Archdiocese of Wellington

Notes for parishes on singing

Research on how singing contributes to the spread of airborne disease is recent and developing. Attention was drawn to the potential impact of singing due to a "superspreader" event in Washington State, U.S.A. in early 2020 when most members of a choir contracted Covid-19 after a rehearsal.

Following this event, many performing arts groups, public health authorities and groups that use singing in group gatherings, such as church congregations, limited or restricted singing. Most countries have also included advice restricting some forms of public performance or public gatherings involving singing and playing of wind instruments until more is known about how singing spreads Covid-19.

Research has been, and continues to be undertaken, by a wide variety of scientific groups. Some of the earliest publicly available outcomes came from studies considering the safety of professional performances (for example, when performing singers are physically separated from a non-singing audience) or academic/teaching situations. There has been less emphasis on situations in which all participants in gatherings are singing.

New Zealand Government guidelines for places of worship also do not specifically refer to congregational singing but talk about performers or entertainers at religious services. As Catholics, it is not our liturgical expectation that singing will be undertaken by only one or two people. In our context, if a celebrant or musician begins singing, others will feel invited to join in.

Covid-19 is spread through both droplets and airborne particles. Standard advice about 2-metre distancing is based on regular breathing and speaking. When people speak, usually droplets fall and airborne particles are projected. Singing involves "forced-air breathing" which is more like coughing or sneezing than speaking. This can spread both droplets and aerosol particles further than just talking.

A Colorado State University study found:

- Loud singing and talking emits more aerosol particles than soft singing or talking.
- Singing produced 77% more aerosols than talking; adults produced 62% more aerosols than minors; and males produced 34% more aerosols than females.
- Brass instruments emit more aerosol particles than woodwind instruments.

Further published studies have confirmed these results. They have found that while social distancing is effective in normal social interactions, singing can produce a substantially larger number of respiratory droplets and aerosols than speaking, as it is louder and sustained for longer durations. This requires additional measures to be put into place to mitigate risks. In contained smaller spaces, the transmission risk may be higher, as respiratory aerosols may saturate the whole indoor environment. Singing transmits droplets faster and further than speaking, as well as transmitting aerosol particles faster and further than speaking.

Masks and singing

Published research indicates that mask wearing does reduce the risk of transmission of the virus when singing, and can reduce the transmission of droplets to no more than normal exhaling. When mask wearing is combined with good ventilation/air removal there were reduced concerns about spread to audience members. However these studies were of professional musicians and don't necessarily apply to congregational singing where all participants may be remaining within the same physical space as the exhaled aerosols.

The New Zealand Choral Federation advises choirs of the importance of ensuring that masks seal well around the face, and that airflow is through the fabric, not through gaps in the side. They note that off-the-shelf masks may not accommodate the extra jaw movement of singers, so masks specifically designed for singers need extra capacity around the chin to allow for this, without breaking the seal. They recommend a specific pattern and have some choral masks available for sale: https://nzcf.org.nz/masks-for-singers/

In summary

- There is agreement that singing produces more aerosols than speaking, and spreads these more widely.
- Mask wearing does reduce this; however, many commercially available masks may not allow sufficiently for the greater movement of jaw and chin during singing.
- Mask wearing may not reduce all dispersal, but distributes it differently, so air removal/ventilation are also factors in mitigating risks from singing.
- Soft singing produces fewer aerosols than loud singing
- Much of the research is focused on situations involving active performers and passive listeners, rather than church contexts where all participants are singing.

Singing is still among the activities that create risk of spread of airborne disease, including Covid-19 but also other illnesses such as flu and RSV. We can make collective decisions which protect the most vulnerable among us, rather than leaving vulnerable people to individually assess and bear the risk of participating in Mass. If there is congregational singing, parishioners should be aware that it is not possible to mitigate all the risks from singing, so that people can assess whether being in an environment which includes congregational singing is safe for them and vulnerable family members.

Parishes are encouraged to follow these guidelines for singing:

- All members of the congregation are strongly encouraged to wear masks during singing
- Anyone leading singing (eg cantor, choir, singing group) is encouraged/required to wear the masks recommended by the New Zealand Choral Federation.
- Parishes assess the ventilation/air removal aspect of singing. Singing during winter with all doors and windows closed is likely to create the most risky conditions for congregational singing.
- Physical distancing of musicians/cantors/choirs/singing groups continues to ensure that there is not an accumulation of aerosols, especially close to an aisle or where parishioners receive communion.
- Soft singing is encouraged, rather than loud, full-bodied singing.