### Appendix Table 3. Evidence Table*

<table>
<thead>
<tr>
<th>Study, Year (Reference)</th>
<th>Type of Trial, Setting, and Standard Drink</th>
<th>Participant Selection</th>
<th>Behavioral Intervention</th>
<th>Outcomes at 12 mo</th>
<th>Generalizability</th>
<th>Study Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Richmond et al., 1995</strong></td>
<td><strong>RCT</strong> in 8 countries including United States</td>
<td>1550 adults (age, 18–70 y) who drank &gt;50 g ETOH/d (men) or 32 g ETOH/d (women) OR 6 or more drinks/occasion</td>
<td>IG1 (n = 503) received 5 min of health advice from a “health advisor” (46% RNs, 18% MD, 35% others) as part of a routine primary care visit. Intervention included feedback, advice, goal-setting. Delivery: NR. IG2 (n = 565) received 15 min of brief counseling from health advisor who also addressed behavioral techniques as part of the routine visit. Some sites offered 3 follow-up visits. Intervention included feedback, advice, goal-setting, assistance, follow-up (for some subsets). Delivery: NR. CG (n = 491) received assessment only.</td>
<td>Outcomes assessed at 6–19 mo (mean, 9 mo)</td>
<td>Men: Average cl. of alcohol/d: IG1: 5.29, IG2: 5.18, CG: 6.29 (P &lt; 0.001). Women: IG1: 2.99, IG2: 3.39, CG: 3.80 (P &lt; 0.05).</td>
<td>Broadly includes multicultural, heavier-drinking primary care patients, many of whom may have been help-seeking. Excludes known or suspected alcoholics or very high daily consumers, those with prior liver damage or alcohol dependence treatment, and those warned by MD or other health professional to abstain. Systems support: Some provider training reported. No incentives reported.</td>
</tr>
<tr>
<td><strong>WHO Brief Intervention Study Group, 1996</strong></td>
<td><strong>RCT</strong> in various outpatient medical settings</td>
<td>378 adults (age, 18–70 y) attending primary care visits who drank &gt;39 drinks/wk (men) or &gt;21 drinks/wk (women)</td>
<td>IG1 (n = 93) had alcohol assessment results placed on the chart for their visit with their usual PCP. IG2 (n = 96) received results of the assessment and brief (5 min) within-visit physician advice and a self-help manual. Intervention included advice and assistance. Delivery: Not assessed for IG1 or IG2. IG3 (n = 96) received the same brief advice intervention with 4 additional 15- to 20-min provider visits at 1 wk, 1 mo, 3 mo, and 5 mo. Delivery: 51% got only single visit (IG2 protocol). CG (n = 93) assessment results not put on chart. Not followed at 12 mo.</td>
<td>Note: For IG1 and IG2 only because intervention delivery inadequate for IG3.</td>
<td>Mean drinks/wk: Women: IG1: 21.5, IG2: 24.2, Men: IG1: 36.2, IG2: 39.3.</td>
<td>Broadly includes heavier drinkers (one third “moderately dependent”) attending primary care. Excludes persons with severely dependent/severe alcohol-related problems, persons with previous or current alcohol treatment, or those for whom any alcohol consumption was contraindicated. Systems support: Usual care providers “trained.” Receptionist or research assistant screened patients and prompted physician. No incentives.</td>
</tr>
</tbody>
</table>
Continued

Good quality: Relatively high attri-
tion levels (IC, 81%; CG, 39%),
but these were addressed by
replacing missing values with
baseline consumption levels.
Otherwise overall good-quality
criteria met.

This brief intervention showed
improved low-risk drinking,
improved binging, and nearly
significant changes in mean
alcohol consumption.

Fair quality: Fairly high loss to fol-
low-up (23%) with intention-to-
treat analysis of complete cases
only (no replacement of missing
values). Unclear blinding of par-
ticipants and outcomes. Poten-
tial contamination between lev-
els of IG (since IG1 could have
gotten more intensive interven-
tion) and between IG and CG
(since all participants’ doctors
received assessment results, but
unclear how or if these were
acted upon).

Two intensities of motivational
interviewing-based interventions
by nonclinical staff showed null
effects with similar reductions in
alcohol consumption among in-
terventions and control.

Fair quality: Report inadequately
covers allocation concealment
or blinding for participant or out-
come assessment. Comparability
of groups at baseline or fol-
low-up not clear. Not clear who
delivered the interventions or
the potential for contamination.

Brief intervention and brief, multi-
contact interventions among
more severely affected problem
drinkers reduced daily alcohol
consumption compared with no
intervention.

Appendix 3—Continued

Anderson and Scott, 1992
RCT conducted in 8 community-
primary care group practices
England

154 male patients (age, 17-69 y) regis-
tered with practices who exceeded 35
drinks/wk
Mean age: 45.1 y
Women: None
Nonwhite: NR
Smokers: NR
Baseline alcohol consumption:
52 drinks/wk
Binge drinking: 43%
Alcohol assessment: 2 steps: self-
administered Health Survey Question-
naire by mail or in waiting room. If
participants drank >35 drinks/wk, they were
invited to structured as-
se ssment interview of alcohol use
with research staff outside clinic.

IG (n = 80) received 10-min face-to-
face visit with usual PCP at special
visit scheduled after assessment.
Intervention included advice and feed-
back. Delivery: NR.
CG (n = 74) received no intervention
after assessment unless requested.

Change in mean drinks/wk:
IG: -15.7
CG: -9.2
(P < 0.06)

Not binging: IG: 77.50%
CG: 60.81%
(P = 0.05)

Attained low-risk drinking as mea-
sured by ≤22 drinks/wk:
IG: 17.50%
CG: 5.41%
(P = 0.05)

Broadly includes heavier drinking
(up to 71 drinks/wk) male
primary care patients. 41% of
patients had abnormal depen-
dence scores.
Excludes those drinking >105
drinks/wk and those who re-
ceived advice to cut down in
previous year.

Systems support: Provider train-
ing (15–30 min). Research
staff did alcohol assessment
entirely outside clinic. No in-
centives.

Maisto et al., 2001 (60)
RCT in 12 primary care clinics
United States

301 patients of primary care practices
age ≥ 21 y with AUDIT score ≥8 OR
≥ 16 drinks/wk (men) or ≥ 12
drinks/wk (women)
Mean age: 40.5 y
Women: 32%
Nonwhite: 23%
Smokers: NR
Baseline alcohol consumption: 5.5
drinks/drink day
Alcohol assessment: Self-administered
AUDIT embedded in lifestyle question-
naire. If results were “positive,” face-
to-face structured 30-day TLFB alcohol
assessment interview including AUDIT
and Q/F questions, laboratory test, and
blood pressure. Assessment results for
all participants forwarded to PCP.

IG1 (n = 100) immediately after assess-
ment received 10- to 15-min “brief advice”
from research staff, which intentionally
limited patient input. Intervention
included feedback, advice, goal-setting.
Delivery: 93% got brief advice session.
IG2 (n = 101) received 30- to 45-min
“motivational enhancement” session
from research interventionist and two
15- to 20-min booster sessions.
Intervention included feedback,
advice, goal-setting, assistance, and
follow-up.

Change in mean drinks/wk:
IG1: -8.3
IG2: -5.5
CG: -3.6
(P = N5)

Change in mean drinks/drink ing
day:
IG1: -0.79
IG2: -0.64
CG: -0.85
(P = N5)

Binge/heavy episodes: NR
Reporting benefit: NR

Broadly includes primary care
patients with risky/harmful
drinking.
Excludes those with acute alco-
holic symptoms or recent sub-
stance abuse treatment.
Not clearly applicable to primary
care because there were no
definite or clear provider/clinical
staff roles.

Systems support: Research staff
provided all assessment and
intervention.
No provider train-
ing reported. Participants were
paid for all assessments except
the initial one.

Nilsen, 1991 (57)
RCT conducted within
The Tromso Study
Norway

338 community-dwelling adults who
met high-risk alcohol use criteria
(drinking ≥ 1 bottle of wine or equiv-
alent per occasion 1-2 times per mo
OR drinking alcohol 2-3 times
weekly) AND elevated GGT levels
(≥ 45-200 U/L)
Mean age: 42 y (approximately)
Women: 14%
Nonwhite: NR
Smokers: 56% (approximately)
Baseline alcohol consumption: NR
Alcohol assessment: Population-based
coronary heart disease risk factor
screening of men age 12-62 y and
women age 12-56 y included physi-
cal examination, laboratory tests, and
questions about alcohol consumption
along with other health behaviors.
Risk group randomly assigned.

IG1 (n = 113) invited by letter to re-
examination for “elevated blood test”;
received information on causes of ele-
vated GGT level (including alcohol)
and had GGT redrawn. Mailed re-
peted GGT results and invited to
re-screen at 1 y.
Interventions included feedback assis-
tance and letter follow-up.
IG2 (n = 113) also invited by same let-
ter to re-examination; intervention
focused on further assessing and ad-
ressing alcohol consumption. GGT
redrawn and repeated visits with lab-
oratory tests offered until GGT level
normalized.
Interventions included feedback assis-
tance and letter follow-up.

Mean alcohol consumption, g/d:
IG1: 15.6
IG2: 13.5
CG: 9.2
(P = 0.001)

Bingeing: NR
Reporting benefit: NR

Targeted “early-stage problem
drinkers” (those with moder-
ately increased GGT levels and self-reported increased alcohol intake) and did so among peo-
ple already willing to participate in
a heart disease risk assess-
ment at outpatient clinic setting.
Excluded known alcoholics.

Systems support: Staff and train-
ing not clear. No incentives
reported.

Scott and Anderson, 1990
RCT in 8 community-based
primary care practices
England

72 women (age, 17-69 y) registered
with the practices who consumed
21–71 units of alcohol/wk
Mean age: 44 y
Women: 100%
Nonwhite: 17%
Smokers: NR

IG (n = 33) received 10-min face-to-
face visit with usual PCP at special
visit scheduled after assessment.
Interventions included feedback and
advice. Delivery: NR.
CG (n = 39) received nothing after
assessment unless requested.

Change in mean drinks/wk:
IG: -11.6
CG: -10.0
(P = N5)

Not binging at follow-up (≥ 14
units on ≥ 2 occasions in previ-
ous 3 mo):
IG1: 100%
IG2: 100%
CG: 60%

Excludes women consuming ≥ 71
units/wk or those who received
advice to cut down alcohol use
in previous year.

Broadly includes heavier-drinking
(up to 71 drinks/wk) female
primary care patients. >50% of
had abnormal dependence
score.
Excludes women consuming ≥ 71
units/wk or those who received
advice to cut down alcohol use
in previous year.

Fair quality: Noncomparable
groups at baseline for percent-
age with abnormal dependence
scores. Unclear alcohol con-
sumption intervention. Intervention
delivery uncertain and control possibly
contaminated. Inadequate power.
<table>
<thead>
<tr>
<th>Study, Year (Reference)</th>
<th>Type of Trial, Setting, and Standard Drink</th>
<th>Participant Selection</th>
<th>Behavioral Intervention</th>
<th>Outcomes at 12 mo</th>
<th>Generalizability</th>
<th>Study Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senft et al., 1997 (56)</td>
<td>RCT conducted in 3 large primary care HMO group practices (47 clinicians) Oregon and Washington Standard drink = 0.5 oz ETOH</td>
<td>516 adults aged ≥21-year primary care visits with AUDIT score ≥8 OR ≥6 drinks/occasion at least weekly Mean age: 41.9 y Women: 28% Nonwhite: 17% Smokers: 50% Baseline alcohol consumption: 16.5 mean drinks/wk Binge drinking: 27% Alcohol assessment: Self-administered AUDIT-based alcohol use survey in waiting room</td>
<td>IG (n = 260) received 30 s of advice from their usual PCP during the visit, immediately followed by a 15-min motivational interviewing-based session with a research health counselor. Intervention included advice, goal setting, and assistance. Delivery: 70% received advice and MI session. CG (n = 256) received usual care after assessment.</td>
<td>Mean drinks/wk (calculated from total drinks in prior 3 mo): All participants: IG: 13.1 CG: 14.9 (P = 0.13) Women: IG: 8.9 CG: 9.2 (P &gt; 0.2) Men: IG: 14.7 CG: 17.6 (P = 0.08) Reporting no binge drinking: IG: 77% CG: 77% (P = NS) Reporting no more than 3 drinks/d for men and 2 drinks/d for women: IG: 80% CG: 73.1% (P = 0.07)</td>
<td>Broadly includes risky/harmful adult drinkers in primary care. Excludes dependent drinkers, those with AUDIT score ≥21. Systems support: Providers prompted with script to give advice only; research staff delivered assessment and most of intervention. No incentives.</td>
<td>Brief intervention in heavier-drinking women showed null effects on all alcohol consumption and other outcome measures. Both groups comparably reduced alcohol consumption.</td>
</tr>
<tr>
<td>Curry et al., 2003 (50)</td>
<td>RCT conducted in HMO-based primary care practices with patients of 23 clinicians Washington Standard drink = 14 g ETOH</td>
<td>307 adults with AUDIT score ≤15 and risky use in past month: ≥2 mean drinks/d OR ≥2 occasions of ≥5 drinks OR driving after ≥3 drinks, who kept primary care appointments Mean age: 48.2 y Women: 36% Nonwhite: 20% Smokers: 27% Baseline alcohol consumption: 14.9 mean drinks/wk Binge drinking: 34% Alcohol assessment: Researchers assessed alcohol use in 10- to 15-min general health telephone interview (including AUDIT, alcohol use questions addressing G/F, binging, driving after alcohol use) before scheduled routine visit</td>
<td>IG (n = 151) received very brief (1–5 min) motivational message from their PCP and self-help manual at routine visit, plus up to 3 telephone counseling calls from research health educator. Intervention included feedback, advice, goal-setting, assistance, tailoring, and follow-up contact. Delivery: 99% got provider intervention and materials; 87% got at least 1 call. CG (n = 156) received usual care after assessment.</td>
<td>Mean drinks/wk: IG: 10.6 CG: 10.1 (P &gt; 0.2) Reporting not bingeing: IG: 86% CG: 81% (P &gt; 0.2) Reporting no at-risk drinking pattern (outcomes adjusted for missing data at follow-up): IG: 57% CG: 43% (P = 0.048)</td>
<td>Includes broadly defined risky/harmful adult drinkers with advance primary care appointments. Excludes persons with AUDIT score &gt;15 and known alcoholics. Systems support: Provider training (15-60 min); research staff put intervention materials on chart and conducted assessment and follow-up calls. No incentives.</td>
<td>Good quality: Although high differentials in follow-up (IG 34%, CG 22%), replacement of missing values using multiple imputation procedures in analysis. Otherwise, met overall good-quality criteria. Brief, multicontact intervention with minimal provider burden and multiple follow-up contacts was clearly delivered and reduced at-risk drinking patterns at 12 mo. No effects on average consumption.</td>
</tr>
<tr>
<td>Fleming et al., 1997 (53)</td>
<td>RCT conducted in 17 community-based primary care practices (64 physicians) in practice-based research network Wisconsin Standard drink = 12 g ETOH</td>
<td>774 adult patients (age, 18–65 y) with routine primary care visits who met “problem drinking” criteria: ≥2/4 CAGE Questions OR men &gt;14 drinks/wk OR ≥5 drinks/occasion; women ≥11 drinks/wk or ≥4 drinks/occasion Mean age: NR</td>
<td>IG (n = 392) had 2 brief visits scheduled 1 mo apart with usual PCP plus a call from clinic nurse 2 wk after each visit. Intervention included feedback, goal setting, assistance, and follow-up. Delivery: 76% completed the protocol and received both physician visits.</td>
<td>Mean drinks/wk: All participants: IG: 11.4 CG: 10.0 (P = 0.001) Women: IG: 9.3 CG: 8.5 (P = 0.001)</td>
<td>Broadly includes lower-level risky/harmful drinkers visiting primary care. Excludes heavier users (≥50 drinks/wk) and those with alcohol treatment or symptoms of withdrawal in previous year or who recently screened. Systems support: Provider training (15-60 min); research staff put intervention materials on chart and conducted assessment and follow-up calls. No incentives.</td>
<td>Good quality: Low levels (≤10%) slightly differential loss to follow-up, but intention-to-treat with replacement of missing values. All other good-quality criteria met. Brief, multicontact intervention by the usual care PCP</td>
</tr>
</tbody>
</table>
Appendix Table 3—Continued

<table>
<thead>
<tr>
<th>Study/Intervention Details</th>
<th>Results/Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fleming et al., 1999 (51)</td>
<td>RCT conducted in 24 community-based primary care practices with 43 MDs in practice-based research network in Wisconsin. Standard drink = 12-14 g ETOH. 158 adults aged ≥65 y with scheduled visits who met hazardous drinking criteria: ≥2/4 CAGE questions OR men ≥1 drinks/wk or ≥4 drinks/occasion; women ≥8 drinks/wk or ≥3 drinks/occasion. Age range: 65-75 y. Nonwhite: NR. Smokers: 10%. Baseline alcohol consumption: 16 mean drinks/wk. Binge drinking: 49%. Alcohol assessment: 2-step alcohol and lifestyle assessment by research staff: if results on self-administered modified Health Screening Survey (including CAGE and alcohol Q/F questions) were &quot;positive,&quot; then 30-min face-to-face lifestyle interview (including 7-d TLFB alcohol review) by research personnel. IG (n = 71) had 2 brief 10- to 15-min visits scheduled 1 mo apart with usual PCP plus calls from clinic nurse 2 wk after each visit. Intervention included feedback, goal setting, assistance, and follow-up. Delivery: 94% received at least 1 physician visit. CG (n = 87) received a general health booklet after assessment. Mean drinks/wk at 12 mo: IG: 8.9 CG: 16.3 (P &lt; 0.001). Binge episodes in previous 30 d: IG: 1.8 CG: 5.4 (P &lt; 0.005). Not binging: IG: 69.2% CG: 50.8% (P = 0.025). Not drinking excessively: IG: 84.6% CG: 65.7% (P &lt; 0.005). IG: (n = 274) received brief (5–10 min) face-to-face intervention tailored to patients' problem alcohol use from usual MD/NP at routine visit and were asked to make a follow-up appointment. Intervention included advice, goal setting, assistance, tailoring, and follow-up. Delivery: 99% reported provider discussion and 59% had follow-up visit within 6 mo. CG (n = 256) received general health pamphlet after assessment. 6-mo outcomes only: Change in mean drinks/wk: All participants: IG: −6.0 CG: −3.1 (P = 0.003). Women: IG: −6.8 CG: −3.5 (P = 0.003). Men: IG: −5.6 CG: −2.9 (P = 0.05). Not binging at 6 mo (calculated): Includes broadly defined risky/harmful adult drinkers who have recently used primary care. Excludes those already in alcohol intervention program. Systems support: Provider training (2.5 h); research staff put intervention materials on chart and provided assessment. No incentives. Broader includes lower-level risky/harmful elderly persons (age ≥65 y) visiting primary care. Excludes heavier users (≥50 drinks/wk) and those with alcohol treatment or symptoms of withdrawal in previous year or who recently received MD advice to change alcohol use. Systems support: Provider training; research staff did all assessment; clinic nurses provided follow-up calls. Providers were paid $350 to participate and patients were paid $70 to complete study procedures. Good quality: Met overall good-quality criteria. Brief multicontact intervention among fairly stable (75% married and female, age ≥65 y) primary care practices with 43 MDs in practice-based research network in Wisconsin. Standard drink = 12-14 g ETOH. 158 adults aged ≥65 y with scheduled visits who met hazardous drinking criteria: ≥2/4 CAGE questions OR men ≥1 drinks/wk or ≥4 drinks/occasion; women ≥8 drinks/wk or ≥3 drinks/occasion. Age range: 65-75 y. Nonwhite: NR. Smokers: 10%. Baseline alcohol consumption: 16 mean drinks/wk. Binge drinking: 49%. Alcohol assessment: 2-step alcohol and lifestyle assessment by research staff: if results on self-administered modified Health Screening Survey (including CAGE and alcohol Q/F questions) were &quot;positive,&quot; then 30-min face-to-face lifestyle interview (including 7-d TLFB alcohol review) by research personnel. IG (n = 71) had 2 brief 10- to 15-min visits scheduled 1 mo apart with usual PCP plus calls from clinic nurse 2 wk after each visit. Intervention included feedback, goal setting, assistance, and follow-up. Delivery: 94% received at least 1 physician visit. CG (n = 87) received a general health booklet after assessment. Mean drinks/wk at 12 mo: IG: 8.9 CG: 16.3 (P &lt; 0.001). Binge episodes in previous 30 d: IG: 1.8 CG: 5.4 (P &lt; 0.005). Not binging: IG: 69.2% CG: 50.8% (P = 0.025). Not drinking excessively: IG: 84.6% CG: 65.7% (P &lt; 0.005). IG: (n = 274) received brief (5–10 min) face-to-face intervention tailored to patients’ problem alcohol use from usual MD/NP at routine visit and were asked to make a follow-up appointment. Intervention included advice, goal setting, assistance, tailoring, and follow-up. Delivery: 99% reported provider discussion and 59% had follow-up visit within 6 mo. CG (n = 256) received general health pamphlet after assessment. 6-mo outcomes only: Change in mean drinks/wk: All participants: IG: −6.0 CG: −3.1 (P = 0.003). Women: IG: −6.8 CG: −3.5 (P = 0.003). Men: IG: −5.6 CG: −2.9 (P = 0.05). Not binging at 6 mo (calculated): Includes broadly defined risky/harmful adult drinkers who have recently used primary care. Excludes those already in alcohol intervention program. Systems support: Provider training (2.5 h); research staff put intervention materials on chart and provided assessment. No incentives. Good quality: Met overall good-quality criteria. Brief multicontact intervention with follow-up visit showed limited impacts on change in mean drinks/wk at 6 mo, even after adjustment for age, sex, and baseline drinking levels, and significantly improved proportion drinking safely and binge use insignificantly improved.</td>
</tr>
<tr>
<td>Study, Year (Reference)</td>
<td>Type of Trial, Setting, and Standard Drink</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Wallace et al., 1988 (55)</td>
<td>RCT conducted in 47 group practices in research network England and Scotland</td>
</tr>
</tbody>
</table>

* AUDIT = alcohol use disorders identification test—10-item instrument for risky/harmful use; CAGE = 4-item screening questionnaire to detect alcoholism; CG = control group; ETOH = alcohol; GGT = serum γ-glutamyltransferase; HMO = health maintenance organization; IG = intervention group (numbered 1, 2 if >1 per study); MD = physician; MI = motivational interviewing; NP = nurse practitioner; NR = not reported; NS = not statistically significant (P < 0.05); PCP = primary care provider; Q/F = questions addressing quantity and frequency of alcohol use; RCT = randomized, controlled trial; RN = registered nurse; TLFB = timeline followback procedure; WHO = World Health Organization.
† No significant group by time interactions based on repeated-measures analysis.