NICE National Institute for Health and Care Excellence

Appendix A: Summary of evidence from surveillance

2018 surveillance of Physical activity: exercise referral schemes (2014) NICE guideline PH54

Summary of evidence from 2018 surveillance

Studies identified in searches are summarised from the information presented in their abstracts.

Feedback from topic experts who advised us on the approach to this surveillance review, was considered alongside the evidence to reach a final decision on the need to update each section of the guideline.

2018 surveillance summary	Intelligence gathering	Impact statement
Recommendation 1: Exercise referral for people who are sedentary or inactive but otherwise healthy		
No studies relevant to this section of the guideline were identified.	A topic expert noted that there is emerging research on social prescribing that often contains elements of exercise referral.	It was noted that there is emerging evidence on the impact of social prescribing which can sometimes include exercise referral. We did not find any evidence in this area that would fit the scope for the guideline, however we will review this area at the next surveillance point.

2018 surveillance summary	Intelligence gathering	Impact statement
Recommendation 2: Exercise referral for people who are sedentary or inactive and have a health condition or other health risk factors		

### Effectiveness of exercise referral schemes A pragmatic cluster RCT (4 clusters, n not reported) examined the effectiveness of an exercise referral programme in patients with hypertension who were self-reported as physically inactive (1). The intervention lasted 16 weeks and was compared to brief physical activity counselling. Results indicated that at 24-week follow-up, there were no significant differences between groups for physical activity levels. However, participants attending more than 50% of the sessions in the exercise referral programme significantly increased their levels of moderate to vigorous physical activity compared to the comparison group. An RCT (n = 422) examined the effect of an exercise referral scheme for inactive adults with at least one chronic condition (2). The intervention comprised of a 12-week exercise referral programme linked to community resources and included mechanisms to enhance social support. The control group received usual care for their primary care practice. Results indicated that at 15 month follow-up, the intervention group showed a significant increase in self-reported physical activity compared to the control group. ### Barriers to adherence A systematic review of 33 studies (n not reported) examined the barriers and facilitators around the adherence to exercise referral schemes (3). The main barriers to attendance included inconvenient	It was highlighted that the second bullet point of recommendation 2 refers to an evaluation framework that has been archived. Another expert noted that the current wording of the recommendations may allow some commissioners to justify funding exercise referral schemes for groups that the evidence shows are likely to be ineffective	In general, the new evidence confirmed that exercise referral schemes can be effective at increasing physical activity in sedentary people with an existing condition. This is consistent with recommendation 2 which states that exercise referral schemes should only be funded for people who are sedentary or inactive and have an existing health condition or other factors that put them at increased risk of ill health. Evidence was identified which highlighted several barriers to the uptake of exercise referral schemes by patients. Reported barriers included inconvenient timing of sessions, cost, location, intimidating gym atmosphere, a dislike of the music and TV and a lack of confidence in operating gym equipment. The guideline does not mention any barriers to adherence and uptake of schemes, however these barriers are likely to be addressed by following recommendation 8 in NICE guideline PH49 (Behaviour change: individual approaches) which covers ensuring interventions meet individual needs. NICE guideline PH49 is already cross-referred to in the guideline so it is unlikely that the new evidence will impact recommendations. New evidence was identified on the predictors of dropout in an exercise referral scheme. Significant predictors included being a smoker and being referred from Tier 3 services. This evidence is related to research recommendation 5.2 which asks “What factors encourage uptake of, and adherence to, an exercise referral scheme?”.

timing of sessions, their cost and location. Other barriers reported were intimidating gym atmosphere, a dislike of the music and TV and a lack of confidence in operating gym equipment. A retrospective cohort study (n = 6894) examined the effect of exercise referral scheme characteristics on dropout, dropout predictors and whether self-reported barriers to exercise predict dropout (4). The results indicated that 50% of participants dropped out of the scheme by the 12th week, with significantly more drop outs being female and from a younger age group. Other significant dropout predictors were reported to be smoking or being a Tier 3 referral (community/primary care based multi-disciplinary team). Factors that decreased the likelihood of dropout were: increasing age, drinking alcohol, secondary care referrals, lack of motivation or lack of childcare. A subgroup analysis of an RCT (n = 798) examined the effect of medical diagnosis, gender, age, inequalities, referral route and adherence on effectiveness and cost-effectiveness of a 16-week national exercise referral scheme (5). Results from the full trial were considered during the original guideline development. The results from the subgroup analysis indicated that the national exercise referral programme was cost-effective in fully adherent patients with mental health and/or coronary heart disease risk factors.		However the new evidence is based on one retrospective cohort study and, as the authors point out, more research is needed in this area before any firm conclusions can be drawn. For this reason, the research recommendation will be kept and no impact on the guideline is expected. A topic expert noted that the second bullet point of recommendation 2 refers to an evaluation framework that has been archived. An editorial correction is proposed to amend the hyperlink to lead to the archived version of the framework. It was also noted that the wording of the recommendations could be improved to avoid commissioning exercise referral schemes for groups that the evidence shows are likely to be ineffective. We did not identify any evidence which suggests that the wording may be misinterpreted, however we have made a note of this concern and will review at the next surveillance point. It is still unclear what the optimal length of an exercise referral programme should be, with new evidence showing positive results for both 12 week and 16 week programmes. Research recommendation 5.1 states that more research is needed on the comparison of exercise referral schemes that vary by “intensity and duration – for example, a 12-week scheme involving 1 session a week, or a 6-week scheme involving 4 1-hour sessions per week”. Until there is further evidence in this area, the recommendations will not be affected.

2018 surveillance summary	Intelligence gathering	Impact statement
		New evidence is unlikely to change guideline recommendations.

Recommendation 3: Collating and sharing data on exercise referral schemes

This recommendation should be withdrawn as it was considered to duplicate content from elsewhere in the guideline (recommendation 2). Additionally, during consultation, stakeholders highlighted a database established by ukactive Research Institute which is designed to collect data on exercise referral schemes.

RR - 01 Research recommendation 1: How effective and cost effective are different types of exercise referral scheme? Compare the relative effects of different models in controlled studies. Include health-related quality of life as an outcome. Compare exercise referral schemes that vary by:

- setting – for example, home-based, gym-based, community-based or outdoors
- intensity and duration – for example, a 12 week scheme involving 1 session a week, or a 6 week scheme involving 4 1 hour sessions per week
- the techniques used, for example, some use additional 'supportive' techniques such as 'motivational interviewing' and education sessions
- the target group, for example, people who are overweight and obese, people with raised blood pressure or cholesterol levels or those experiencing mild depression, anxiety or stress; or by age, gender, race or socioeconomic status
- other scheme characteristics including: design, content and delivery; referral mechanisms; choice of activity; cost and qualifications of instructors; and whether it is commissioned and delivered by an NHS, non-NHS or community-based organisation.

2018 surveillance summary	Intelligence gathering	Impact statement
See evidence under recommendation 2.	No topic expert feedback was relevant to this research recommendation.	New evidence relevant to this research recommendation was found but an update in this area is not planned. Whilst new evidence suggests positive results for both 12 week and 16 week programmes, it is still unclear what the optimal length of an exercise referral programme should be. Research recommendation 5.1 states that more research is needed on the comparison of exercise referral schemes that vary by "intensity and duration – for example, a 12-week scheme involving 1 session a week, or a 6-week scheme involving 4 1-hour sessions per week". Until there is further evidence in this area, the recommendations will not be affected.
Research recommendation 2: What factors encourage uptake of, and adherence to, an exercise referral scheme? Factors to consider include: design, content and delivery; referral mechanisms; choice of activity; qualifications and cost of instructors. Also identify any barriers preventing participation and factors that encourage it?		

See evidence under recommendation 2.	No topic expert feedback was relevant to this research recommendation.	New evidence relevant to this research recommendation was found but an update in this area is not planned. The new evidence indicates that the main barriers to exercise referral scheme adherence included: inconvenient timing of sessions, cost, location, intimidating gym atmosphere, a dislike of the music and TV and a lack of confidence in operating gym equipment. These barriers are likely to be addressed by following recommendation 8 in NICE guideline PH49 (Behaviour change: individual approaches) which covers ensuring interventions meet individual needs. NICE guideline PH49 is already cross-referred to in the guideline so it is unlikely that the new evidence will impact recommendations. The new evidence mainly focussed on the content of the schemes and the barriers to uptake and adherence. More evidence is required on the design and delivery of the schemes as well as referral mechanisms and qualifications or cost of instructors. New evidence was also identified on the predictors of dropout in an exercise referral scheme. Significant predictors included being a smoker and being referred from Tier 3 services. This evidence is related to research recommendation 5.2. However, the new evidence is based on one retrospective cohort study and, as the authors point out, more research is needed in this area before any firm conclusions can be drawn. For this

2018 surveillance summary	Intelligence gathering	Impact statement
		reason, the research recommendation will be kept and no impact on the guideline is expected.
Research recommendation 3: What factors encourage under-represented groups to participate in and complete an exercise referral scheme? What factors prevent these groups from participating? Under-represented groups include: people from black and minority ethnic groups, people with disabilities and those from lower socioeconomic groups?		
No new evidence relevant to the research recommendation was found and no ongoing studies were identified.	No topic expert feedback was relevant to this research recommendation.	This research recommendation will be considered again at the next surveillance point.
Research recommendation 4: What is the comparative effectiveness and cost effectiveness of exercise referral schemes compared with other interventions that aim to help people to become more physically active? Relative effectiveness and cost effectiveness should be compared in controlled trials.		
No new evidence relevant to the research recommendation was found and no ongoing studies were identified.	No topic expert feedback was relevant to this research recommendation.	This research recommendation will be considered again at the next surveillance point.

References

1. Gallegos-Carrillo K, Garcia-Pena C, Salmeron J, Salgado-de-Snyder N, Lobelo F (2017) Brief Counseling and Exercise Referral Scheme: A Pragmatic Trial in Mexico. American Journal of Preventive Medicine 52(2):249–59

2. Martin-Borras C, Gine-Garriga M, Puig-Ribera A, Martin C, Sola M, Cuesta-Vargas AI, et al. (2018) A new model of exercise referral scheme in primary care: is the effect on adherence to physical activity sustainable in the long term? A 15-month randomised controlled trial. BMJ Open 8(3):e017211

3. Morgan F, Battersby A, Weightman AL, Searchfield L, Turley R, Morgan H, et al. (2016) Adherence to exercise referral schemes by participants - what do providers and commissioners need to know? A systematic review of barriers and facilitators. BMC Public Health 16:227

4. Kelly MC, Rae GC, Walker D, Partington S, Dodd-Reynolds CJ, Caplan N (2017 [cited 2018 Jun 13]) Retrospective cohort study of the South Tyneside Exercise Referral Scheme 2009–14: predictors of dropout and barriers to adherence. Journal of Public Health 39(4):e257–64

5. Edwards RT, Linck P, Hounsome N, Raisanen L, Williams N, Moore L, et al. (2013 [cited 2018 Jun 13]) Cost-effectiveness of a national exercise referral programme for primary care patients in Wales: results of a randomised controlled trial. BMC Public Health 13(1):1021