of cessation were confounded by allowing smokers to simultaneously smoke and chew the gum (Brantmark et al. 1973; Puska et al. 1979; Russell et al. 1976b). More recently, controlled clinic-support studies have shown enhancement of both short- and long-term success rates with nicotine gum (Fagerstrom 1982; Jarvis et al. 1982; Schneider et al. 1983). Success has been attributed to an interaction between the active gum and the support systems in ways not yet understood. Schneider et al. (1983) compared nicotine and placebo gum in both dispensary and clinic settings. There was no effect of active gum in the dispensary setting; subjects chewed the gum for a very short time period and resumed smoking quickly. In the clinic conditions, the nicotine gum produced significantly higher success rates than placebo, with a peak difference achieved at 6 months (48 percent versus 20 percent). In other studies with followups of from 3 to 12 months, cessation rates were higher for groups receiving active gum than for placebo gum groups or groups receiving other treatments (Fee and Stewart 1982; Hjalmarson 1983; Jarvis 1983; Malcolm et al. 1980; Raw et al. 1980). Fagerstrom's
(1982) work suggests that highly nicotine-dependent smokers may be the best candidates for gum use.

Studies conducted in physicians' offices have produced mixed results. In a study using over 1,500 patients with smoking-related diseases attending a hospital or chest clinic, there was no reported superiority of nicotine gum compared with several conditions involving usual physician advice to quit and a booklet (British Thoracic Society 1983). Overall, 9.7 percent of patients were abstinent at 1 year, but approximately one-fourth of patients claiming abstinence had carboxyhemoglobin and plasma thiocyanate concentrations typical of smokers. This study has been criticized for the manner in which the gum was administered to the patients (Jarvis and Russell 1983). On the other hand, Fagerstrom (1983) found nicotine gum use to be statistically superior to a no-gum condition at 1-year followup in a 13-physician study involving 145 patients. Similarly, Russell and his colleagues (Russell et al. 1983a,b), in a well-designed study involving 1,938 general practice patients, observed a difference for the same time period. Success rates in the nicotine gum plus advice group were about double those in the nonintervention and advice-only groups (8.8 percent versus 4 percent not smoking at 4 months and at 1 year). These results are based on all smokers who saw their physician regardless of desire to quit. The higher success rate of the group offered the nicotine gum was achieved even though only 53 percent tried the gum. The self-selected subgroup who used more than one box of gum (105 pieces) had an adjusted long-term success rate of 24 percent.

Reasons for the inconsistent results may relate to differences in (1) instructions on gum use given to the patient, (2) distribution of the gum (whether it was provided directly to the patient or offered in the form of a prescription), (3) patient personality characteristics or motivation for smoking, (4) support or followup in addition to providing the gum, and (5) sample sizes and duration of followup. The first four of these factors can all affect compliance, which is deemed critical for effective use of the gum in physician practice. Key questions remaining to be systematically tested relate to what constitutes optimal gum use, such as dose, frequency, and duration (Schneider et al. 1983). Future research should resolve the general usefulness of this pharmacologic treatment as well as the appropriate adjunct treatment strategies.

Discussion and Synthesis

Methodological Considerations

There is marked variation in the methodology and presentation of results from the studies included in this review, posing problems for comparison. To begin with, interventions are not always well
specified, making it difficult to categorize or to evaluate any given technique. This is particularly true in studies in which the intervention consisted of a very brief warning to quit delivered in the physician's own style. Any accompanying written material is often only vaguely described. There are, of course, studies in which interventions are well detailed, such as the MRFIT trial (Ockene et al. 1982b). In this relatively new area of smoking cessation research, it is particularly important to researchers to report as much detail as possible on their intervention and control methods.

In evaluating the success of interventions, standard definitions of outcome need to be agreed upon. These include total abstinence from tobacco use, not just cessation of cigarette smoking or reduction in total amount smoked. If multiple measures are preferred, abstinence should always be reported. Objective validation of self-report is critically important, especially when at-risk or patently ill patients may be biased to report abstinence. Followup periods should optimally be at least 1 year. When subjects are lost to followup, the method of calculating success rates should be clearly specified. For example, the most conservative criterion would dictate classifying as smokers subjects who refuse measurement. Other problems may include incomplete data because of nonsurvivors, especially in medical populations. If results are based only on those successfully followed, as much information on lost subjects as is possible should be provided. In retrospective studies, memory bias may also influence results. Other problems common to smoking cessation research include inadequate sample sizes, which reduce statistical power; lack of comparison or control groups; and the failure to select an appropriate design, such as randomization or a quasi-experimental model. Design, methodology, and interpretation issues in smoking research have been treated in other sources in greater detail (Pederson 1982, USDHEW 1979, USDHHS 1982, 1983).

Trends in the Literature

When considering quit rates among the various patient groups discussed in this review, it is important to keep two considerations in mind. First, quit rates can vary as a function of the type of intervention, not only by patient group. For example, the highest quit rate among controlled pregnancy interventions (Sexton and Hebel 1984) was found in the study with the largest subject sample and strongest design, and consisted of a multiple contact intervention. Second, of the four classes of patient considered, persons with pulmonary and cardiac disease differ qualitatively from general practice and pregnant patients. The first two categories of patients have diseases directly related to their smoking behavior; risks and consequences of continued smoking can be personalized and detailed. On the other hand, general practice patients may not be coming in
for a problem directly related to their smoking. Battista (1983) reported that antismoking counseling was delivered by 99 percent of primary care physicians in his survey sample when the reason for the medical visit was related to smoking, but by only 52 percent when the medical problem was unrelated and a mere 11 percent when the visit was for a minor problem. Finally, pregnant patients seen routinely for prenatal care are usually not ill, and may have difficulty personalizing the risks to the fetus and to themselves, especially if they have smoked through previous pregnancies and borne healthy babies.

Notwithstanding these limitations, some trends are evident in the literature: the quit rates in recent research appear lower than in older studies, and a positive association between severity of disease and quit rate can be noted. There are exceptions to these generalizations, but the intention in presenting them is to bring some order to the results.

The series of studies examining quit rates among pulmonary patients indicate a decrease in success over time, with more recent studies reporting lower rates. The same general trend appears among post-MI patient groups when data from groups receiving treatment in addition to physician advice are excluded. This apparent decline in effectiveness may be attributable to higher spontaneous quit rates in the population of smokers. Because more people are quitting on their own, fewer current smokers and more ex-smokers are presenting themselves to physicians. Included in the group of ex-smokers are those who a decade or two ago would have stopped on the advice of their physician, but who have quit because of media educational campaigns. Physicians specializing in pulmonary or cardiac disease are then left to deal with the more recalcitrant, hard-core group. In addition, current patients may be more honest in reporting failure to quit, and there are measures for objectively verifying verbal reports (e.g., expired air carbon monoxide, carboxyhemoglobin, saliva or blood thiocyanate, saliva or blood cotinine).

Although there are comparatively few studies with general practice patients and pregnant women, these two groups show fairly low abstinence rates. As mentioned above, when attending for routine visits, these patients are generally healthier than those with chronic pulmonary disease or cardiac disease. They are also less likely to be visiting the physician for an illness related to smoking. When treated with a powerful intervention, however, high cessation rates (over 40 percent) have been reported (Sexton and Hebel 1984). The quit rates among patients with pulmonary disease vary from 12.5 to 76 percent. The highest rates are found in studies including patients who have ever smoked in the past, as well as those who are smoking at the time of treatment (Daughton et al. 1980; Dudley et al.
When these studies are excluded, the between-study rates cluster more closely between 20 and 40 percent. In general, it appears that patients with MI, especially those receiving strong advice, are much more likely to quit smoking than are other patient groups, with 40 to 50 percent abstinence levels being the rule rather than the exception. This finding matches the most successful behavioral interventions reported in the general smoking cessation literature—those programs with strong maintenance as well as cessation components (USDHHS 1982). The potential effect of continued smoking on future health status for cardiac patients has an immediacy that appears to motivate positive action. Six studies investigating severity of diagnosis (Baile et al. 1982; Campbell et al. 1983; Dudley et al. 1977; Mausner et al. 1970; Sillett et al. 1978; Wilhelmsson et al. 1975) support this relationship; one does not (Weinblatt et al. 1971). It is possible that the health benefits of cessation have been underestimated to date, if the most severely ill patients are the most likely to quit.

Although this discussion implies a causal relationship between severity of disease and compliance, other explanations are possible. Factors such as personality characteristics that are differentially related to diagnosis and ease of quitting may influence results. In addition, physician involvement may be much more intense with patients who have more severe diagnoses and may be causally related to differential outcome.

**Patient Variables Related to Abstinence**

There have been a number of attempts to relate variables to successful quitting among patient groups. The underlying rationale of these attempts can be conceived as a search for possible causal factors. Multivariate statistical procedures have been used to generate predictive models, which may serve as the basis for theorizing about mechanics involved in explaining why some patients quit smoking and others do not. The results with respiratory patients of Dudley et al. (1977) and Pederson and her colleagues (Pederson et al. 1980, 1982; Pederson and Baskerville 1983) were described earlier. Examining the psychological and behavioral variables, the retrospective study of Dudley et al. (1977) identified good adjustment variables as predictors of success, and the prospective studies (Pederson et al. 1982; Pederson and Baskerville 1983) found that prediction of quitting and desire for quitting were positively associated with success, but addiction was negatively associated. In the MRFTT program (Ockene et al. 1982a), men at high risk for CHD who were classified as Continuing Successes (stopped smoking and maintained abstinence) were characterized as having, in combination (and in decreasing order of importance), a high expectation of success, few cigarettes smoked upon entry, low stress,
ease of prior cessation attempts, a long period of prior abstinence, and a high degree of personal security. Together, the combination of high stress and low psychosocial assets acted as barriers to long-term smoking cessation, characterizing the "problem smokers" (the combined group of nonstoppers and recidivists). The congruency of these findings suggests the need to "develop systematic and convenient ways to collect and use data regarding a participant's experiences of stress and psychological assets," according to Ockene et al. (1982a, p. 26). As studies of self-attribution of change related to positive outcome (self-efficacy) in smoking cessation have shown (USDHHS 19821, these and related psychosocial variables may be critical predictors for all persons attempting smoking cessation. Thus, this approach should be expanded and tested on other patient populations.

**Physician Variables Related to Effectiveness**

Success rates in physician intervention studies have been shown to vary as a function of the participating physicians as well as of the interventions they employ (Ewart et al. 1983; Pincherle and Wright 1970; Roe and Hamilton 1978; Russell et al. 1979). While most smoking cessation studies using behavior modification techniques attempt to standardize the intervention and to eliminate differences among those delivering it, physician intervention studies often involve advice delivered in the doctor's own style and hope to capitalize on the personal interaction with the patient, e.g., Russell et al. (1979). As this stage of research it is sometimes difficult to separate out the various factors contributing to the degree of success of a particular intervention.

Both types of intervention and physician factors were found to be important in determining success rates in two studies reported by Ewart et al. (1983), using two very different patient populations, asbestos-exposed shipyard workers (n = 871) and low-income women attending family planning clinics (n = 1,179). Physicians saw all patients only once; assignment to group was random in the shipyard study and controlled by clinic in the family planning population (quasi-experimental design). In both studies, the more detailed advice effort consisted of a physician's warning to stop smoking with up to 5 minutes of individually focused cessation counseling. The comparison technique consisted of a simple warning by the physician (shipyard workers) or viewing an educational film (low-income women). Cessation rates at 1 year in the detailed advice group were double those in the comparison group in both studies. Mean quit rates were not reported, but variability in physician success was examined. In the shipyard study, success rates were defined as the proportion of patients counseled by the physician who quit smoking.
within 3 months. Among the four participating physicians, success rates ranged from 6 to 14 percent at the 1-year followup.

Success rates were examined by types of patients assigned to each physician and by differences in physician behavior. Patient characteristics did not explain the variable rates of success between different physicians. These included medical symptoms, demographics, physiological characteristics, and a number of behavioral variables that have been found to predict smoking cessation (number of cigarettes smoked daily, motivation to quit, and length of past nonsmoking periods). On the other hand, physician motivation and effort in patient counseling emerged as important factors. When physician success rates were examined as a function of time since the continuing medical education (CME) training program over a 9-month period, all physicians were shown to become less effective as time passed, but two of the four had dramatic drop-offs in effectiveness. Declining rates of success were associated with lack of compliance with the protocol by failing to have the patient select a target date for quitting smoking. (Both patient and physician had been asked specifically about this in an exit interview. The proportion of patients who reported agreeing on such a target date was treated as an indirect marker of compliance.) Target date setting in noncompliant physicians decreased from 23 percent of patients counseled in the first 3-month period to 3 percent in the final 3-month period, with a concomitant decrease in success from 15 to 2.0 percent. In comparison, the two more successful physicians set target dates with 57 and 49 percent of their patients in the first and final 3-month study periods, and achieved 15 and 9 percent success rates, respectively. Furthermore, with the passage of time, the two less compliant physicians altered their pattern of target date setting with patients, providing such advice to many fewer lighter smokers (under 20 cigarettes per day) but maintaining the rate of advice with heavier smokers. The authors interpreted this as a selective shift of effort, but it can be seen also as a simple diminution of effort with the former group of patients because the proportion of heavy smokers advised did not actually increase over time.

In the family planning clinic study, maintenance of physician performance was influenced by a feedback intervention. Performance was monitored by asking patients who had just seen the physician whether they had been counseled to quit smoking; when the percentage of patients reporting advice declined, a private personal communication was made with the physician. For both physicians involved in this study, the percentage of patients counseled to quit smoking rose after each feedback session. Although physicians may adequately learn antismoking interventions with training, these two studies show that their application of such skills may decline with time and their own modifications of the interven-
tions, two sources of variability that are potentially controllable with regular feedback sessions. Ewart et al. (1983) suggest that experimental designs include collecting continuous time series data that can be analyzed for individual and group performance trends. Such analyses will also provide a means of testing the generalizability of these findings.

Conclusions

Recommendations for Physicians

Patients, particularly those who are not experiencing life and death decisions in which continuation of smoking is relevant, find it difficult to comply with their physicians' advice to quit. Griffiths has observed, however, "Physicians frequently get discouraged with their rate of success, about one out of five, in helping patients to stop smoking. They forget, however, that their rate of success in curing lung cancer is much lower" (Griffiths 1981). As we have seen, a 20 percent cure rate would indeed be high for a truly minimal intervention. What are some of the actions that the physician who is interested in preventive action can take to assist his or her patients to stop smoking?

Some suggestions come from a theoretical formulation known as the Health Belief Model (Becker 1974, 1976; Becker et al. 1979). According to the model, the following elements are hypothesized to determine behavior: the individual's readiness to take action, determined by perceived susceptibility to the illness and perceived severity of the consequences of the illness; the individual's evaluation of the feasibility and efficacy of health behavior; the individual's evaluation of barriers to the health behavior; and a cue to action that triggers the behavior. On several of these elements, patients who are experiencing respiratory and cardiac problems have much more clearly defined reasons to be compliant with the request to quit smoking than patients seen in general practice. Thus, they would be seen as having stronger health beliefs. Women who are pregnant fall somewhere in between, depending on just how harmful they perceive their smoking to be to themselves and the fetus (Dalton et al. 1981). The clinician may succeed in motivating the members of the latter two groups by intensifying the message. Support for this position is found in studies that have compared more intense with less intense advice (Burt 1974; Ockene et al. 1982b; Raw 1976; Rose 1977).

Other models with a more social learning and social psychological orientation pose as central concepts the belief in personal control (Bandura 1973) and the need for relearning to change the conditioned emotional schema that contribute to maintaining smoking (Leventhal and Cleary 1980). Social support has also been raised as an important theoretical variable (Ockene et al. 1982a; USDHHS
Practical applications of such approaches might be assessing and bolstering the self-confidence of a patient wishing to quit smoking and involving a spouse in the cessation effort.

The physician's message must be tempered with other factors, such as the strength of already existing beliefs and the mechanisms for continued smoking. Work by Leventhal (1968, 1970) on the communication of fear messages suggests that such messages may interfere with adoption of a recommended health-facilitating behavior. For example, he found that smokers are less likely to undergo a chest X-ray after viewing a filmed lung cancer operation than smokers who do not view the film, because the experience produces an increased fear that interferes with the goal of the advice. The extent of the interference is probably related to the purpose that smoking serves for the person (whether it is arousal reducing or habitual).

Physicians should also appreciate the importance of both physiological and personality variables that lead to the initiation and maintenance of smoking (USDHEW 1979; USDHHS 1982). Likewise, they should consider both the habitual and the addictive components of smoking behavior and the consequent difficulty in producing extinction (APA 1980; NIDA 1979). When these factors are considered, it is not surprising that a brief warning to a "healthy" patient is not effective. In this context, "healthy" relates to the lack of current major symptoms that the smoker relates to smoking.

Physicians do not need to assume full responsibility for helping patients quit smoking, however. Lichtenstein and Danaher's (1978) model suggests that the physician can become involved with patients at a variety of levels, although Wilson et al. (1982) indicate that continuing contact with the patient can be useful. Chu and Day (1981), Ewart et al. (1983), and Spencer (1983) have shown that awareness of smoking and providing antismoking materials for clinical use can motivate physicians toward increased effort with smoking patients. Wechsler et al. (1983) found that 81 percent of primary care physicians surveyed personally provided patient education as opposed to having a nurse or other health professional deliver it. They were more likely to want to learn about a specific area (e.g., smoking cessation techniques) in CME classes if they believed in the importance of changing behavior in that area and had confidence in their chances of success in helping patients. Thus, physician self-efficacy is an important concept in delivering smoking cessation advice. The most valuable types of assistance identified by the physicians in this study were information on referral sources, financial reimbursement for health-promotion services and staffing, literature for distribution to patients, and training for physicians, support staff, or both. The direct provider role, as well as other roles for the physician (such as referral to treatment), has been described,
Future Research

A number of salient issues for future research in the area of physician intervention emerge from this review. First of all, the interventions that will work best for physician providers have yet to be identified. For example, is a minimal intervention like simple advice to quit the optimal use of a physician's time, or can physicians successfully integrate a multicomponent or multistage intervention into their practice and achieve substantially higher quit rates? What techniques supplementary to physician advice will yield maximum return in cessation? What are the differential effects of advice alone and of the offer of treatment on the likelihood of cessation? How does one improve the communication skills of physicians practicing health education with patients?

Second, will different interventions work best for different patients classified according to disease status? Will tailoring treatments according to patient group or to individual patient characteristics be useful (Best 1975; Best and Steffy 1975; Eiser 1982)? Can the physician employ a sequential model of smoking behavior (Prochaska and DiClemente 1983) so that interventions can be staged according to the patient's readiness to quit smoking?

Third, what kind of training in smoking cessation will be most effective for physicians? Training formats range from noninteractive materials such as printed matter and audio or video cassettes to formal programs such as CME classes or other instructor-led workshops or programs. Should role modeling and direct practice under supervision be used to help teach skills? What educational (or other) efforts will be needed to sustain physician counseling efforts and success?

Fourth, what are the variables controlling differential success rates among physicians? Are they personal variables, like smoking status (American Cancer Society 1981; Danaher 1978), or training-influenced performance factors such as consistency of applied effort over time (Ewart et al. 1983)? How can physician motivation to counsel patients be increased and maintained? How can physicians best be delivered feedback about their counseling performance as well as the efficacy of their efforts?

Fifth, future research needs to pay closer attention to methodological considerations that will facilitate testing hypotheses and evalu-
ing outcomes. These have been summarized earlier and involve design considerations, assignment of patients to groups, followup of outcome, and objective verification of self-report.

Sufficient evidence has been presented here to support an effective role for the physician, as the leading and most credible figure in the health care world, in smoking cessation efforts. As Cullen and Gritz (1983) stated, "The most effective technique to be employed, as well as when and with what specific group, can await further research. But given the importance of smoking as the most potent, preventable pathogen still responsible for a substantial amount of premature mortality, morbidity, and health care costs, there is no longer an excuse for physicians to leave this effort solely to other health professionals" (p. 224).

Summary and Conclusions

1. At least 70 percent of North Americans see a physician once a year. Thus, an estimated 38 million of the 54 million adults in the United States who smoke cigarettes could be reached annually with a smoking cessation message by their physician.
2. Current smoking prevalence among physicians in the United States is estimated at 10 percent.
3. While the majority of persons who smoke feel that physician advice to quit or cut down would be influential, there is a disparity between physicians' and patients' estimates of cessation counseling, with physician advice being reported by only approximately 25 percent of current smokers.
4. Studies of routine (minimal) advice to quit smoking delivered by general practitioners have shown sustained quit rates of approximately 5 percent. Followup discussions enhance the effects of physician advice.
5. A median of 20 percent of pregnant women who smoke quit spontaneously during pregnancy. That proportion can be doubled by an intervention consisting of health education, behavioral strategies, and multiple contacts.
6. Large controlled trials of cardiovascular risk reduction have demonstrated that counseling on individual specific risk factors, including smoking cessation techniques, can be effective.
7. Studies of pulmonary and cardiac patients indicate that severity of illness is positively related to increased compliance in smoking cessation. Survivors of a myocardial infarction have smoking cessation rates averaging 50 percent.
8. Nicotine chewing gum has been developed as a pharmacological aid to smoking cessation, primarily to alleviate withdrawal symptoms. Cessation studies conducted in offices of physicians who prescribe the gum have produced mixed results, however,
with outcome depending on motivation and intensity of adjunc-
tive support or followup.

9. Physician-assisted intervention quit rates vary according to the
type of intervention, provider performance, and patient group.
In general, quit rates in recent research appear to be lower
than in older studies.
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CHAPTER 10. COMMUNITY STUDIES OF SMOKING CESSION AND PREVENTION